

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGES	
			J	1	2
2. AMENDMENT/MODIFICATION NO. 0002	3. EFFECTIVE DATE 04-May-2023	4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO.(If applicable)	
6. ISSUED BY US ARMY ENGINEER DISTRICT, PHILADELPHIA POC: FREDERICK D. CONWAY, CONTRACTING DIVISIO CH STREET, 4TH FLOOR PHILADELPHIA PA 19103-2004	CODE W912BU	7. ADMINISTERED BY (If other than item 6)		CODE	
		<b>See Item 6</b>			
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)			X	9A. AMENDMENT OF SOLICITATION NO. W912BU23B0003	
			X	9B. DATED (SEE ITEM 11) 12-Apr-2023	
				10A. MOD. OF CONTRACT/ORDER NO.	
				10B. DATED (SEE ITEM 13)	
CODE	FACILITY CODE				
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS					
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended. Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.					
12. ACCOUNTING AND APPROPRIATION DATA (If required)					
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACT ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.					
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.					
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).					
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:					
D. OTHER (Specify type of modification and authority)					
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.					
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)  Amendment 0002 is hereby issued to include updated drawings and specifications. The date and time of offer is not extended.  Please indicate receipt of this amendment on Standard Form 1442 (SOLCITATION, OFFER AND AWARD) as Amendment No. 0002. Failure to acknowledge all amendments may cause for rejection of bid.					
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.					
15A. NAME AND TITLE OF SIGNER (Type or print)			16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)		
			TEL:	EMAIL:	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA		16C. DATE SIGNED	
_____ (Signature of person authorized to sign)		BY _____ (Signature of Contracting Officer)			

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

**SUMMARY OF CHANGES**

SECTION 00 10 00 - SOLICITATION

The Issued By organization has changed from  
US ARMY ENGINEER DISTRICT, PHILADELPHIA  
POC: FREDERICK CONWAY 100 SOUTH INDEPENDENCE  
2ND FLOOR  
PHILADELPHIA PA 19106-3400  
to  
US ARMY ENGINEER DISTRICT, PHILADELPHIA  
POC: FREDERICK CONWAY, 1650 ARCH STREET 4TH F  
PHILADELPHIA PA 19103-004

(End of Summary of Changes)

14. DESCRIPTION OF AMENDMENT (continued)

a. REQUESTS FOR INFORMATION (RFI) WITH RESPONSES: RFI's with responses, annotated Amendment No. 0002, attached hereto.

b. TECHNICAL SPECIFICATIONS:

(1) SECTION 35 20 23 - DREDGING: Please delete this section in its entirety and substitute the revised Section 35 20 23, annotated as Amendment No. 0002, attached hereto.

c. CONTRACT DRAWINGS: Please delete the following drawings in their entirety and substitute the revised drawings of the same numbers, with the latest revision date of 1 May 2023, attached hereto:

C-108

C-109

C-114

C-115

C-402

d. Please indicate receipt of this amendment on Standard Form 1442 (SOLICITATION, OFFER, AND AWARD) as Amendment No. 0002. Failure to acknowledge all amendments may be cause for rejection of the bid.

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## Requests for Information and Responses

1. Disposal site plans do not show that pipeline path. Is there a designated path for the pipeline? If so please revise drawings to detail path.

Answer: There is not a designated path. Discharge Pipeline path at each disposal area is relatively direct line from edge of Delaware River to discharge limits shown on each Disposal Area Plan. Please see recommendation for site visit on inside cover of Specifications. Contract awardee will be required to submit pipeline route in work plan submittal.

2. The time of year restrictions state that work to Newbold Island must be complete by March 15. At what station does this start? Is there a portion of the work that is not subject to time of year restrictions?

Answer: All dredging under this solicitation must be completed between 1 July and March 15.

3. Sheet C-402 calls out an apparent breach in Money Island, Cell A West Dike. Has this apparent breach been repaired?

Answer: Breach has been repaired. Please see Notes 2 and 10 on Amended Sheet C-402 and recommendation for site visit on inside cover of Specifications.

4. Is it the contractors option whether to dispose of material in Money Island or Biles Island or will USACE direct the contractor which site should be utilized? Are there capacity constraints at either site? Should the contractor expect to dispose of material in both sites?

Answer: Please see Specification Section 35 20 23, Paragraph 3.2.4 and recommendation for site visit on inside cover of Specifications.

5. In Specification section 35 20 23, Page 15, 3.6 Base Bid, The Station to Station listed for AS17 does not appear to be correct. Please Clarify.

Answer: Please see updated Specification Section 35 20 23 as part of this amendment.

6. In Section 00 21 13, Page 5 of 43, Section B RFI, The second paragraph states that RFI's shall be submitted by 3:00 PM EST, 21 April 2023. It also states that "Final Date to submit RFI's is 3:00 PM 1 May 2023". Please clarify which cutoff date is the correct date for submission of RFI's.

Answer: 3:00 PM on 1 May 2023 is the correct date.

7. When do you anticipate issuing Notice to Proceed to the awarded contractor?

Answer: NTP will be issued as soon as is possible after award.

8. Per the Section 35 20 23, page 3, paragraph 1.5.b statement "Data on this or other websites are not appropriate for volume computations. Full datasets are available upon request.", please provide the full dataset (suitable for volume take-offs) for the hydrographic surveys depicted in bid drawings sheets C-102 through C-118.

Answer: Most areas are subject to shoaling since date of surveys shown and actual start of work. Before dredging (BDs) bathymetric survey data will be provided to Contract awardee immediately following collection and processing.

9. What are the current capacities (cubic yards) of the placement cells available for this contract at Palmyra Cove Disposal Area, Money Island Disposal Area, and Biles Island Disposal Area?

