

SECTION TABLE OF CONTENTS

DIVISION 02 - SITE WORK

SECTION 02000

MOBILIZATION AND DEMOBILIZATION

02/99

PART 1 GENERAL

1.1 SUBMITTALS

1.2 MOBILIZATION AND DEMOBILIZATION

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section Table of Contents --

SECTION 02000

MOBILIZATION AND DEMOBILIZATION
02/99

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

None

1.2 MOBILIZATION AND DEMOBILIZATION

Mobilization and Demobilization shall include transporting the dredge and all items of attendant plant to the site of the work, setting up the dredge and other equipment, and laying of pipelines and otherwise placing the entire plant in condition for effective dredging. If Contractor utilizes beach disposal, the trenching and laying of buried pipe and other associated work will be part of mobilization and demobilization. Upon completion of each dredge cycle, the Contractor's plant and equipment shall be removed from the site.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 02 - SITE WORK

SECTION 02020

DREDGING

02/99

PART 1 GENERAL

- 1.1 REFERENCES
- 1.2 SUBMITTALS
- 1.3 REQUIRED WORK
- 1.4 AVOIDANCE OF EXISTING CONSTRUCTION
 - 1.4.1 Existing Breakwaters and Jetties
 - 1.4.2 City of Oceanside Ocean Outfall
- 1.5 CHARACTER OF MATERIALS

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

- 3.1 DREDGE AND DISPOSAL PLAN
- 3.2 DISPOSAL OF DREDGED MATERIAL
 - 3.2.1 General
 - 3.2.2 Beach Disposal
 - 3.2.3 Nearshore Disposal
- 3.3 ELECTRONIC POSITIONING SYSTEM FOR NEARSHORE AND OFFSHORE DISPOSAL
 - 3.3.1 EPS/DGPS Configuration
 - 3.3.2 Shore-Based Control
 - 3.3.3 Disposal Vessel Location
 - 3.3.4 Calibration
 - 3.3.5 Backup Equipment
- 3.4 ADDITIONAL MONITORING
 - 3.4.1 Hopper and Hydraulic Dredges
 - 3.4.2 Barges and Scows
- 3.5 DREDGE QUANTITIES FOR PAST 3-YEAR DREDGE CYCLE
- 3.6 OVERDEPTH AND SIDE SLOPES
 - 3.6.1 Overdepth
 - 3.6.2 Side Slopes
 - 3.6.3 Excessive Dredging
 - 3.6.4 Advance Maintenance Depth
- 3.7 SAMPLING OF MATERIAL
- 3.8 CONTRACTOR'S SURVEYS
 - 3.8.1 Survey Data
 - 3.8.2 Sounding Data Standards
 - 3.8.3 Positioning System
 - 3.8.4 Survey Firm Acceptance

- 3.8.5 Data Processing
- 3.9 PRE-DREDGE AND FINAL SURVEYS
- 3.10 METHOD OF SOUNDINGS
- 3.11 SHOALING
- 3.12 REPORTING REQUIREMENT
- 3.13 FINAL EXAMINATION AND ACCEPTANCE

-- End of Section Table of Contents --

SECTION 02020

DREDGING
02/99

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

CORPS OF ENGINEERS (COE)

EM 1110-1-1003 (August 1996) Navstar Global Positioning System Surveying

EM 1110-2-1003 (October 1994) Hydrographic Surveying

1.2 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with SECTION 01330 SUBMITTAL PROCEDURES:

SD-01 Data
Dredge Dump Disposal Records; FIO

SD-08 Statements
Dredge and Disposal Plan; GA

SD-09 Reports
Daily Report of Operations; FIO

SD-14 Samples
Sediment Samples; FIO

1.3 REQUIRED WORK

In the area to be dredged, all materials shall be removed and disposed of as indicated. Should material which cannot be removed without unreasonable methods be encountered, the Contractor shall remove all overlying material which in the judgment of the Contracting Officer Representative, can be removed. Nothing in this paragraph shall be construed as prohibiting the removal of excepted material by special means at prices agreed upon and approved in accordance with the CONTRACT CLAUSE: DIFFERING SITE CONDITIONS.

The dredging area shall be dredged to the indicated depths below mean lower low water (MLLW). Debris shall become the property of the Contractor and shall be removed from the site.

