

**SAN FRANCISCO BAY AREA
WATER EMERGENCY TRANSPORTATION AUTHORITY**

VALLEJO FERRY TERMINAL

**VALLEJO TERMINAL MAINTENANCE
DREDGING PROJECT 2017**

VOLUME 3

**DIVISION 2
SITE WORK**

DATE AUGUST 14, 2017

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SECTION 02482

DREDGING AND DISPOSAL

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. The Work under this Section consists of providing all labor, plant, tools, equipment, supplies, and materials necessary to dredge, haul, and coordinate the disposal of all dredged materials from the Vallejo Ferry Terminal, with placement at Cullinan Ranch Restoration Site.
- B. Vertical Datum: elevations in the Construction Documents are referenced to Mean Lower Low Water (MLLW) Datum.
- C. The Ferry Terminal shall remain fully operational and the Contractor shall conduct his Work in such a manner to assure minimal interference and complete communication with Ferry Operations. Channels must not be blocked without prior authorization and per schedule, and ferry traffic must be allowed to continue with no interruptions.
- D. The Contractor shall be subject to the following constraints:
1. Contractor shall inform the ODR ten (10) calendar days in advance of performing dredging. This notification shall include which area is to be dredged and the day on which these areas are to be dredged.
 2. The Contractor will inform the ODR of the scheduled dredging.
 3. Contractor's working hours for dredging are daylight hours only. Contractor's working Days for dredging and disposal of dredged material shall be August 1, 2017, through October 15, 2017. The Contractor shall adhere to all noise restrictions as set by the City of Vallejo.
 4. At the end of each Working Day, the Contractor shall position the equipment and barges such that interference with ferry traffic will be avoided. All equipment shall have sufficient lighting to allow for navigation.
 5. Contractor shall inform the ODR of all proposed changes to the Dredging Operations Plan.
 6. The Contractor shall provide transportation to and from the dredging operations and equipment for the ODR and other regulatory agencies' representatives as required.
 7. Dredging operations shall cease immediately whenever violations of requirements are detected. Operation shall not resume until methods of compliance are approved.

8. Should the Contractor, during the progress of the work, lose, dump, throw overboard, sink, or misplace any material, plant, machinery, or appliance, which in the opinion of the ODR may be dangerous to or obstruct navigation, the Contractor shall recover and remove the same with the utmost dispatch. The Contractor shall give immediate notice, with description and location of such obstructions, to the ODR and, when required, shall mark or buoy such obstructions until the same are removed. Should he refuse, neglect, or delay compliance with the above requirements, such obstructions may be removed by WETA, and the cost of such removal may be deducted from any money due or to become due the Contractor, or may be recovered under his bond. The liability of the Contractor for the removal of a vessel wrecked or sunk without fault or negligence shall be limited to that provided in Sections 15, 19, and 20 of the River and Harbor Act of March 3, 1899.

E. The Contractor shall adhere to the Floating Plant Inspection Form included as part of these Specifications as Attachment A.

1.2 SUBMITTALS

A. The Contractor shall provide all records, operational plans and any other information required by the Special Provisions, dredging permits, regulatory agencies and the ODR. The Contractor shall provide all items in the time frame as stated. Failure to provide these items in a timely manner will cause delays in the project or may cause the dredging operation to be shut down. No adjustment in time of Work will be made if after the notice to proceed has been issued, any such delays are caused by the negligence or non-performance of the Contractor

B. The Contractor shall submit the following to the Owner for review and comment with their Bid Proposal. The Owner will review and forward the documents to the U.S. Army Corps of Engineers for approval. No dredging Work shall begin pending Owner's review of all submittals and USACE approval.

1. DREDGING OPERATIONS PLAN: This Plan shall incorporate all permit constraints and restrictions. Any changes to the Plan shall be updated and submitted to the Owner as the dredging Work proceeds. The dredging operations plan shall include, but not be limited to, the following items:
 - a. U.S. Army Corps of Engineers permit and other applicable permits numbers.
 - b. Contact Information: Contractor's business name, telephone number, dredging Site representative(s) and 24-hour emergency contact information (name, position, phone number). Include a project management responsibility matrix or organizational chart.

- c. Dredging schedule for each subarea shall include:
 - i. Submittal dates
 - ii. Owner notification dates (14 days prior to start of dredging)
 - iii. Dredging start date
 - iv. Work hours per day and Work days per week
 - v. Dredging finish date
- d. Proposed equipment and method of dredging including proposed dredge cuts. The equipment description should contain at a minimum the type, name or number, capacity, overall dimensions, radio call signs, and other relevant specifications as may be required by permit conditions. A schedule for other equipment inspection and equipment inspection forms shall be included.
- e. The method and equipment to be utilized to transport the dredged material to Winter Island or approved upland facility. Provide barge measurement and loading curves, certified by a licensed naval architect.
- f. Reference to the procedures, equipment, and disposal plan for solid debris as described in the Contractor's Solid Debris Management Plan specified elsewhere herein.
- g. The method and equipment to be used for dredging position control, indicating how horizontal and vertical position control will be maintained.
- h. The method and equipment used for determining the positioning by electronic methods of the dredge and dump scow(s) during entire dredging and disposal operation.
- i. Documentation of quality control procedures including samples of daily and weekly forms, reports and submittals, including but not limited to the Disposal Site Verification Log, Dredge Operations Daily Reports, and Vessel Traffic Control Log.
- j. Security and safety methods to keep the public away from and clear of all dredging and disposal activities including compliance with appropriate U.S. Coast Guard rules.
- k. Environmental Protection Plan including measures for spill control and management.
- l. Safety and Emergency Response Plan.
- m. Waste Management Plan
- n. Notice to Mariners

- o. Any and all other information required by the U.S. Army Corps of Engineers for approval of the Dredging Operations Plan.
 - p. The Contractor shall not receive a Notice to Proceed until the Dredging Operations Plan described above has been approved by the Corps of Engineers.
- 2. SOLID DEBRIS MANAGEMENT PLAN: This Plan shall incorporate all permit constraints and restrictions. The solid debris management plan shall include, but not be limited to, the following items:
 - a. U.S. Army Corps of Engineers permit number.
 - b. Source and expected type of debris.
 - c. Debris retrieval and separation method.
 - d. Debris disposal method and location.
 - e. Schedule for disposal operations.
 - f. Debris containment method to be used, if floatable debris is involved.