Answer: Please see amended Specification Section 35 20 23, Paragraph 3.3.3, as part of this amendment.

10. Please provide XYZ ASCII data files for the topography shown on drawings C-401, C-402, and C-403.

Answer: No XYZ ASCII data files available for these sheets.

11. What is the current capacity of the Palmyra Cove disposal area?

Answer: Please see amended Specification Section 35 20 23, Paragraph 3.3.3, as part of this amendment.

12. When was the Palmyra Cove disposal area last used?

Answer: Palmyra Cove was last used in 2012 by the Government Dredge McFarland.

13. What is the suggested pipeline route for the Palmyra Cove disposal area? The drawing only shows a discharge limit.

Answer: Discharge Pipeline path at each disposal area is relatively direct line from edge of Delaware River to discharge limits shown on each Disposal Area Plan. Please see recommendation for site visit on inside cover of Specifications. Contract awardee will be required to submit pipeline route in work plan submittal.

14. Sheet C-108 indicates two AS#4's. Can you please confirm the Acceptance Section between 63+500 to 65+467 should be labeled as AS#5?

Answer: Please see revised Sheets C-108 and C-109 as part of this amendment.

15. Sheet C-108 and C-109 labeled AS#5 between station 65+467 to 68+000. Can you please confirm this should be labeled AS#6?

Answer: Please see revised Sheets C-108 and C-109 as part of this amendment.

16. Sheet C-114, AS#14 is missing the 25' toe cut. Can you please confirm it was the Corps' indent to include a 25' toe cut in AS#14?

Answer: Please see revised Sheet C-114 as part of this amendment.

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SECTION 35 20 23

DREDGING

PART 1 GENERAL

1.1 WORK COVERED BY CONTRACT PRICE

The contract price per cubic yard for dredging shall include the cost of removal and disposal of all materials as specified herein or indicated on the drawings, with the exception of ledge rock, large boulders, rock fragments, wrecks, snags, stumps, and piles which cannot be removed or buried below project depth without blasting. Should ledge rock or other material which cannot be removed without blasting be encountered, the Contractor shall remove therefrom all overlying material which in the judgment of the Contracting Officer 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 FAR 52.236-2 entitled: "DIFFERING SITE CONDITIONS".

1.2 REFERENCES

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

AMERICAN WOOD PROTECTION ASSOCIATION (AWPA)

AWPA U1	(2022) Use Category System: User Specification for Treated Wood
AWPA M4	(2021) Standard for the Care of Preservative-Treated Wood Products
AWPA P5	(2015) Standard for Waterborne Preservatives

ASTM INTERNATIONAL (ASTM)

ASTM D1556/D1556M	(2015; E 2016) Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method
ASTM E100	(2017) Standard Specification for ASTM Hydrometers

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PennDOT)

Publication 408	(2020) Publication 408 Specifications
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SOUTHERN PINE INSPECTION BUREAU (SPIB)

SPIB 1003	(2014) Standard Grading Rules for Southern Pine Lumber
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U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2014) Safety -- Safety and Health  
Requirements Manual

EM 1110-2-1003 (2013) Hydrographic Surveying Manual

AMERICAN LUMBER STANDARDS COMMITTEE (ALSC)

ALSC PS 20 (2015) American Softwood Lumber Standard

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

33 CFR 156 (2010) Oil and Hazardous Material Transfer  
Operations

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Disposal Area Plan; G,COR  
Fall Protection Inspection Report; G,COR  
Discharge Pipe Support; G,COR  
Vessel and Equipment List; G,COR

SD-02 Shop Drawings

Sluice Walkway Plan; G,DO

SD-05 Design Data

Design Data; G,DO  
Sluice Walkway; G,DO

SD-06 Test Reports

Daily Report of Operations; G,COR  
Daily Log of Surveys Performed; G,COR  
Daily Dredgehead Positioning Records; G,COR  
Fuel Usage  
Disposal Area Effluent Measurements; G,COR  
Fall Protection Inspection Report; G,COR

SD-07 Certificates

Timber for Flashboards and Sluice Box Walkways; G,COR  
Aggregate Material; G,COR  
Certified Weight Scale Tickets

1.4 ORDER OF WORK AND DREDGING RESTRICTIONS

Unless otherwise directed by the Contracting Officer, the Contractor is required to commence dredging work in Acceptance Section 1 and work

upstream to Acceptance Section 20. Mechanical dredging between Allegheny Avenue and Newbold Islands must be conducted between 1 July and 15 March. Dredging within Fairless Turning Basin must be conducted between 1 July and 15 March.

#### 1.4.1 Hopper Dredging

Hopper dredging will not be permitted under this contract.

#### 1.4.2 Hydraulic Dredging

Hydraulic pipeline dredging will not be permitted under this contract

#### 1.4.3 Mechanical or Bucket Dredging

Mechanical or bucket dredging only will be permitted under this contract. Material excavated by mechanical or bucket dredging (bucket, drag, or dipper) shall be loaded to overflow only, and either directly pumped or mechanically offloaded from the scow to its final discharge position. Pumped material shall be placed by a means that will preclude any loss of material to the river after loading and prior to deposition. Special care shall be taken to ensure that scows do not leak during any portion of the work.