1.4 AVOIDANCE OF EXISTING CONSTRUCTION

1.4.1 Existing Breakwaters and Jetties

The Contractor shall conduct dredging operations in such a manner as to prevent undermining of the breakwaters and jetties. Excessive or unnecessary dredging may result in an unstable condition at the toe of the structures. The Contractor will be required to strictly adhere to the indicated dredging template when working near any structures, and shall be responsible for repairing any damage which may result from failure to comply with the requirements of these specifications.

1.4.2 City of Oceanside Ocean Outfall

An ocean sewer outfall is located approximately 120 meters south of Witherby Street as shown on the drawings. If the nearshore disposal site is utilized, the Contractor shall protect this outfall by keeping all operations, including the setting of anchors, marker buoys, etc., at least 50 meters away from the outfall. The Contractor shall verify the location and alignment of the outfall prior to commencing nearshore disposal operations.

1.5 CHARACTER OF MATERIALS

The material to be removed consists primarily of unconsolidated, poorly-graded sand, silty sand and sandy silt. Tree stumps, tires, trash and other debris which has been deposited within the project boundaries since the last dredging episode may be encountered. Limited amounts of gravels, cobbles and boulders may be encountered, particularly near existing breakwaters, jetties and groins. Past maintenance dredging activities occasionally encountered large breakwater stone.

Sand Bypass Piping. The Oceanside Experimental Sand Bypass System was removed in 1997. However, remnants of the cross channel discharge pipeline, a 16-inch HDPE, may still exist within the harbor. A length of 16-inch HDPE pipe was encountered in the entrance channel near the south jetty spur during the last dredging event, February 2000. In addition to the 16-inch HDPE line, concrete collar weights utilized to anchor the cross-channel discharge line may be encountered along the east side of the Del Mar Channel. The collar weights were initially placed in 1987/88 and are approximately 2 to 3 cubic feet in size.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 DREDGE AND DISPOSAL PLAN

The Contractor shall submit a Dredge and Disposal Plan indicating the methods and equipment he proposes to use to dredge, position and dispose. The plan shall be submitted to the Contracting Officer for approval, for each dredge cycle of this contract, at least 20 days prior to start of

dredging operations and shall also include, as a minimum, the following information:

- a. Method of dredging.
- b. Order of dredging operations and layout of dredging areas, and anticipated time progress of dredging on a weekly basis.
- c. Layout of all buoys, anchors, pipelines, and ancillary equipment. Time frame for placement of pipeline (if pipeline is used).
- d. Method for transporting and placing material at the disposal site and equipment that will be working on the beach.
- e. Scow dimensions and capacities.
- f. Lighting plan for night work.
- g. Layout of dredge, including: dimensions; location of engines, fuel storage, electrical/transformer rooms; description of engine types and horsepower ratings, types and size of generating equipment, fuel storage capacity, and vertical clearance. A copy of this information shall be provided to the local fire fighting agency.

3.2 DISPOSAL OF DREDGED MATERIAL

3.2.1 General

Dredged material shall be transported and deposited within the disposal limits of the area indicated on the drawings and as specified herein after. Any dredged material that is deposited other than in the area indicated on the drawings, or as approved by the Contracting Officer, will not be included in the measurement and the Contractor may be required to remove such misplaced material and deposit it where directed at his own expense. Debris and other unsuitable materials encountered shall become the property of the Contractor and shall be removed from the site. The Contractor may elect to use the beach disposal site and/or the nearshore disposal site, but shall submit his plan in accordance with paragraph: Dredge and Disposal Plan.

3.2.2 Beach Disposal

If beach disposal is performed, then the Contractor shall provide necessary equipment to shape, groom and dress the beach during fill operations. Disposal operations shall be conducted in such a manner so as to capture the maximum amount of sand and to widen the beach in the most efficient manner.

Slotted discharge pipes, multiple discharge points or other approved means shall be employed to minimize loss of dredged material.

Outlets of existing storm drain pipes in the disposal area shall be covered prior to placing the fill to protect them from being clogged with fill

material. After the disposal operations, the covers shall be removed.