C. DISPOSAL SITE VERIFICATION LOG: For disposal of suitable material at Winter Island, the Contractor shall maintain a daily Disposal Site Verification Log Record and submit them on a weekly basis each Friday to the U.S. Army Corps of Engineers and the Owner. Contractor shall follow all procedures outlined in the Department of the Army Permit, which will be provided to the selected Contractor with the Notice of Award.

D. DREDGE OPERATIONS DAILY REPORTS: During the performance of all dredging operations, equipment operators shall fill out a Daily Dredging Report and Leverman's Shift Log for each calendar day's activity on each dredge being operated. The Daily Dredging Report will include the number of scows loaded each day, an estimate of the amount of material being transported in each scow to the disposal site, and the method used to estimate that quantity will be provided in the daily report. Forms to be used shall be developed by the Contractor and shall conform to the samples provided in the approved Dredging Operations Plan. Forms shall be filled out completely and legibly; including signatures, using black or blue-black ink. The original forms shall be given to the Owner by 12:00 noon the day following the date shown on the reports. The Daily Report shall be filled out for each calendar day even when the equipment is not working. Progress payments for dredging will not be made until a complete set of reports covering the payment period are in the Owner's possession, and are deemed to be acceptable by the Owner.

E. VESSEL TRAFFIC CONTROL LOG: The Contractor shall submit the Vessel Traffic Control Log to the Owner on a weekly basis.

F. SPECIAL NOTICES: The Contractor shall provide immediate written notification with documentation of Work stoppages and slow-downs that may affect the dredging operation plan.

G. EXISTING CONDITIONS RECORD: Prior to commencement of Work, the Contractor and the Owner shall jointly survey the area adjacent to the dredging Work area making permanent note and record of such existing damage to the existing docks, piles, breakwater, or other existing features. This record shall serve as a basis for determination of subsequent damage to structures, conditions or other existing improvements due to the Contractor's operations. All parties making the survey shall sign the official record of existing damage. Damage of any nature to the existing features within the surveyed area, not noted in the original survey but subsequently noted, shall be reported immediately to the Owner. The record shall include a photographic record which contains, at a minimum, photographs of existing features, location of photograph(s) taken, and description of the condition. The record shall be submitted to the Owner prior to start of dredging.

1.3 SITE CONDITIONS

A. The Contractor shall conduct a Site inspection and shall be responsible for reviewing all the contract documents, including reference documents and appendices, making an independent assessment of the conditions affecting the Work.

B. The Contractor shall satisfy himself as to the nature and location of the Work; the general and local conditions, particularly those bearing upon availability of transportation, disposal, availability of labor, water, electric power, roads and uncertainties of weather or physical conditions at the Site, the conformation and conditions of the ground, the character of facilities needed during the Work and all other matters which can in any way affect the Work or the cost thereof under this contract. The Contractor shall further satisfy himself as to the character, quality, and quantity of subsurface materials to be encountered at the Site. Any failure by the Contractor to acquaint himself with all the available information will not relieve him from responsibility for properly estimating the difficulty or cost of successfully performing the Work.

C. The material to be dredged is believed to be soft sediment, however WETA does not guarantee the nature of the material. Debris, rubbish, and other articles typical of ship channel and berthing areas may be encountered and will become the property of the contractor and shall be removed and disposed of in accordance with Section 02881.3.5, "Disposal of Dredged Materials," of these special provisions.

D. The Contractor shall be responsible to know and understand the following:

1. The nature and location of the Work;
2. The general and local conditions, particularly those bearing upon disposal of materials, handling and storage of materials, availability of labor, water, electric power, and uncertainties of weather, tidal stages, or similar physical conditions at the Site;
3. The conformation and conditions of the ground;

4. The character of equipment and facilities needed prior to and during the execution of the Work;
5. All other matters which can affect the Work.

E. The Contractor shall further be responsible to know and understand the character, quality, and quantity of surface and subsurface materials to be encountered by inspecting the Site, reviewing exploratory investigative data available from the Owner, and information presented by the Contract Drawings and Specifications. Failure to become acquainted with all the available information will not relieve the Contractor from responsibility of properly estimating the difficulty or cost of performing the Work. The foregoing statement of potential conditions on Site is for information only and may not be relied upon to reflect actual conditions encountered on the Site.

F. The Contractor may anticipate underground obstructions such as utility lines, concrete foundations, and debris. No extra payment will be allowed for the removal, replacement, repair or possible increased cost caused by such underground obstructions. Any such lines or obstructions indicated on the Drawings show only the approximate location and shall be verified in the field by the Contractor. WETA will endeavor to familiarize the Contractor with all known underground obstructions, but this shall not relieve the Contractor from full responsibility to anticipate and locate all underground obstructions.

G. The Contractor is responsible for contacting all agencies and utility companies having jurisdiction or services in the project area for additional information.

H. The Contractor shall promptly, and before such conditions are disturbed, except in the event of an emergency, notify the Owner by written notice of:

1. Subsurface or latent physical conditions at the Site differing materially from those indicated in the Contract Documents; or
2. Unknown physical conditions at the Site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract Documents.

I. The Owner will promptly investigate conditions, and if they find that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for performance of the Work, an equitable adjustment will be made and the Contract Documents will be modified by a Change Order. Claims by the Contractor shall not be allowed unless a written notice is given to the Owner, and provided that the Owner determines the facts so justify, consider any such claims asserted before the date of final payment.

J. The Work to be conducted is adjacent to existing docks/floats. The Contractor shall inform the Owner fourteen (14) calendar days prior to any Work to allow coordination with existing uses.

1.4 CONTRACTOR'S USE OF PREMISES

A. Contractor shall not close or obstruct navigation ways, channels, roadways, or sidewalks without proper permits. Contractor shall not interfere with the use of or access to adjacent buildings, property or other Owner property or operations throughout the progress of the Work. Contractor shall accommodate scheduled ferry service with no delays. No additional compensation will be paid by the Owner for disruptions to dredging operations caused by ferry traffic.