### 1.5 CHARACTER OF MATERIALS

a. The material to be removed to restore the depth to within the limits called for in the specifications and drawings, is that composing the shoaling which has occurred since the channel was last dredged as noted in Section 01 30 00 ADMINISTRATIVE REQUIREMENTS. The character of the material is believed to be as indicated by the results of Government-conducted sampling. Abstract of bottom samples can be found in Appendix B40 ABSTRACT OF BOTTOM SAMPLES. Sediment Core Logs can be found in Appendix B41. Material typically dredged and sampled in the past consisted of very soft silt with some clay and fine sand. Metal debris was dredged along the bulkhead when the Fairless Turning Basin was previously dredged. As a result, trash, metal, and other debris may be encountered during dredging operations.

b. It is the Government's position that sufficient information has been provided in this contract package to enable the Contractor to establish the type and quantity of material to be removed. USACE Survey and Mapping hydrographic survey information is available online through the eHydro link at <http://navigation.usace.army.mil/Survey/Hydro>. Data on this or other websites are not appropriate for volume computations. Full datasets are available upon request. However, prior to bidding, the Contractor may, at his discretion and expense, conduct additional investigation to further determine conditions at the site.

### 1.6 SITE CONDITIONS

Bidders are expected to examine the site of the work, including the disposal area and decide for themselves as to the conditions affecting their operations. See the Contract Clause titled: "SITE CONDITIONS AND CONDITIONS AFFECTING THE WORK". The entire work site is designated as a hard hat area in accordance with EM 385-1-1.

#### 1.7 DAILY LOG OF SURVEYS PERFORMED

When the Contractor conducts his own surveys of the contract work, a daily log of surveys performed shall be submitted. A sample daily log is included at the end of this section. The log shall include the area surveyed, the tide gauge used, and the calibrations performed (e.g. barchecks, SV probes).

#### 1.8 DAILY DREDGEHEAD POSITIONING RECORDS

For all dredging and for each dredge employed under this Contract, a computerized positioning system capable of representing the horizontal and vertical position of the mechanical dredge bucket at any given time throughout the dredging cycle shall be utilized. Horizontal and vertical positioning of the dredge bucket shall be recorded at intervals not greater than one minute in duration. The horizontal and vertical (x,y,z) positions of the dredge bucket shall be provided to the COR in an approved electronic format. Commercially available systems such as those offered by companies under the registered trademarks of Dredgepak, Winops, or similar proprietary systems developed by the Contractor would be considered satisfactory. The system shall produce a record of the working locations, horizontal and vertical, of the dredge bucket in a continual display and in a submittal satisfactory to the COR. Submittals of this information shall be transmitted electronically to the COR daily at the same time as the Daily Operations Report.

#### 1.9 VESSEL AND EQUIPMENT LIST

Submit a complete list of all vessels and equipment to be used during the contract, including all dredging plants, supporting vessels, and equipment. Include on the list, the types, the numbers of each, the draft of each, and all other pertinent information. List the survey vessel, survey crew, type of survey equipment, and software that may be used.

#### 1.10 HYDROGRAPHIC SURVEYS

Conduct hydrographic surveys to meet USACE Performance Standards for Navigation and Dredging Support, as defined in the Hydrographic Surveying Manual EM 1110-2-1003. Perform surveys by single transducer sounding techniques, multi-beam sweep type surveys or both. Bottom soundings shall be obtained by the single beam fathometer operating at a frequency ranging from 190 to 210 kHz. When utilizing multi-beam technology, the operating frequency will range from 180 to 250 Khz in hard bottom areas. All fathometers shall be calibrated following procedures outlined in the referenced EM.

#### 1.11 FUEL OIL HANDLING

Ensure that all fuel oil transfer operations to or from the plant comply with all Federal, state, and municipal laws, codes and regulations. Incorporate in the Accident Prevention Program, submitted in compliance with the Contract Clause: "ACCIDENT PREVENTION", sufficient information to demonstrate compliance with 33 CFR 156 and any other applicable laws, codes, and regulations.

Submit on or before the last day of each month, a Fuel Usage report listing the totals of fuels consumed by the dredging plant and supporting vessels. Separately list the quantities of each type of fuel used. Each report shall cover the period from the 25th of the preceding month to the 25th of

the current month.

#### 1.12 GOVERNMENT PLANT

Government plant may perform dredging or use disposal sites in any Delaware River assignment area during the time of this contract.

### PART 2 PRODUCTS

#### 2.1 TIMBER FOR FLASHBOARDS AND SLUICE BOX WALKWAYS

Timber for flashboards and sluice box walkways shall be Southern Yellow Pine, Grade No. 1, and shall conform to the SPIB 1003 and the applicable requirements of U. S. Department of Commerce ALSC PS 20. The timber shall be surfaced on four sides and the dress size shall conform to U. S. Department of Commerce ALSC PS 20. The timber shall be treated in accordance with Use Category UC5B of AWWA U1 with waterborne preservatives listed in AWWA P5. Flashboards shall be 4 inch nominal thickness. Submit certificates of compliance attesting that the timber flashboards and sluice box walkway timber conform to the requirements of this specification.

##### 2.1.1 Brush-Applied Preservative Treatment

AWPA M4.

#### 2.2 AGGREGATE MATERIAL

Submit certificates from the aggregate material suppliers, attesting that the materials conform to the project requirements; based on independent laboratory tests performed within the last 5 years. If test results are not available, the required testing shall be performed before the material can be approved for use on this project. Submit certification that recycled material being used as graded aggregate, is neither hazardous nor toxic.

##### 2.2.1 Crushed Aggregate Ramp

Coarse aggregate shall be as specified in 703.2 of PennDOT Publication 408. Quality of aggregate shall be as specified for Type B in Table B and gradation shall be as specified for PennDOT Type 2A in Table C of the same section.

### PART 3 EXECUTION

#### 3.1 INSPECTION

Inspect the work, keep records of work performed, and ensure that gages, targets, ranges, and other markers are in place and usable for the intended purpose. Furnish, at the request of the Contracting Officer, boats, boatmen, laborers, and materials necessary for inspecting, supervising, and surveying the work. When required, provide transportation for the Contracting Officer and inspectors to and from the disposal area and between the dredging plant and adjacent points on shore.