It is anticipated that disposal will begin approximately 100 meters downcoast of Tyson Street and proceed southward as the beach is brought to grade and prescribed width. Because the amount of material required for a given width of fill cannot be accurately determined until the fill has been placed, the width may be adjusted from time to time as work progresses. The beach fill shall be graded to a reasonably smooth, uniform surface, sloped toward the ocean as indicated or as directed.

3.2.3 Nearshore Disposal

a. If the Contractor chooses nearshore disposal, then the dredge material shall be placed in the designated nearshore disposal area. The approximate location of the nearshore disposal area is indicated on the plans. Prior to the disposal of any material in the nearshore disposal area, the corners will be defined by the Contracting Officer. The Contractor shall be responsible for marking the corners of the disposal area with approved buoys and making periodic inspections of the buoy locations. The dredge material shall be deposited in such a manner so as to create a berm approximately parallel to the shoreline. The mound shall be located between the -4.5 and -8.5 meter MLLW contours. The specific location of the berm will be designated by the Contracting Officer. The Contractor shall record and submit to the Contracting Officer coordinates of each dump location, date and time of dump, and quantity of load in the Dredge Dump Disposal Records. Disposal in the nearshore disposal area shall advance only when operational technique, under keel clearance or equipment considerations will permit safe operations.

Dredge Dump Disposal Records: For nearshore disposal, dredge dump disposal records shall be maintained. In addition to the daily reporting of disposal positional data, the Contractor shall provide the Contracting Officer at the completion of each dredging cycle operations with the dump records on an electronic media (IBM compatible, ASCII format) in delimited files of dump number, date, time, disposal area (ie. Oceanside nearshore) easting and northing of dump, depth of water in which dump is made (meters), quantity of dump (cubic meters), cumulative quantity, and area from which the load was dredged (Entrance Channel STA 0+215).

<u>Dump#</u>	<u>Date</u>	<u>Time</u>	<u>Disposal Area</u>	<u>Easting</u>	<u>Northing</u>	<u>Quantity</u>	<u>Cumulative Quantity</u>	<u>Area Dredged (Station)</u>
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A hard copy of this disposal data shall be provided to the Contracting Officer on a weekly basis.

3.3 ELECTRONIC POSITIONING SYSTEM FOR NEARSHORE AND OFFSHORE DISPOSAL

The Contractor shall obtain, operate, and maintain a short range Electronic Positioning System (EPS) or Differential Global Positioning System (DGPS) for nearshore and offshore disposal operations. This EPS or DGPS shall be established, operated, and maintained by the Contractor when disposal is actively underway. The EPS or DGPS shall be capable of displaying and recording the disposal vessel's location in the State Plane Coordinates

System based on the California Lambert Conformal Projection System for Zone 5 (SPCS 83 Meters) at 30 second time intervals while traveling to or from the disposal site and during disposal operations. The EPS or DGPS shall be activated at least 1,500 meters from the disposal site when transiting, and shall not be deactivated until at least 1,500 meters from the site on the return trip. Positional data shall be annotated for the time when actual dumping begins and ends and may be required to be taken at more frequent intervals than specified herein above. A record of each dump's positional data, automatically correlated with time, and annotated with date and eccentric distance measurement, if any, shall be submitted to the Contracting Officer as a part of the Daily Quality Control record. The Contractor shall provide access for the Contracting Officer to the EPS or DGPS equipment as part of the Government's quality assurance responsibility.

3.3.1 EPS/DGPS Configuration

The EPS or DGPS shall be similar, or equal, in design, performance, accuracy, operation characteristics, and frequency to equipment specified in the following technical materials:

COE EM 1110-1-1003 Navstar Global Positioning System Surveying
and COE EM 1110-2-1003 Hydrographic Surveying

Information on the above mentioned manuals may be obtained from: U.S. Army Corps of Engineers, Los Angeles District. It is emphasized that Differential GPS positioning techniques shall be used for GPS surveying and further emphasized that an EPS system with a low and medium frequency (long-range navigation system) will not comply with the above specifications. The complete system shall be subject to the approval of the Contracting Officer.

3.3.2 Shore-Based Control

The Contractor shall establish horizontal control necessary to locate active and/or passive short range EPS or DGPS transmitter/receiver devices.