B. Contractor shall confine all operations to the Work limits of the project. Contractor shall inspect and document the condition of existing piles, float, and other facilities adjacent to their Work areas prior to any dredging and disposal activities. Documentation shall be submitted in accordance with Section 01100 "Summary of Work." Contractor shall protect all existing facilities from damage, and notify Owner of any damage that occurs. Contractor shall repair or replace damaged items to the satisfaction of the Owner at no additional expense to the Owner.

C. Contractor shall be responsible for locating and preventing damage to utilities. If damage occurs, it is Contractor's obligation to repair or replace utility facilities at no additional expense to the Owner.

D. Contractor shall coordinate with the ODR, for completion and cleanup of Work Site, construction access and parking locations.

1.5 PERMIT REQUIREMENTS

A. All dredging shall conform to the requirements of applicable codes, ordinances and requirements of local, state, and federal agencies.

B. The Owner has applied for and anticipates receiving the permits as described in paragraph 1.6, Section 01100 Summary of Work, of these Specifications. The Contractor shall be responsible for obtaining permits, other than those specified in Paragraph 1.6, Section 01100, necessary to perform the Work under this Contract.

C. Contractor shall follow state and local code requirements for control and disposal of debris, which shall be at a licensed and approved off-Site location.

D. The Contractor shall be responsible for knowing and conforming to the requirements of the U. S. Army Corps of Engineers, the California Regional Water Quality Control Board, the San Francisco Bay Conservation and Development Commission, and any other federal, state, county or local agency code, ordinance, or regulation that may apply. The U.S. Army Corps of Engineers, California Regional Water Quality Control Board Certification, BCDC and California Department of Fish and Wildlife permits are attached as appendices to these specifications.

E. Contractor shall comply with the following Army Corps of Engineers and BCDC submittal requirements for an episode approval prior to commencement of dredge activities:

1. Dredge Operations Plan.
2. Solid Debris Management Plan.
3. Disposal verification log sheet.
4. Disposal summary sheet.
5. Notification to start work sheet.

F. The Contractor is responsible for securing and paying for all permits and licenses in connection with operating his equipment, floating or otherwise.

G. The Contractor is responsible for maintaining water quality standards and shall conform to the requirements of the California Regional Water Quality Control Board, San Francisco Bay Region.

1. Dredging shall be limited to the design depth of minus 12 feet MLLW, including a one-foot of overdredge.
2. No overflow or decant water shall be discharged from any barge, with the exception of spillage incidental to clam shell or excavator dredge operations.
3. No dredging shall occur on the side slopes or in the designated 'No-Dredge Zone' shall be permitted.
4. No dredging outside the work window (August 1 through October 15).
5. The Contractor shall notify WETA if any spill or adverse condition occurs immediately.

H. Fines imposed by any Regulatory Agency caused by the Contractor, due to negligence or wrong doing on the part of the Contractor, in the execution of the Dredging Work shall be paid by the Contractor.

I. The Contractor shall be prepared for and allow for U.S. Army Corps of Engineers, BCDC, RWQCB, CDFW, NOAA Fisheries, and/or other regulatory agencies inspection at any time during performance of the Work.

J. Fines imposed by any regulatory agency caused by the Contractor, due to negligence or wrong doing on the part of the Contractor, in the execution of the Work shall be paid by the Contractor.

K. Contractor is advised that the Army Corps of Engineers has imposed dredging and aquatic disposal restrictions for this area. Due to permit constraints, dredging operations might not begin immediately upon award and execution of the contract. Under current limitations, dredging shall not commence before August 1, 2017, and must be completed by no later than October 15, 2017.

L. Contractor shall comply with all Coast Guard regulations and display the proper signals during both day time and night time operations.

M. All vessels operated for disposal of dredged material are required to participate in and comply with the Coast Guard's Vessel Traffic Control Service (VTCS). Five minutes before each departure of dredged material from the Site, the Contractor shall notify the VTCS by radio of the time of departure from the Site, departure from the disposal Site, and return to dredge Site.

1.6 PROTECTION OF FACILITIES

A. At all times, the Contractor shall be solely and completely responsible for the condition of the job Site, including safety of persons, boats, docks, and all property, and for all necessary independent engineering reviews of these conditions.

B. The Contractor shall take care to insure the integrity and freedom from damage of all buildings, curbs, fences, gates, floats, marine fenders, wharves, boats, and other facilities adjoining or near the Site. Any damage caused by the Contractor's operations to any existing property shall be repaired or replaced in kind to the satisfaction of the ODR and the property owner, and at no cost to the ODR.

C. The Contractor shall erect and maintain temporary lights, navigation lights, barricades, warning signs, buoys and guards necessary to protect the public from property damage or injury in accordance with applicable rules and regulations.

D. During the dredging operations, the Contractor shall take all necessary measures to protect all boats and other facilities in the vicinity of the Work Site. The Contractor, at his own expense, shall have personnel available at all times to immediately wash off or clean as necessary any dredged material dropped, splashed or otherwise deposited on any boat.

E. Contractor shall wash down and hose off all materials dropped on the boats, floats, gangways, sidewalks, and street areas immediately and leave such facilities in the same condition as they were at the start of Work. Contractor shall inspect the above facilities at the end of each Work day and clean off any materials missed as Work progressed. Clean up shall be to the satisfaction of the ODR and the ODR staff.

F. The Contractor shall keep all pavements and areas adjacent to and leading from the Site clean and free of mud, dirt, and debris at all times.

G. The Contractor shall not close or obstruct sidewalks, roadways, channels or navigation ways without proper permits and authorization in writing from the ODR.

H. Contractor shall not tie, moor, connect or come into contact with the Owner's facilities, including all docks, breakwater walls, etc., with any of the Contractor's equipment unless specifically required for disconnection, transportation, and reconnection of existing facilities. All of the Contractor's

equipment, boats, barges, scows, etc., shall be kept clear of the existing facilities, with the exception of any personnel carrying skiff or work boat, as approved by the ODR.

1.7 QUALITY CONTROL

A. The Contractor shall staff the Project with a qualified Project Manager who is experienced in a project of this nature. All submittals described in Section 1.2 shall be reviewed and quality checked by the Project Manager prior to sending them to the Owner.

B. The Inspector will inspect the Work on a daily basis. The Contractor shall, without additional compensation, provide complete cooperation and unrestricted access for inspection including transport to the dredge and scow via Contractor's crew boat.