#### 3.2 CONDUCT OF DREDGING WORK

##### 3.2.1 Lights

Each night, between sunset and sunrise and during periods of restricted

visibility, provide lights for floating plants, pipelines, ranges, and markers. Also, provide lights for buoys that could endanger or obstruct navigation. When night work is in progress, maintain lights from sunset to sunrise for the observation of dredging operations. Lighting shall conform to United States Coast Guard requirements for visibility and color.

### 3.2.2 Ranges, Gages, and Lines

Furnish, set, and maintain ranges, buoys, and markers needed to define the work and to facilitate inspection. Establish and maintain gages in locations observable from each part of the work so that the depth may be determined. Suspend dredging when the gages or ranges cannot be seen or followed. The Contracting Officer will furnish, upon request by the Contractor, survey lines, points, and elevations necessary for the setting of ranges, gages, and buoys.

### 3.2.3 Plant

Maintain the plant, scows, coamings, barges, pipelines, and associated equipment to meet the requirements of the work. Promptly repair leaks or breaks along pipelines. Remove dredged material placed due to leaks and breaks.

### 3.2.4 Dredging Disposal

a. The material excavated shall be transported, deposited, confined and graded to drain as specified within the disposal areas shown on the drawings. The following upland disposal areas will be available:

- (1) Palmyra Cove
- (2) Money Island Cell A
- (3) Biles Island

b. Material dredged between Stations 18+000 and 96+000 must be placed only in the Palmyra Cove Disposal Area.

c. Material dredged above Station 96+000 must be placed in the Money Island Disposal Area or the Biles Island Disposal Area.

### 3.2.5 Misplaced Material

Any material deposited in places other than those designated or approved by the Contracting Officer, or which escapes from such places, will not be paid for. The Contractor may be required to remove such misplaced material in accordance with the Contract Clause entitled: "OBSTRUCTION OF NAVIGABLE WATERWAYS", and deposit it where directed, at no additional cost to the Government.

### 3.2.6 Government Quality Control Monitor

The Government may place a Government monitor aboard the Contractor's dredge or supporting vessels to monitor quality control conditions during dredging and disposal operations. See Section 01 30 00 ADMINISTRATIVE REQUIREMENTS, paragraph titled "ACCOMMODATIONS AND MEALS FOR GOVERNMENT INSPECTORS".

### 3.2.7 Submerged Pipeline

If a leak occurs in the discharge pipeline, immediately discontinue using the line until leaks are repaired. Remove material placed due to leaks or breaks.

### 3.2.8 Floating Pipeline

Should the Contractor's pipeline not rest on the bottom, it will be considered a floating pipeline and shall be visible on the surface and clearly marked. In no case will the Contractor's pipeline be allowed to fluctuate between the surface and the bottom, or lie partly submerged. Lights shall be installed on the floating pipeline as required in Section 01 30 00 "SIGNAL LIGHTS".

### 3.2.9 Navigation Warnings

Furnish and maintain navigation warning signs along the pipeline.

### 3.2.10 Method of Communication

Provide a system of communication between the dredge crew and the crew at the disposal area. A portable two-way radio is acceptable.

### 3.2.11 Salvaged Material

Anchors, chains, firearms, and other articles of value, which are brought to the surface during dredging operations, shall remain or become the property of the Government and shall be deposited on shore at a convenient location near the site of the work, as directed.

### 3.2.12 Plant Removal

Upon completion of the work, promptly remove plant, including ranges, buoys, piles, and other markers or obstructions.

## 3.3 DEVELOPMENT AND OPERATION OF DISPOSAL AREA

### 3.3.1 Contractor Coordination

- a. Conduct a disposal area prep meeting and site visit prior to starting actual disposal area work.
- b. At least 7 days prior to the use or modification of the disposal area, contact Mr. Dan Kelly, Project Manager, at 215-656-6889.

### 3.3.2 General

- a. Submit at or before the pre-dredging coordination meeting, a Disposal Area Plan prior to the use or modification of any Government-furnished disposal area. Show in the plan the areas or portions thereof to be used, the locations and cross-sections of proposed dikes, the locations of sluices and drainage structures, the manner in which the dredged material will be distributed in the disposal area, and the manner in which the initial weir elevation/sluice height at the sluice is to be established at the beginning of the disposal operation. Include in the plan necessary site specific sluice modifications. Conduct all work in accordance with the approved plan; however, approval of the plan by the Contracting Officer does not in any manner relieve the Contractor of his responsibility for the

adequacy of the design and construction of the required structures and drainage facilities. The Contractor is responsible for the maintenance and repair of all Government-owned land, roads, and facilities used by him under the contract. Remove all Contractor-owned dredging pipe (shore or submerged) used in the contract work, from the site within 30 days of completion of all dredging work.

b. Take all necessary measures to ensure that the condition of the disposal area, namely the dike, does not deteriorate or become damaged due to the pumping of dredged material into the site. Take every precaution to meet each of the requirements outlined in this specification in order to maintain the integrity of the disposal area. Stop pumping into the disposal area and contact the Contracting Officer immediately if seepage occurs on the exterior toe of the dike.