Survey control shall meet third order, class I, accuracy standards in accordance with COE EM 1110-2-1003 "Hydrographic Surveying". The Contractor shall obtain all necessary permits, rights-of-entry, or leases required to operate and maintain shore-based electronic equipment on public/private property. The actual number of shore-based control points shall be determined by the Contractor and shall be determined by the operating characteristics of the approved system (i.e., circular). As a minimum, the EPS shall provide at least three redundant lines-of-position from the shore-based network, and for DGPS, ranges from 4 (minimum) or more satellites will be needed for 3-dimensional positioning. The shore-based control points shall be located such that the generated lines-of-position shall intersect at the final vessel location at not less than 40 degrees.

3.3.3 Disposal Vessel Location

Except as specified herein after, electronic positioning data shall be received, displayed, and recorded on board the disposal vessel. Positional data may be received, displayed, and recorded on a towing or other adjacent vessel provided the eccentric distance between the vessels is less than 30

meters and that the eccentric distance and bearings remain essentially constant for each successive disposal operation. Eccentric distance measurements shall be computed by means of an electronic data transmitter/telemetry system. Gyro-radar distance/bearing measurements will not be permitted for eccentric distance measurements. Eccentric coordinates, if any, shall be clearly identified and computed on the hard copy positional record required under paragraph: Electronic Positioning System.

3.3.4 Calibration

EPS calibration techniques and calibration requirements (checklist) for DGPS shall conform to standard hydrographic surveying practice in accordance with Chapters 5 and 6 of COE EM 1110-2-1003, "Hydrographic Surveying". The Contractor shall be responsible for maintaining effective, accurate, and reliable EPS calibration, including periodic survey checks throughout the duration of the contract. Calibration records shall be submitted as part of the daily Quality Control records. Degradation in offshore positional accuracy during the course of this contract may cause a suspension of disposal operations.

3.3.5 Backup Equipment

The Contractor shall provide and maintain the following backup equipment:

For EPS System:

- One shore control transmitter/receiving device.
- One line printer and/or plotter.
- One offshore guidance controller.
- One power supply.
- Spare parts kit for the receiver.

For GPS System:

- One Complete Differential GPS (DGPS) equipment and accessories.

In the event of a failure of the EPS or DGPS, the Contractor shall immediately notify the Contracting Officer.

3.4 ADDITIONAL MONITORING

3.4.1 Hopper and Hydraulic Dredges

The Contractor shall provide:

- a. Continuous records of measurement of bulk density and mass flow rate with time, and location - cutterhead/draghead coordinates (horizontal and vertical). Data shall be recorded electronically and shall be made available in time increments as designated by the Contracting Officer and in either printed record or electronic format as designated by the Contracting Officer.
- b. Records of continuous loading of hoppers, barges, or scows based on hull displacement (load charts).

These records shall be submitted to the Contracting Officer daily with the Quality Control Reports.

3.4.2 Barges and Scows

The Contractor shall provide a record of the measurements of the draft of the hull and freeboard of bins of each barge or scow when empty and prior to disposal operations. Measurement for displacement shall be taken at each corner, on the outside of the barge or scow, immediately before the start of a disposal operation. These records shall be submitted to the Contracting Officer daily with the Quality Control Reports.

3.5 DREDGE QUANTITIES FOR PAST 3-YEAR DREDGE CYCLE

Quantity of material available within the dredge prism as of the previous 3 dredge cycles, pre-dredge surveys, is shown in the following table. The estimated quantity specified in the Bid Schedule is based upon these numbers and the estimated budget for the particular cycle.

<u>Area</u>	<u>Available Quantity (Cubic Meters)</u>	<u>Removed (Cubic Meters)</u>
	January 1998 pre-dredge	
Entrance Channel	245,000	180,300
Oceanside Channel	38,800	30,600
Del Mar Channel	106,500	30,200
	February 1999 pre-dredge	
Entrance Channel	288,000	131,750
Oceanside Channel	42,700	0
Del Mar Channel	128,000	0
	February 2000 pre-dredge	
Entrance Channel	309,000	193,800
Oceanside Channel	57,000	14,000
Del Mar Channel	155,000	7,600

Quantities shown include overdepth. Removed quantities are based upon quantities from within the dredge prism. Quantities removed from beyond the dredge prism are not represented. Overdepth dredging will be allowed to the limits specified in paragraphs: Overdepth and Excessive Dredging.