C. It is the Contractor's responsibility to comply with all contract requirements. The Inspector will review dredging operations to verify that the dredging, transport and disposal of dredged material comply with the Contract Documents and permit conditions. Inspector's review does not denote acceptance.

D. The Contractor shall make their daily reports, dredge logs, electronic positioning data, disposal Site logs, soundings and other records available to the Inspector when requested. A copy of all reports and records submitted by the Contractor will be retained on Site for inspection by the Inspector.

E. Contractor shall follow a documented quality control plan for dredging and disposal.

F. Contractor must have a minimum of five (5) years documented dredging experience and at least three (3) years of dredging experience in the Bay Area and be specialized in performing dredging.

G. Contractor's dredging equipment, used for this dredging Work, shall have a minimum capacity for removal of 1,500 cubic yards of in-place material per day.

H. Should the Contractor (during the progress of the Work) lose, dump, throw overboard, sink or misplace any material, plant, machinery or appliance which may be dangerous to intended uses of the waterway, or cause pollution of the waters, the Contractor shall give immediate notice, with a description and location of such obstructions, to the ODR, and, when required, shall mark, boom or buoy such obstructions until they are removed. The Contractor shall remove such obstructions within three (3) days after being directed to do so by the ODR. Should the Contractor refuse, neglect or delay compliance with the above requirements, such obstructions may be removed by the Owner, and the cost of such removal may be deducted from any money due to the Contractor.

1.8 PREPARATION

- A. WETA has obtained the necessary permits and approvals for Cullinan Ranch Restoration Site.
- B. Contractor shall notify the Coast Guard of planned dredging operations in sufficient time to allow publication in the Local Notice to Mariners, Weekly Supplement.
- C. Prior to start of dredging, submit schedule of hours of operations for approval by the ODR.
- D. Contractor shall inform the Corps of Engineers, with a copy to WETA, when a dredge episode actually commences, suspends (suspension is when the dredge contractor leaves the site for more than 48 hours for reasons other than equipment maintenance), or restarts. Each notification should include the Corps permit number. The information can be sent in writing to the U.S. Army Corps of Engineers, Regulatory Branch, San Francisco District, 1455 Market Street, San Francisco, CA 94105, or by fax to (415) 977-8343, or via telephone at (415) 977-8447.

PART 2 - PRODUCTS

2.1 EQUIPMENT

- A. The Contractor's equipment shall be of suitable size and capacity to meet the productivity, tolerance and schedule requirements of the Work, and shall be kept in good working condition in order to efficiently perform the Work.
- B. All dredging under this contract shall be performed using a mechanical type dredge.
- C. All floating attendant plant shall be kept in good working condition.
- D. If an electric dredge is to be used, the Contractor shall make all arrangements and pay all costs associated with installing, removing and operating the electrical service for the dredge.
- E. If a diesel dredge is to be used, Contractor shall observe all applicable standards and regulations regarding air quality emissions and fueling of dredge and other attendant plant.
- F. Water and dredged material shall not be permitted to overflow or spill out of scows. Failure to repair leaks or change the method of operation which is resulting in overflow or spillage will result in suspension of dredging operations and require prompt repair or change of operation to prevent overflow or spillage as a prerequisite to the resumption of dredging.

PART 3 - EXECUTION

3.1 GENERAL

- A. Dredge Limits: Dredging shall be carried to the limits, lines, depths, and tolerances indicated on the Contract Drawings, or as directed by the Owner. Dredging outside the limits shown will not be paid for and reinstatement of over-excavated material may be required as directed by the Owner at

the Contractor's expense. The Contractor will be responsible for any fines or penalties imposed by regulatory bodies for any Work outside of the authorized dredge prism or for improper disposal of dredged materials.

B. Side Slopes: The side slopes shall be dredged to the limits as shown on the Contract Drawings. The Contractor is directed to Paragraph 3.10 Side Slopes.

C. Existing Structures: When dredging adjacent to existing structures, docks, caution shall be exercised so as not to overdredge and endanger the stability of the structures or slopes. The Contractor shall be held responsible for any damage to existing slopes and adjacent structures. Where the slope material or other material outside of the prescribed limits of dredging is removed or disturbed as a result of the dredging operation, said materials shall be reinstated as directed by the Owner at the Contractor's expense.

D. Sloughing: All material that sloughs into dredged areas from outside the dredging limits shall, prior to acceptance and at no additional cost to the Owner, be removed to the required dredge elevation.

E. Dredging operations shall be conducted using equipment and procedures designed to minimize water turbidity.

F. The Contractor shall comply with all permit conditions, as set forth in the permits.

G. Trash, debris, and other miscellaneous man-made and natural objects encountered during dredging shall be removed and placed in a separate barge or other conveyance and disposed of outside the limits of Work at a land disposal site in accordance with local, state and federal laws and regulations. No additional compensation will be made to the Contractor for excavation, removal and disposal of trash and debris.

H. The Contractor shall operate and maintain proper lighting and signals during both daytime and night time operations on all floating equipment, ranges, markers, and buoys in accordance with U.S. Coast Guard requirements. The Contractor shall be responsible for all damage resulting from negligence or failure in this respect.

I. The Contractor shall comply with all permit conditions, as set forth in the permits, regarding participation in the Coast Guard's Vessel Traffic Service (VTS).

3.2 SURVEYING

A. The Contractor shall employ a competent, qualified, licensed hydrographic surveyor, scheduling and coordinating quality control-dredge surveys. The surveyor shall be subject to the approval of the ODR.

B. The Contractor is responsible for the layout of the Work. The ODR will furnish the dredge footprint. The ODR will furnish the coordinates and the descriptions of horizontal and vertical control within the project area. The Contractor shall be responsible, by utilizing this data, to dredge within the dredge prisms that are shown on the contract drawings. The Contract completion time will not be increased due to Work delays that result from the failure of the Contractor to maintain, repair or replace the established baselines, ranges or gages.

C. Hydrographic surveys shall be conducted using Class 1 hydrographic survey methods and accuracies outlined in the U.S. Army Corps of Engineers' HYDROGRAPHIC SURVEYING MANUAL (EM 1110-2-1003). The horizontal datum shall be based on the California State Plane Coordinate System, Zone 3 (NAD 1983). The soundings shall be in feet below MLLW), as referenced to benchmark "Grotto" (Elevation = 9.2' MLLW) near the Vallejo public boat launch.