### 3.3.3 Disposal Area

a. Existing Government-furnished retaining dikes, sluices and drainage structures are available for use. Clear the area within and around the sluices of all vegetation and debris, and make all repairs, strengthening, extensions and modifications to such facilities as are necessary for confining the excavated material and for controlling disposal area effluent, until acceptance of all work under the contract. The Contractor will be permitted, in the Government-furnished disposal area, to construct any structures or use any means necessary to control the dredge effluent as required to meet these specifications, with prior approval from the Contracting Officer. All work performed in the disposal area by the Contractor shall be consistent with the approved disposal area plan.

b. Maintain, repair and stabilize all dikes, land, roads and structures used under the contract, and inspect the dikes on a daily basis to assure their safety and stability. Restore all dikes, roads, structures and areas disturbed through contract operations to a satisfactory condition as approved by the Contracting Officer, at no additional cost to the Government. The Government will have the right to regulate the use of the disposal area throughout the contract. Do not disturb existing piezometers and wells within the disposal area limits. Piezometers or wells disturbed by the Contractor will be replaced by the Government at the Contractor's expense. The Waste Management POC for issues concerning ingress/egress at the Money Island or Biles Island disposal site is Mr. Robert Jones, Biles Island Project Manager, at 215-428-4368. Direct issues concerning ingress or egress, initially to the POC. Should he not be available or if additional disposal area questions arise, contact the Philadelphia District Project Manager: Mr. Daniel Kelly, at 215-656-6889.

c. Contractor-furnished pipelines shall enter the disposal area only within the the limits shown on the drawings. The Contracting Officer reserves the right to direct the extension of the Contractor-furnished pipelines beyond the discharge limits shown on the drawings, or to a specific location within the disposal area, if required for efficient management of the disposal area. Make provisions to prevent erosion of the dike embankment at the discharge point. The end of all discharge pipes shall be located inside the disposal area limits at a distance not less than the distance indicated on the drawings. Unless otherwise noted on the drawings, the end of the discharge pipe shall be located inside the disposal area limits at one of the following two distances measured normal to the dike centerline: 1) not less than 10 feet from the interior toe of the dike; or 2) not less than 50 feet from the interior crest of the dike; whichever results in the longer pipe length. This length of pipe inside

the disposal area shall be sufficiently and safely supported along the entire length by timber cribbing, a compacted earthen embankment or other means approved by the Contracting Officer. In addition, the pipe shall be angled in the horizontal plane such that the discharge does not scour the slope face or the toe-of-slope in the vicinity of the discharge area. Submit a description of the proposed method for discharge pipe support, to support the discharge pipe inside the disposal area as required by these specifications, to include sketches showing plan and elevation views and details for the proposed method, and data on the materials to be used. The Government reserves the right to make the Government-furnished disposal area available for use by others when not in use as part of any work assignment under this contract. Obtain written permission from the Contracting Officer prior to entering on or utilizing any property owned or leased by the Government other than the diked disposal area.

d. Construct a crushed aggregate ramp as shown on the drawings to protect the discharge pipe where it crosses the existing access road. Construct the access ramp to the width of the access road, and compact the aggregate around the discharge pipe.

e. The Money Island Disposal Area is owned and is currently being mined by Waste Management of Pennsylvania, Inc., and is available as a disposal area for this contract. See the drawings for the specific areas. It is being provided to the Corps of Engineers under lease agreement by the Commonwealth of Pennsylvania under the terms of the local cooperation agreement for the Delaware River, Philadelphia to Trenton project authorization. Do not interfere with Waste Management's mining operations which will continue throughout the dredging process. Upon issuance of the notice to proceed, mining operations will be restricted to the portion of the disposal area not available for contract use. Concurrent use of the disposal area is not expected to interfere with the daily operation of the disposal area or impact the dredging schedule. ***The estimated available capacity at the available portion of the Money Island Disposal Area is 300,000 cubic yards.***

f. Biles Island Disposal Area is owned by Waste Management of Pennsylvania, Inc., and is available as a disposal area for this contract. It is being provided to the Corps of Engineers under lease agreement by the Commonwealth of Pennsylvania under the terms of the local cooperation agreement for the Delaware River, Philadelphia to Trenton project authorization. See the contract drawings for the specific areas available for use. Currently, this site is being mined by leased equipment hired by Waste Management to support daily landfill capping needs. Maintenance work by the Contractor is not anticipated for this disposal area. There is no outlet structure and dewatering is not necessary. The average minimum freeboard above the ponded mining pit which averages depths to 25-feet is approximately 8-feet, which includes a 2-foot safety zone. Closely monitor the pool elevation and adjust the disposal pumping rate to ensure a minimum of 2-feet of freeboard is continuously maintained. ***The estimated available capacity at Biles Island Cove Disposal Area is 1,000,000 cubic yards.***

g. The Palmyra Cove Disposal Area is owned by the New Jersey Tidelands Commission and is available as a disposal area for this contract. It is being provided to the Corps of Engineers under agreement by the State of New Jersey under the terms of the local cooperation agreement for the Delaware River, Philadelphia to Trenton project authorization. It is also located within the limits of the Palmyra Cove Nature Park, which is operated by the Burlington County Bridge Commission (BCBC). The Park will remain open during dredging operations between dawn to dusk each day. The

Contractor shall address public interaction and safety within both his health and safety plan as well as the disposal area plan. Phone number at the local Bridge Police Station is 856-829-1900, Ext 1244. **The estimated available capacity at Palmyra Cove Disposal Area is 300,000 cubic yards.**

#### 3.3.4 Additional Disposal Area Requirements

a. Borrow for diking material may be obtained from within the disposal area but not closer than 50 feet from the inside toe of the dike sections. Wet or dry borrow material as required to obtain optimum practical moisture content, in accordance with ASTM D1556/D1556M. Borrow material and the ground surface upon which it is to be placed, shall be free of all debris, timber and accumulations of vegetation. Place dike material in approximately equal layers not exceeding 12 inches in loose thickness and compact by the controlled traffic of spreading and/or hauling equipment over each layer. Borrowing of material from the area outside the existing perimeter dikes will not be permitted. Provide all impervious material required for mitigation of seepage problems during disposal operations from an approved off-site source if suitable material is unavailable from within the disposal area.

b. Maintain a freeboard of two feet or more, measured vertically between the retained materials and water and the top of the adjacent confining dikes. If the required freeboard is not met, stop pumping into the disposal area until corrective means that are satisfactory to the Contracting Officer have been taken.