3.6 OVERDEPTH AND SIDE SLOPES

3.6.1 Overdepth

To cover inaccuracies of the dredging process, a 0.6 meter allowable overdepth applies to this contract. Material dredged from below the allowable overdepth will not be estimated and will not be included in the measurement of work.

3.6.2 Side Slopes

Material actually removed within limits approved by the Contracting Officer, shall provide for final side slopes not flatter than those indicated on the drawings and will be estimated and paid for. The Contractor may dredge material in original position or may dredge below the pay slope plane at the bottom of the slope to allow for sloughing of upslope material capable of falling into the cut (box dredge). However, material removed below any pay slope plane will not be estimated for payment. In computing the limiting amount of side slope dredging, the overdepth indicated on the drawings, measured vertically, will be used. The quantity of material to be paid for shall not be in excess of that originally lying above this limiting slope. Side slopes are given for pay purposes only and are not necessarily the angle of repose of the soil. Sloughing side slopes shall not be the basis for claims against the Government. End slopes, where indicated on the drawings, shall be treated in the same manner as side slopes.

Box cutting of side slopes will not be allowed near the breakwaters and jetties.

3.6.3 Excessive Dredging

Material taken from beyond the allowable overdepth limits may be deducted from the total amount dredged as excessive overdepth dredging, or excessive side-slopes dredging. Materials dredged from below the depth limit which result in extra costs shall be the responsibility of the Contractor. Nothing here shall be construed to prevent the inclusion in the measurement of material dredged for the removal of shoals performed in accordance with the applicable provisions of the paragraphs: FINAL EXAMINATION AND ACCEPTANCE or SHOALING.

3.6.4 Advance Maintenance Depth

For the Entrance Channel and Advance Maintenance Areas, any material removed from below the advance maintenance depth (indicated on the drawings) will not be included in the measurement of work accomplished. Due to inaccuracies of the dredging process, the Contractor will only be required to remove material to within 0.6 meters above the advance maintenance dredge depth. However, any material removed to the advance maintenance dredge depth will be included in the measurement of work accomplished.

3.7 SAMPLING OF MATERIAL

The Contractor shall obtain each dredge cycle representative Sediment Samples at the discharge point as material is being discharged onto the beach, or in the case of a hopper dredge or scow, as material is placed into the hopper bin or scow. The exact location and depth of each sample shall be as directed by the Contracting Officer during the dredging operation. The number of required samples for each dredge cycle shall be as follows:

<u>Area</u>	<u>Number of Samples Required</u>
Entrance Channel	3
Oceanside Channel	3
Del Mar Channel	3

The samples shall be taken at evenly spaced intervals of time and volume as each of the areas is dredged. Each sample (water extracted) shall be not less than one (1) liter of slurry and shall be obtained in clear plastic bottles. The sample bottles shall be labeled in indelible ink with the sample number, date sampled, and name of person obtaining sample. Sample bottle lids shall be securely fastened to prevent spillage or leakage during shipment. Sample bottles shall be placed in a suitable shipping container with adequate cushioning to prevent breakage during shipment. The samples shall be delivered to the address specified herein below at weekly intervals, or at such other times as may be determined by the Contracting Officer.

A Dredge Sample Data Form with the description of the dredge cut location by coordinates and stationing, dredge cut elevation, placement location and description of where sample was taken, date, time, sample number, and the name of the person who collected the sample shall accompany each sample. The sample form shall be placed in a waterproof sealed plastic bag for protection during shipment. A copy of a sample form is provided at the end of this section.

A copy of the sample form shall be submitted to the Contracting Officer's Representative along with the transmittal form.