D. Horizontal and Vertical Control: All dredge control and positioning for this project shall be accomplished by means of dredge mounted GPS controlled positioning systems. The Dredge Positioning shall consist of, as a minimum, a Differential GPS positioning system, an onboard computer with MS windows, an azimuth determination system (GPS or electronic compass), a depth-sensing device for the 'bucket', and positioning system software. The operator shall have a full "heads up" computer monitor display within easy view for control of his work. The software shall be industry standard such as "Dredge Pack" package as manufactured by Hypack, "WinOps" as manufactured by Lyman Burke Associates, Trimble or approved equal. Positioning systems shall be Differential GPS with sub-meter accuracy, and one second or less update capability. The Operator's display shall have an outline of the project area and the limits of dredging areas. The dredging areas shall be sectioned into individual cuts, which represent the real swing width of the dredge, and shall be stationed at a minimum of 25 foot increments along the direction of dredge travel. The true horizontal and vertical position of the dredge bucket shall be visible in real time on the display, and the depth of the bucket shall also be displayed. The on-board computer shall have the ability to store real-time dredge positions – this data shall be made available to the ODR from time to time on CD ROM format as he/she may request from time to time. Horizontal control data will be provided to the Contractor on request, by the ODR for purposes of preparing the layout. The Contractor shall have an individual on Site at least four hours per day, who has at least five years experience in the set up, operation, calibration and maintenance of on-board marine electronic position systems. This individual shall have a working knowledge of electronic positioning systems, and accepted survey procedures and practices. Prior to the commencement of the Work, the Contractor shall submit details of the proposed dredge positioning system, and the resume of the individual who will be in responsible charge of its setup, operation and maintenance. No Work will be allowed to commence until the Contractor's dredge positioning system is approved by the ODR, and is operational, calibrated and properly functioning. Prior to the commencement of dredging, the Contractor shall

demonstrate to the ODR that the positioning system has been properly calibrated, and shall proof all azimuth and offsets by checking against the stationary position of the dredge utilizing conventional land survey methods. Mean horizontal deviation shall be one meter or less, maximum vertical deviation shall be 0.2 feet. If during dredging operations, the system should malfunction, dredging operations shall cease until such a time that the system is repaired and back in proper operation.

E. Pre and post dredge surveys for acceptance and final payment will be performed by the ODR. Prior to initiation of dredge activities, the Contractor shall perform a condition survey to confirm the pre-dredge area and volumes (this shall be submitted and approved by the ODR prior to commencement of dredging).

F. The Contractor shall submit the following items to the ODR with each progress bill containing billing for dredging:

1. A map of the terminal showing pre-dredge and post-dredge soundings.
2. A minimum of four (4) representative cross sections showing the pre-dredge and post-dredge elevations.
3. The above shall be at a scale approved by the ODR.

G. FINAL POST DREDGING SURVEY: At completion of the project, the Contractor shall conduct a final hydrographic survey and provide the ODR with a map of the ferry terminal area showing the final soundings. Final post-dredge survey for acceptance and final payment shall be performed by the ODR.

H. The pre-dredge and post-dredge survey shall be performed using precision equipment accurate to 0.10 feet.

I. The Contractor shall provide and be responsible for all additional survey and layout Work required for the correctness of all final grades and lines.

J. The Contractor shall provide a positioning system for horizontal control capable of functioning during all waterborne activity hours. The Contractor shall establish and maintain all survey monuments, shore stations and control points necessary to operate the waterborne positioning system. The Owner shall be given free access to monitor positioning and measuring activities on the Contractor's positioning system. The Contractor shall provide copies of calibration, positioning and measuring data and results to the Owner upon request. The Contractor shall place and maintain the positioning system and all gauges, range lights, buoys and other markings required to assure the accuracy of the surveys. The Contractor shall submit a description of the positioning system equipment, including accuracies, to the Owner for review and acceptance. The Contractor shall take necessary measures to confirm that the selected system is operational at all times during dredging and can operate under the conditions present at the dredging Site.

K. The Contractor shall establish reference points (benchmarks) used as the basis for the horizontal and vertical control systems. The Contractor shall be responsible for maintaining and replacing reference points if damaged.

3.3 OPERATION

A. The Contractor will be required to conduct his operation in conformance with the schedule as approved by the ODR (latest version). The ODR will require ten (10) calendar days of notification of the next area of operation so that required berthed boat movements can take place. The Contractor will only be allowed to work in one fairway between boat berths at any given time. Each area must be complete, including post dredge surveys, prior to moving boats back in place and the Contractor moving his operation to the next scheduled area.

B. The Contractor will be required to keep all docks and boats clean at all times. An on-dock crew of workers will be dedicated to removing mud splatter immediately. Any damage, cleaning or detailing of docks, WETA equipment, or boats will be at the Contractor's expense. The Contractor will be required to file and receive approval for operations and staffing plan for protecting and cleaning of in-place improvements and boats.

3.4 DREDGING

A. The Contractor shall commence dredging operations after all necessary permits and other authorizations have been obtained and after receipt of written notification by the ODR to proceed with the Work.

B. During the dredging, a steel grid "grizzly" with twelve inch square maximum openings shall be placed over the hopper of the dump scow for material processing. All dredged material shall be dropped onto the grid. Details of the "grizzly" are subject to Corps of Engineers approval.

C. Solid debris, man-made objects and dredge material remaining on the grid shall be removed for subsequent offloading to an upland disposal site by the Contractor, at no additional cost to the Owner.

D. The Contractor shall cease operations immediately if adjacent piers, aprons, wharfs or structures appear to be in danger. The Contractor will notify the ODR and will not resume operations until directed to do so by the ODR.

E. The Contractor will notify the ODR of any unforeseen conditions.

F. The Contractor will, to the ODR's satisfaction, repair all damage caused by the dredging operations and restore the Site to its previous condition at no cost to the ODR. The ODR will inspect each dock facility prior to and after completion of dredging episodes to determine if any damage was caused by the Contractor's operations. The ODR will estimate the cost of repairs and either bill

Contractor or deduct the amount of the cost of repairs from a payment to the Contractor. The ODR's inspection may cover, but need not be limited to, docks, piling, breakwaters and boats.