c. Pipe type sluices are not permitted through exterior dikes, and the dredge pipe shall not enter the disposal area through an exterior dike. The hydraulic placing of perimeter dikes is not permitted.

d. Perform modifications to the disposal area that prevents obstruction of drainage on upland areas adjacent thereto, and to leave free, clear and unobstructed outfalls of sewers, drainage ditches, and other structures affected by the disposal operations. Distribute dredged material within the used portion of the disposal area in a reasonably uniform manner that allows the disposal surface area to drain after fill operations have ceased without creating excessive ponding on the fill surface.

e. Submit a detailed plan of the proposed Sluice Walkway. In accordance with the approved Sluice Walkway Plan, construct structurally sound access walkways with handrails on both sides of the walkway from the dikes to the sluices throughout their length, and a walkway in a "T" formation along the front of the sluices to enable the inspector to readily obtain the samples of the mixture going over the discharge box interior weir as hereinafter specified. Timber used to construct the walkways and handrails shall be in accordance with the requirements specified in the Paragraph titled, "TIMBER FOR FLASHBOARDS AND SLUICE BOX WALKWAYS" for the sluice box timber and in accordance with Section 21 of EM 385-1-1. For bidding purposes, assume new timber for sluice box walkways is required.

f. Prior to pumping material into the disposal area, inspect the existing fall protection by a qualified person as defined in EM 385-1-1. Remove existing systems not meeting this approval, and install a new system in accordance with EM 385-1-1. Submit the Fall Protection Inspection Report of the existing system and design data for new systems. For bidding purposes, assume new fall protection systems are required.

g. Provide full body safety harnesses for employees and Government

inspectors during the installation and removal of flashboards and the taking of samples from the effluent sampling location in the discharge box. Each person working on the sluice shall wear a safety harness as described in the approved site specific fall protection plan. A competent person in fall protection is required at the sluice box when fall protection is being used to add or remove boards.

h. Provide a minimum of 2 personnel at the disposal area when work (disposal or other) is being performed at a disposal area. Provide a generator with a light plant sufficient to light the sluice area during darkness. Provide disposal area personnel two-way radio communication with the dredge at all times.

i. Perform routine inspections of the dikes prior to the start of dredging operations and at least twice a day during dredging operations. Conduct inspections along the entire perimeter of the disposal area, concentrating on the condition of the dike to ensure its integrity. If any signs of distress are noted during any inspection, pumping of dredged material must stop immediately and the Contractor shall notify the appropriate Army Corps personnel. Typical signs of distress may include excessive seepage, fissures and slope failures.

j. Government Pipelines and Sluices: Government-owned pipelines will not be available for use by the Contractor. If the Contractor uses the existing sluices for this work, he shall be responsible for their maintenance. Prior to dredging operations, perform the following:

(1) Inspect sluice boxes for damage and/or deteriorated sluice flashboards and steel framework in the presence of the Contracting Officer. Remove existing flashboards and provide new flashboards prior to deposition of dredged material into the structure, and repair deteriorated or damaged steel framework as directed by the Contracting Officer.

(2) Remove dirt, mud, and debris from inside the sluice box.

(3) Weight the entire bottom of the inlet box with 12 inches of AASHTO No. 1 coarse aggregate (nominal size 2.5 inches), as shown on the figure included at the end of this section.

(4) During dredging operations, if a flashboard(s) deteriorates and there is no viable disposal option, grafting of plywood to weakened sluice walls may be utilized as a temporary fix as directed by the Contracting Officer. Polyethylene sheeting may also be attached to the outside flashboards to control seepage through the boards as directed by the Contracting Officer. However, as soon as practicable, remove and replace deteriorated flashboards with new wood. These sluices shall be functional and returned to the Government at the completion of the work assignment and shall be free of all damage except for normal wear and tear.

(5) Conduct a preparatory meeting with the COR for the inspection of the disposal area, sluice and fall protection systems.

k. Inspect the disposal area and sluice after work is complete and after the water has drained from the area for signs of dike distress. Report apparent seepage, stability, or safety problems immediately to the Contracting Officer and the appropriate Army Corps personnel.

### 3.4 CONTROL OF DISPOSAL AREA EFFLUENT IN UPLAND DISPOSAL AREA

#### 3.4.1 General

Monitor disposal area conditions to preclude excessive ponding as described in the Paragraph "Additional Requirements for Disposal Area", and maintain effluent quality as prescribed below. Review sluice height on a continuing basis to insure that the optimum height needed to satisfy both of these requirements are employed at all times. Raise the elevation of the crest of the sluice or stop pumping into the disposal area and permit the fill to settle, to ensure that the density of the mixture of suspended solids discharged over the sluice remains less than 4.5 grams per liter. This shall include disposal areas where material is being hydraulically rehandled in accordance with the Paragraph titled: "DISPOSAL OF DREDGED MATERIAL". In addition, the sluice height shall be managed in accordance with the special requirements described under paragraph "Sluice Management" below.

- a. Do not allow the density of the effluent discharged over the sluice to exceed 4.5 grams/liter at any time.
- b. Maintain the pH of the effluent between 6 and 9 standard units at all times.

#### 3.4.2 Sluice Management

To prevent "floating" of the sluice during filling and ensure its proper performance, follow the special sluice management practices listed below. Refer to the attached figure at the end of this section for sluice box nomenclature.

- a. Fill the inlet box on each sluice with water to stabilize the box and prevent it from floating. Such filling shall be done before raising the entire sluice elevation (i.e. before boarding up the inlet box) and such that the following criteria is maintained at all times:

At no time shall the head difference (i.e., difference in water elevations) between the inside and outside of the inlet box be more than half the height of water outside the box. For example, if it is anticipated that there will eventually be 6 feet of water outside the box, first allow half as much water into the inlet box, i.e., 3 feet of water, before completely boarding up the inlet box.