The Contractor shall notify the Contracting Officer's Representative 48 hours in advance of sample collection. Samples shall be delivered to:

U.S. Army Corps of Engineers
 ATTN: Baseyard Soils Laboratory
 645 North Durfee Avenue
 South El Monte, CA 91733-4399
 Attn: Art Moncayo

Tel: (626) 401-4095

3.8 CONTRACTOR'S SURVEYS

3.8.1 Survey Data

Reference is made to SECTION 00800: SPECIAL CONTRACT REQUIREMENTS, QUANTITY SURVEYS, FAR 52.236-16 which requires payment based on Government surveys. Progress payments or evidence (condition surveys) supporting extreme weather (storm) related shoaling, will be based upon Contractor's hydrographic surveys. The Contractor's survey shall provide full coverage of an entire area, such as Entrance Channel, Oceanside Channel, or Del Mar Channel, for which progress payment or evidence of storm-related shoaling is being submitted.

It is further emphasized that only condition surveys supporting extreme weather (storm) - related shoaling will be considered for payment in addition to the government surveys, provided that the Contractor's surveys clearly show the condition before and after each shoaling event and the

condition after removal of material from the shoaled area. Survey data which does not meet all applicable requirements and quality assurance verifications will not constitute a valid request for payment of shoaling.

Contractor's hydrographic surveys shall be performed electronically (automated) and the data shall be provided and submitted to the Government on an electronic media (IBM compatible, ASCII format) in delimited files of easting, northing, and depth (x,y,z), where the depth is indicated as negative if recorded below MLLW. The first lines of the data file will list the information as follows:

- * Project Name (Oceanside Harbor Maintenance Dredging)
- * Surveyor's Name and Company
- * Area Surveyed
- * Type of Survey and Date of Survey (i.e. Pre-dredge, 1/22/2001)
- * Vertical Datum
- * Horizontal Datum

These first 6 lines will be preceded by an asterisk (*), which indicates a comment line.

A plot of soundings will accompany the x,y,z data and all data shall be collected and plotted in metric units (meters).

3.8.2 Sounding Data Standards

The Contractor's hydrographic surveys for progress payment or evidence supporting extreme(storm) weather-related shoaling shall meet or exceed the survey standards listed in EM 1110-2-1003 (Hydrographic Surveying) for Class I surveys. Surveys shall be in the State Plane Coordinate System of 1983 - meters (SPCS 83), Zone 6, State of California, and be performed by an independent hydrographic survey contractor with at least three (3) years of experience in hydrographic surveying of navigable channels and have either a current Land Surveyor's or a Professional Engineer's license, authorized to certify surveys in the State of California. The Hydrographic Surveyor firm selected by the Contractor must be approved by the Contracting Officer prior to performing surveys for this contract.

3.8.3 Positioning System

It is required that hydrographic surveys shall be conducted using an Automated Range-Azimuth Positioning System or Differential Global Positioning System (DGPS) with positional accuracy of +/- 3 meters (1 DRMS) or exceed the survey standards listed in EM 1110-1-1003 and EM 1110-2-1003 that is linked to an automated (digital) depth recording device capable of continuous logging of x,y,z positional data with depth measurement resolution to the nearest five-hundredths (5/100) of a meter. Digital depths shall be supplemented by analog depth records if survey is performed by single beam echosounder. Sounding lines shall be verified by crosslines at least 10 percent of the principal lines and along the centerline of channel. Distance between successive soundings (sounding interval) shall be no more than 2 meters. Soundings shall be reduced to sounding datum (Mean Lower Low Water) by using actual tides and other appropriate corrections resulting in an accuracy of +/- 0.2 meters from actual depth.

3.8.4 Survey Firm Acceptance

For the Contracting Officer to approve the selected survey firm, the Contractor must provide documentation indicating that modern electronic horizontal positioning and sounding system equipment will be used for the surveys to be performed as well as documentation verifying the experience of the operators using the equipment. Typical information that will be required, as a minimum, includes the name, model, and year of manufacture of the electronic equipment, the electronic frequencies of the horizontal positioning equipment and sounding equipment, and the manufacturer's stated positioning and sounding accuracies, and capability of the equipment proposed for usage. In addition, the Contractor must provide information that a safe and suitable vessel meeting U.S. Coast Guard requirements is available and will be used for operation in the waters where the surveys are to be performed. The Contractor shall submit credentials/qualifications as evidence that qualified, experienced staff are available and will be used for the operation of the vessel as well as for the electronic positioning and sounding equipment.