G. Dredging shall be conducted in such a way that the Vallejo Ferry Terminal bottom is uniform and formed to the required line and grade with stable side slopes. The Contractor shall take all reasonable precautions and measures necessary to minimize turbidity and disturbances to the environment.

H. All materials dredged shall become property of the Contractor, and shall be removed from the job Site and disposed of in a legal manner by the Contractor as his property.

I. Depth of dredge shall be based on MLLW datum.

1. Vallejo Ferry Terminal shall be dredged to a design depth of minus 12.0 feet. No under dredge will be allowed.
2. Contractor shall dredge to the elevations shown on the plans, and shall remove all sloughed materials that fall into the finished dredged areas. The Owner will pay for sloughing to a maximum slope of three feet horizontal to one foot vertical from the designated design depths, not from the elevation of any over-depth dredging done by the contractor. If the contractor elects to dredge below the design depths as shown on the plans, additional sloughing beyond the maximum limit stated above shall be removed from the dredged areas and disposed of in accordance with the provisions of this Division 2 at no cost to the Owner.
3. Any over dredging in excess of the allowable as specified above, will be deducted from quantities and no payment will be allowed therefore.
4. The Contractor is responsible for re-dredging as required to remediate any under dredging in excess of the allowable, at no additional cost to the Owner.

J. If the Contractor discovers significant underwater obstructions (excluding trash, debris, and other miscellaneous man-made and natural objects encountered during dredging), the Contractor shall immediately give the ODR written notification of the existence of such obstruction. Where the ODR determines that the removal of the obstruction is essential to accommodate the project, the Contractor shall remove the obstruction. Payment for removing underwater obstructions not shown on the plans shall be made by extra work as provided for in the Standard Specifications.

K. Provide state-of-the-art mufflers, silencers and noise control features for all equipment.

L. Contractor shall record and maintain Electronic Positioning Data Records. These records are to be submitted weekly to the ODR and the Corps of Engineers.

M. Contractor shall maintain strict overflow control in accordance with the following requirements.

1. No material shall be permitted to overflow or spill from the barge, bins or scow during transportation from the dredging Site to the disposal site.
2. During dredging operations, overflow shall be limited to a maximum of 15 minutes for any type of dredging. Adjusting the dredging operation may be required to ensure that once overflow commences that it will not exceed the 15 minute allowable duration.

3.5 DISPOSAL OF DREDGED MATERIAL

A. All dredge materials shall be transported from the dredge site to Cullinan Ranch Restoration Site. The material shall be disposed of per Corps of Engineers, BCDC and RWQCB permits, project improvement plans and these special provisions. Any material deposited other than in the places designated or approved by the ODR will not be paid for and the contractor may be required to remove such misplaced material and deposit it where directed at his own expense. Unless specified otherwise, all dredge material within the lines and grades shown on the Contract Drawings, shall be transported from the dredge Site and disposed of at Cullinan Ranch Restoration Site.

B. The Contractor shall coordinate with Mare Island Dry Dock on the offloading of the barges.

C. Contractor shall record and maintain electronic positioning records of the dredge during entire dredging operation at the Site, disposal site and enroute to and from disposal site. Contractor shall prepare daily Disposal Site Verification Logs and submit them on a weekly basis each Friday to the U.S. Army Corps of Engineers, with a copy to the Owner. Electronic Positioning Records shall conform to all requirements in effect at the time of dredging, as set forth in the U.S. Army Corps of Engineers' Permit.

D. The Contractor shall comply with all permit conditions regarding overflow requirements.

E. Contractor shall maintain strict overflow control. During transportation from the dredge Site to the disposal site no material shall be permitted to overflow or spill from the barge, bins or scow.

F. Any dredged material that escapes, sloughs, or is lost at any time while dredging, loading, or transporting shall be re-dredged or retrieved, and disposed as directed by the Owner, at the Contractor's expense. Likewise, any material disposed of in an area other than that designated on the Contract Drawings or stated in the Permit, unless approved in writing by the Owner, shall be retrieved and disposed as directed by the Owner, at the Contractor's expense.

3.6 COMPLETION OF DREDGING

A. If it is determined that the Site was not dredged in accordance to the Contract Documents, including but not limited to Plans and Special Provisions, the Contractor shall perform any work necessary to comply with the Contract Documents, including the Plans and Special Provisions at no additional cost to the Owner

3.7 INCREASED OR DECREASED QUANTITIES

A. The Owner reserves the right to make such alterations, deviations, additions to or deletions from the Plans and Specifications, with no additional compensation or change in the lump sum or unit bid prices. The Owner also reserves the right to increase or decrease the quantity of any item or portion of the Work, as may be deemed by the ODR to be necessary or advisable and to require such extra work as may be determined by the ODR to be required for the proper completion or construction of the whole Work contemplated.

B. Owner's estimate of quantities is approximate only and will be used as a basis for comparison of bids.

C. Quantities shown are estimated from the soundings taken by the Owner at the Site in July 2017, and shall be considered approximate. Exact quantities shall be determined by pre-dredge and post-dredge surveys as performed by the Owner. Prior to initiation of dredge activities, the Contractor shall perform a condition survey to confirm the pre-dredge area and volumes (this shall be submitted and approved by the ODR prior to commencement of dredging).

3.8 MISPLACED MATERIAL

A. Should the Contractor during the progress of the Work, lose, dump, throw overboard, sink, or misplace any material, plant machinery, or appliance, which in the opinion of the ODR may be dangerous to or obstruct navigation, the Contractor shall recover and remove the same with the utmost dispatch. The Contractor shall give immediate notice, with description and location of such obstructions, to the ODR, and when required shall mark or buoy such obstructions until the same are removed. Should the Contractor refuse, neglect, or delay compliance with the above requirements, such obstructions may be removed by the Owner, and the cost of such removal may be deducted from any money due or to become due to the Contractor, or may be recovered under his bond. The liability of the Contractor for the removal of a vessel wrecked or sunk without fault or negligence shall be limited to that provided in Section 15, 19, and 20 of the River and Harbor Act of March 3, 1899 (33 U.S.C. 410 et seq.).