- b. Maintain the top of exterior sluice boards around the inlet box at the same elevation to the maximum extent possible.
- c. Maintain the top of exterior sluice boards around the discharge box at least 8 inches, i.e., 2 boards minimum, above the top of the exterior flashboards around the inlet box.
- d. Set the interior weir between the inlet and discharge boxes 1 to 2 feet lower than the elevation of the exterior flashboards around the inlet box.
- e. Remove and properly dispose of all floating debris lodged in and around the sluice boxes.
- f. In order to minimize leaks, place burlap bags or an approved

equivalent between the flashboards to act as a gasket and seal gaps that may exist between the boards. Weight or wedge flashboards into place to prevent them from floating.

### 3.4.3 Effluent Sampling and Testing

Monitor the effluent from the disposal area as described in this section. Maintain awareness of the effluent quality by sampling throughout the operating period. The sampling required in this section is not to be confused with sampling and analysis that is to be performed by others for the purpose of reporting data to Pennsylvania DEP in accordance with the monitoring requirements given in the 401 Water Quality Certification issued to the USACE. Additional sampling and automated monitoring by the government will be conducted by a separate contract during peak sluice discharge. The Contractor shall ensure this work or associated equipment is not interfered with or damaged during sluice management activities.

#### 3.4.3.1 Effluent pH

Sample effluent pH weekly or once per discharge, whichever is more frequent, using a grab sample.

#### 3.4.3.2 Effluent Sampling and Testing

Take and test samples for density determination, and record the results. Sampling shall be done once per week (or once per discharge, whichever is more frequent) using an 8-hour composite sample. Increase the minimum frequency of sampling at the sluice when effluent density increases or nears the maximum specified. Record density determinations, including times of sampling, on the Daily Report of Operations forms required in Paragraph "CONTRACTOR QUALITY CONTROL" of this section. Include the hydrometer readings (expressed in Grams/Liter) in the daily reports in RMS. Collect each sample at the sluice from the mixture flowing over the discharge box interior weir as shown on the attached figure. Make a composite sample by partially filling, without overflow, a one-quart container for five or six consecutive intervals such that a total of about 1 gallon is collected and combined in a bucket or other suitable container. Determine the composite sample density by the hydrometer method, no more than 5 minutes after collecting the first one-quart container sample, otherwise discard the sample and make up a new one.

a. Hydrometer Method: The hydrometer used to determine the composite sample density shall be a soil hydrometer conforming to ASTM E100, Hydrometer No. ASTM 152H, -5 to +60 grams per liter. This specified hydrometer reads density directly in grams per liter, so no other computations are required to determine density. Submit the proposed hydrometer brand and model for approval prior to commencing dredging operations. Use the hydrometer as specified by the manufacturer.

#### 3.4.4 Records

Submit hand written records of disposal area effluent measurements and corrective action taken weekly to the Government Inspector on site. Monthly, submit 3 copies of a report of data collected within 10 days after the end of each month and after the completion of dredging.

#### 3.4.5 Timber Flashboards

Prior to commencement of pumping, provide a sufficient number of

flashboards for the sluice as required for the retention of dredged material under this contract and ensure that the entire sluice length is effective. Brush applied preservative treatment shall be available at the site and all cut surfaces shall be heavily brushed as specified in AWP4 M4.

#### 3.4.6 Continuing Effluent Control

Upon completion and acceptance of a work assignment, provide continuing, intermittent labor to ensure that effluent control is continued beyond the completion of dredged discharge into the disposal area. Continue the control, including the removal of flashboards, until water impoundment is reduced to that which existed prior to the commencement of disposal into this area. The time required for effluent control beyond completion and acceptance of the work assignment will not be considered part of the completion time for the contract.

### 3.5 OVERDEPTH, SIDE SLOPES, AND EXCESSIVE DREDGING

#### 3.5.1 Overdepth

Material removed from within an acceptance section, to a depth of not more than 1 foot below the required depth, limited by a vertical plane through the required depth contour, will be estimated and paid for at the contract unit price for removal and disposal of material.

#### 3.5.2 Side and End Slopes

No end slopes are specified for this contract(box cut).

Along the required dredging limits in the Delaware River and portions of the basin edges indicated on the contract drawings, dredge to a point extending 25 feet outside the channel and basin edges(box cut), where shoaling occurs along the channel and basin edges within the authorized contract limits (as determined by before-dredging surveys), unless otherwise determined or directed by the Contracting Officer.

#### 3.5.3 Excessive Dredging

Material taken from beyond the limits specified in the Paragraphs "Overdepth" and "Side and End Slopes", will be deducted from the total amount dredged as excessive dredging for which payment will not be made. Nothing herein shall be construed to prevent payment for the removal of shoals performed in accordance with the applicable requirements of the Contract Clause "FINAL EXAMINATION AND ACCEPTANCE" and Section 01 30 00 ADMINISTRATIVE REQUIREMENTS, paragraph titled "SHOALING".