3.8.5 Data Processing

The Contractor shall use a Data Processing System to map the sounding data and calculate quantities. Reduced sounding data shall then be imported into the Data Processing System where cross-sections are compared to dredge templates and volume quantities are calculated. The software shall be capable of digital terrain modeling and shall produce, as a minimum, sounding sheets, cross section profiles, 3-dimensional area profiles, and quantity volume calculations using the Triangulated Irregular Network (TIN) method.

3.9 PRE-DREDGE AND FINAL SURVEYS

The Government will perform a pre-dredge survey for each dredge cycle. The Government survey will be performed as close to commencement of dredging as possible, and not more than 14 calendar days prior to commencement of work.

For the post-dredge survey, the Contractor shall notify the Contracting Officer not less than ten (10) working days prior to completion of the entire work for each dredge cycle. The Government will perform the final survey for each dredge cycle as soon as possible after completion of the entire work, generally within 5 calendar days. All areas found to be in compliance with the contract requirements will be accepted and measured for payment in accordance with SECTION 01270: MEASUREMENT AND PAYMENT.

If the Government is unable to perform the final survey(s) due to the failure of the Contractor to complete the work in accordance with his prior notification, the Contracting Officer will charge the cost of the survey plant and standby labor, at \$3,000.00 per day, to the Contractor. Preliminary data from the final Government survey will be available within ten (10) calendar days. If the preliminary survey data indicates that the dredged area is not at the required depth, the Contractor will be directed to resume dredging and to complete the work to project depth. Adjustment in cost for additional Government post-dredge surveys shall be as specified in paragraph: FINAL EXAMINATION AND ACCEPTANCE.

3.10 METHOD OF SOUNDINGS

The material removed will be measured by cubic meter in place, by means of soundings taken before and after dredging. Soundings will be taken by either lead line, trigonometric leveling (total station)/differential leveling, 200 kHz single-beam acoustic methods, acoustic multi-beam swath methods, or in combination, as determined by the Government; results of soundings by any of these methods, singularly or in combination, will be the basis for payment. The Contractor has the option of being present when such soundings are made.

3.11 SHOALING

If, before the contract is completed, shoaling occurs in any section (area) previously accepted, including shoaling in the finished channel, because of the natural lowering of the side slopes or from sediments transported inside the project area, re-dredging at contract price, within the limit of available funds, may be done if agreeable to both the Contractor and the Contracting Officer.

3.12 REPORTING REQUIREMENT

The Contractor will be required to prepare and maintain a Daily Report of Operations and furnish copies thereof to the Contracting Officer's representative. The daily reports shall document dredging operations for all shifts in a 24-hour period. Further instruction on the preparation of the report will be furnished at a pre-construction conference. Copies of sample submittals are provided at the end of the Contractor's Quality Control section.

3.13 FINAL EXAMINATION AND ACCEPTANCE

As soon as practicable after the completion of the entire work, a final examination of the work will be conducted by the Contracting Officer. Should any shoals, lumps, or other lack of contract depth be disclosed by this examination, the Contractor will be required to remove same dredging at the contract rate for dredging. However, if the bottom is soft and the shoal areas are small and form no material obstruction to navigation, the removal of such shoal may be waived by the discretion of the Contracting Officer. The Contractor or his authorized representative will be notified when soundings 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 operations by the Government over an area be necessary by reason of work for the removal of shoals disclosed at a prior sounding, the cost of such third and any subsequent sounding operations will be charged against the Contractor at the rate of \$3,000.00 per day for each day in which the Government plant is engaged in sounding and/or is en route to or from the site or held at or near the said site for such operations.

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.

Dredge Sample Data Form

OCEANSIDE HARBOR MAINTENANCE DREDGING

Contract No.: _____ Sample No.: _____
 Contractor Name: _____ Date: _____
 Name of Dredge: _____ Time: _____
 Type of Dredge: ___ Clamshell ___ Hopper ___ Hydraulic Cutterhead ___ other
 If other, specify: _____

Cut Location

area: _____ northing: _____
 station: _____ easting: _____
 range: _____
 elevation: _____

Placement Location

area: _____ northing: _____
 station: _____ easting: _____
 range: _____
 elevation: _____

Sample Obtained By: _____

Sample Obtained From: _____

Note: A copy of this completed form should accompany the sample when shipped to the laboratory for testing.

-- End of Section --