B. Any material that is deposited elsewhere than in places designated or approved by the ODR will not be paid for and the Contractor may be required to remove such misplaced material and deposit it where directed at the Contractor's expense. Misplaced excavated material may constitute a violation of applicable federal, state, and local statutes, ordinances or regulations, and the Contractor shall be liable for any civil and/or criminal penalties imposed by these statutes by reason of such violation. A copy of permits obtained by WETA included as part of these Specifications as Attachment B.

C. In the event any leaks occur in any scows used on the project, the Contractor shall immediately discontinue dredging operations until such leaks are corrected or remedied at the Contractor's

expense. The Contractor shall also, at its expense, recover and remove any material misplaced or discharged by such leaks, or breaks.

3.9 SHOALING

A. If, before the contract is completed, shoaling occurs in any section previously accepted, including shoaling in the finished basin, because of the natural lowering of the side slopes, re-dredging at Contract Price, within the limit of available funds, may be performed subject to agreement of both the Contractor and the ODR.

3.10 SIDE SLOPES

A. Side Slopes

1. Material removed within limits approved by the Owner, shall provide for final side slopes not steeper than those indicated on the Contract Drawings and will be measured and paid for at the Contract unit price.
2. Side slopes are given for measurement and payment purposes only and are not necessarily the angle of repose of the existing soil. Sloughing side slopes shall not be the basis for claims against the Owner.
3. Measurement for payment will be to the limit of dredging in basin subareas as shown on the Contract Drawings.

B. Excessive Dredging: Material taken from beyond the limits shown on the Contract Drawings will be considered as excessive dredging and may be subject to fines imposed by regulatory agencies. The imposed fines will be the responsibility of the Contractor, and the Owner may withhold the amount of such fines from progress payments or the final payment.

3.11 SITE CLEANUP

A. Upon acceptance of the Work, the Contractor shall remove all equipment and additional plant including temporary buoys/markers, ranges, anchors, and all other materials used in the Work.

B. The dredging area, staging areas, and any streets, parking lots, or property used in connection with the dredging operation shall be cleared of all obstructions and debris and left in as good a condition as existed prior to commencing the Work.

3.12 NONCOMPLIANCE

A. The ODR will notify the Contractor in writing of any noncompliance with the foregoing provisions. Such notice, when delivered to the Contractor or his authorized representative at the Site of the Work, shall be deemed sufficient for the purpose. Within 24 hours after the receipt of such

notice, the Contractor shall mail, or personally deliver to the ODR, a complete proposal of the prompt correction of the noncompliance. The ODR will review the proposal and return it to the Contractor approved, subject to such changes or conditions as the ODR finds necessary to assure correction of noncompliance. Immediately upon receipt of such approval, the Contractor shall begin the corrective Work and shall carry it to completion. If the Contractor fails or refuses to submit its proposal or to proceed with the corrective Work, the ODR or the ODR's authorized representative may suspend all or any part of the Work until satisfactory corrective action has been taken. No part of the time lost due to any such suspension shall be made the subject of a claim for extension of time, or for excess costs or damages by the Contractor. If the ODR so elects, the ODR may cause the corrective Work to be accomplished by others, in which event the cost thereof shall be chargeable against any monies otherwise due the Contractor from the Owner.

3.13 ENVIRONMENTAL LITIGATION: (1974 NOV OCE)

A. If the performance of all or any part of the Work is suspended, delayed, or interrupted due to an order of a court of competent jurisdiction as a result of environmental litigation, as defined below, the ODR, at the request of the Contractor, shall determine whether the order is due in any part to the acts or omissions of the Contractor or a Subcontractor at any tier not required by the terms of this contract. If it is determined that the order is not due in any part to acts or omissions of the Contractor or a Subcontractor at any tier other than as required by the terms of this contract, such suspension, delay, or interruption shall be considered as if ordered by the ODR in the administration of this contract. The period of such suspension, delay or interruption shall be considered unreasonable, and an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) as provided in that clause, subject to all the provisions thereof.

B. The term "environmental litigation", as used herein, means a lawsuit alleging that the Work will have an adverse effect on the environment or that the Owners has not duly considered, either substantively or procedurally, the effect of the Work on the environment.

3.14 INSPECTION

A. Inspection: The Work will be conducted under the general direction of the ODR and may be subject to inspection by the ODR's appointed inspector(s) to insure strict compliance with the Specifications. The ODR's inspector(s) will direct the maintenance of the navigation system, gages, ranges, location marks, and limit marks in proper order. Portable lighting shall be provided upon request of the ODR's inspector(s) for more detailed inspection of potential trouble areas.

B. The ODR's inspector(s) will direct suspension of operations at any unit of Work where the Contractor upon request does not correct:

1. A safety hazard, which is so grave as to endanger life, limb, or property or cause serious damage to the Work, which includes but is not limited to a failure on the part of the Contractor (1) to have a full-time quality control person present and fully alert and awake on the disposal area at all times dredging operations are in progress or (2) to provide and maintain the required marine band radio for use by ODR's inspector(s) at all times while pumping operations are in progress and/or (3) provide and maintain the approved lighting on the disposal area for safe night operations are all basis for ODR's inspector direct suspension of Work.

C. The ODR's inspector(s) will direct the maintenance of the gauges, ranges, location marks and limit marks in proper order and position; but the presence of the ODR's inspector(s) shall not relieve the Contractor of responsibility for the proper execution of the Work in accordance with the Specifications. The Contractor shall be required:

1. To furnish, on the request of the ODR, or any ODR's inspector, the use of such boats, boatmen, laborers, and material forming a part of the ordinary and usual equipment and crew of the dredging plant as may be reasonably necessary in inspecting and supervising the Work. However, the Contractor will not be required to furnish such facilities for the surveys prescribed herein.
2. To furnish, on the request of the ODR, or any ODR's inspector, suitable transportation from all points on shore designated by the ODR to and from the various pieces of plant, and to and from the disposal site.
3. Should the Contractor refuse, neglect, or delay compliance with these requirements, the specific facilities, equipment or transportation may be furnished and maintained by the Owner, and the cost thereof will be deducted from any amounts due or to become due the Contractor.

3.15 FINAL EXAMINATION AND ACCEPTANCE

A. As soon as practicable after the completion of the entire Work or any section thereof (if the Work is divided into sections) as in the opinion of the ODR will not be subject to damage by further operations under the contract, such Work will be thoroughly examined at the cost and expense of the Owner by sounding or by sweeping, or both, as determined by the ODR or his authorized representative. The Contractor or his authorized representative will be notified when soundings and/or sweepings are to be made, and will be permitted to accompany the survey party. When the area is found to be in a satisfactory condition, it will be accepted finally. Should more than one sounding or sweeping operations by the ODR over an area be necessary by reason of Work for the removal of shoals disclosed at a prior sounding or sweeping, the cost of such third and any subsequent sounding or sweeping operations will be charged against the Contractor at the rate of

\$8,500.00 per day for each day in which the ODR is engaged in sounding or sweeping and/ or is enroute to or from the Site or held at or near the said Site for such operations.

B. If the preliminary data indicates that the dredged area is not to the required lines and grades or has not been dredged in accordance with these Specifications, the Contractor will be directed by the Owner to resume dredging to complete the Work to project depth, and, following such additional dredging the Owner shall re-survey the area. The dredging and re-survey shall be repeated until the Contractor achieves project depths in conformance with the Contract Documents.

C. Final acceptance of the whole or a part of the Work and the deductions or corrections of deductions made thereon will not be reopened after having once been made, except on evidence of collusion, fraud, or obvious error, and the acceptance of a completed section shall not change the time of payment of the retained percentages of the whole or any part of the Work.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT AND PAYMENT

A. The quantity of dredged material shall be determined by the ODR. The calculation shall be based upon the measurements of in-place materials removed, obtained from the pre-dredge and post-dredge surveys as performed by the ODR.

B. Any material from areas dredged deeper than the allowable will be deducted from the total dredge quantity, as will those dredge quantities from outside the designated dredge area.

C. As soon as practicable after the completion of the entire work or any section thereof (if the work is divided into sections) as in the opinion of the WETA ODR or his authorized representative will not be subject to damage by further operations under the contract, such work will be thoroughly examined at the cost and expense of the WETA by sounding or by sweeping, or both, as determined by the WETA Engineer or his authorized representative. The Contractor or his authorized representative will be notified when soundings and/or sweepings are to be made, and will be permitted to accompany the survey party. When the area is found to be in a satisfactory condition, it will be accepted finally. Should more than two sounding or sweeping operations by the WETA ODR over an area be necessary by reason of work for the removal of shoals disclosed at a prior sounding or sweeping, the cost of such third and any subsequent sounding or sweeping operations will be charged against the Contractor at the rate of \$8,500.00 per day for each day in which the WETA ODR's plant is engaged in sounding or sweeping and/ or is enroute to or from the site or held at or near the said site for such operations.

D. Final acceptance of the whole or a part of the work and the deductions or corrections of deductions made thereon will not be reopened after having once been made, except on evidence of

collusion, fraud, or obvious error, and the acceptance of a completed section shall not change the time of payment of the retained percentages of the whole or any part of the work.

4.2 PAYMENT

A. Payment for dredging, transportation and disposal of material from the Vallejo Ferry Terminal shall be paid for by the Contract unit price per cubic yard of in-place material actually dredged and properly disposed as contained in Bid items. This Contract unit price shall include full compensation for moving equipment to and from the various locations within the project Site, including to and from the Vallejo Ferry Terminal; setting up dredging equipment; dredging surveys, and volume calculations by an approved hydrographic surveyor; dredging; disposing of dredged materials; disposing of solid debris and chemical waste; protection of facilities; regulatory compliance, clean-up; and for all labor, materials, tools, equipment, and incidentals required to perform the Work involved as shown on the plans, as specified in these special provisions and the standard specifications, and as directed by the ODR.

B. Full compensation for all documents and submissions; for complying with the requirements of the U. S. Army Corps of Engineers' Permit (see appendices); and the requirements of any other Permitting Agencies with jurisdiction over these matters shall be included in the contract unit price for dredging and no additional payment will be made therefore.

C. No payment will be made for any material from areas dredged deeper than the allowable, nor for materials dredged from outside the designated dredge area. Contractor shall dredge to the elevations shown on the plans, and shall remove all sloughed materials that fall into the finished dredged areas. The Owner will pay for sloughing to a maximum slope of three (3) feet horizontal to one foot vertical from the designated design depths, not from the elevation of any over-depth dredging done by the contractor. If the contractor elects to dredge below the design depths of -12 feet as shown on the plans, additional sloughing beyond the maximum pay limit stated above shall be removed from the dredged areas at no cost to the Owner.

D. Any over-dredging, in excess of allowable over-depth, or dredging in areas outside the design dredge template which result in any fines or penalties levied by any permitting agency shall be the sole financial responsibility of the Contractor.

E. Other items of Work, such as for mobilization, shall be according to the Bid Prices paid for such Work.

F. PROGRESS PAYMENTS:

1. Progress payments for dredging Work performed, where a post-dredge survey has not yet been performed, can be requested on a monthly basis by providing detailed invoices for Work completed the prior month. Invoices for progress payments shall be based on

estimated dredging quantity, as calculated from the number, size, and fill quantity of each scow load to the disposal site. The Owner may inspect scow loads to verify quantities.

2. The total of progress payment for each subarea will not exceed 75% of the total volume available for the said subarea (excluding non-pay over depth) as estimated from a pre-dredge survey.

G. MEASUREMENT: Dredge subareas determined by the Owner to be in compliance with the Contract requirements will be measured for payment. Payment will be made for material removed within the limits of dredging, as measured over water areas only, and as measured by in-situ cubic yards of material removed. The dredged quantity will be based on the difference between pre- and post-dredge surveys performed by the Contractor.

H. OVERDREDGE MEASUREMENT: There is no overdredge payment on this project. Contractor shall dig the basin to -12' MLLW.

I. Unit prices for dredging shall include all cost for dredge surveys, dredging, transporting, and disposal of material as required by the Contract Documents.

J. The Owner may issue change orders modifying the limits, lines, elevations, and depths shown on the Contract Drawings. If such modifications increase or decrease a quantity of dredging, the revised quantity will be used as basis for payment under unit price for the dredging subarea involved.

END OF SECTION

Attachment A

FLOATING PLANT AND MARINE ACTIVITIES

Attachment B

PERMITS

Attachment C

CONTRACT PLANS