### 3.6 ESTIMATED QUANTITIES

The total estimated quantity of material necessary to be removed within the specified limits as shown on the drawings, including allowable overdepth and areas outside the turning basin limits as previously specified, is as follows. The word "Red" in parenthesis after stationing denotes only New Jersey side of channel requires dredging. The word "Green" in parenthesis after stationing denotes only Pennsylvania side of channel requires dredging. The following acceptance sections are specified for this contract:

#### BASE BID

Acceptance Section	Station to Station	Req'd Dredging to 41' (CY)	Overdepth 41' to 42' (CY)	Total Available (CY)
AS1	18+000 to 21+000 (NJ)	4,500	4,500	9,000
AS2	26+000 to 28+500 (PA)	5,500	3,000	8,500
AS3	55+000 to 57+500 (NJ)	6,000	5,000	11,000
AS4	59+000 to 61+500 (NJ)	6,500	4,500	11,000
AS5	63+500 to 65+467 (PA)	8,500	4,500	13,000
AS6	65+467 to 68+000 (PA)	10,500	6,000	16,500
AS7	69+500 to 71+500 (NJ)	4,500	5,000	9,500
AS8	71+500 to 73+500 (NJ)	6,000	5,500	11,500
AS9	72+700 to 75+700 (PA)	12,000	8,000	20,000
AS10	78+798 to 80+219 (PA)	7,500	3,000	10,500
AS11	82+000 to 84+660 (NJ)	10,500	5,500	16,000
AS12	88+000 to 90+549 (PA)	33,000	9,000	42,000
AS13	90+549 to 93+000 (PA)	17,000	6,500	23,500
AS14	98+000 to 101+000 (NJ)	23,000	6,000	29,000
AS15	101+000 to 104+000 (NJ)	19,000	6,500	25,500
AS16	108+500 to 111+000 (PA)	11,500	3,500	15,000
<b>AS17</b>	<b>112+431 to 116+000 (NJ)</b>	<b>20,000</b>	<b>10,000</b>	<b>30,000</b>
AS18	116+000 to 119+000 (NJ)	20,000	10,000	30,000
<b>AS19</b>	<b>119+000 to 122+500 (NJ)</b>	<b>15,000</b>	<b>8,000</b>	<b>23,000</b>
AS20	Fairless Turning Basin	50,000	20,000	70,000
TOTALS		290,500	134,000	424,500

Quantities shown by Acceptance Section are based upon the date of surveys shown on the contract drawings and may differ slightly from final before dredging survey (BDs) quantities based upon erosion and/or shoaling. The Contracting Officer reserves the right to modify and/or add additional Acceptance Sections between Station 18+000 and 124+700.

### 3.7 LIMIT OF DREDGING

#### 3.7.1 General

The areas to be dredged are within the contract limits as indicated on the contract drawings, and as specified in the Contract Clause titled: FINAL EXAMINATION AND ACCEPTANCE, and as defined by dredging prism indicated in the Paragraphs "OVERDEPTH, SIDE SLOPES, AND EXCESSIVE DREDGING", and "MEASUREMENT AND PAYMENT", of this section.

Along those edges indicated on the drawings, dredge to a point extending 25 feet outside the channel edges where shoaling occurs along the channel or basin edge within the authorized contract limits (as determined by before-dredging surveys), unless otherwise determined or directed by the Contracting Officer.

#### 3.7.2 Quantity Acceptance

Clear each acceptance section in its entirety to the required depth prior to acceptance of the work by the Government. If after-dredging surveys of a portion of an acceptance section indicate dredging is required, and it was indicated by the before-dredging surveys, remove required material found to be remaining above the required depth, unless such dredging is waived by the Contracting Officer. Dragging of a bar or other device will be allowed. Material removed as a result of redredging, within the dredging prism, will be paid for at the contract unit price and quantity as determined by the difference between initial before-dredging survey and the

final after-dredging survey. In any portion of an acceptance section, when the after dredging survey indicates dredging is required that was not indicated by the before dredging survey, remove such material to the required depth, unless waived by the Contracting Officer. Such work will be paid for at the contract unit price and any additional quantity calculation will be made based on the after-dredging surveys, provided the material is not determined by the Contracting Officer to be misplaced material.

### 3.8 DEBRIS REMOVAL

Remove debris that may be encountered during dredging operations. Exact locations, types, and quantities of debris is unknown. Debris removed from the dredged area shall be removed from the water. Disposal shall be the responsibility of the Contractor and disposal shall be outside the limits of Government property.

### 3.9 CONTRACTOR QUALITY CONTROL

Prepare, maintain, and submit daily, the Daily Report of Operations forms, and furnish signed copies thereof with the Quality Control Reports required in Section 01 45 00 QUALITY CONTROL. A sample Daily Report of Operations form is attached at the end of this Section. Further instructions on the preparation and submittal of this form will be provided at the Pre-Dredging Coordination Meeting. Submittals for the Daily Report of Operations will be available to the public.

### 3.10 FINAL EXAMINATION AND ACCEPTANCE

As soon as practicable after the completion of areas, which in the opinion of the Contracting Officer, will not be affected by further dredging operations, each area will be examined by the Government by sounding or sweeping, or both. Remove shoals and lumps by dredging. However, if the bottom is soft and the shoal areas form no material obstruction to navigation, removal may be waived at the discretion of the Contracting Officer. The Contractor will be notified when soundings or sweepings are to be made and will be permitted to accompany the sounding or sweeping party and to inspect the data and methods used in preparing the final estimate. When areas are found to be in a satisfactory condition, the work therein will be accepted as complete. Final estimates will be subject to deductions or correction of deductions previously made because of excessive overdepth, dredging outside or authorized areas, or disposal of material in an unauthorized manner. Should more than two soundings or sweeping operations by the Government 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. The rate of each day in which the Government plant is engaged in such sounding or sweeping operations and/or is enroute to or from the site or held, for the Contractor's convenience, at or near the site for these operations shall be \$5,500.00, except on Saturday, Sunday and holidays when the rate shall be \$6,000.00.

### 3.11 MEASUREMENT AND PAYMENT

#### 3.11.1 Mobilization and Demobilization

All costs connected with the mobilization and demobilization of the Contractor's dredging plant and equipment will be paid for at the contract lump sum price for this item. Sixty percent of the lump sum price will be

paid to the Contractor upon completion of his mobilization at the first work assignment area. The remaining forty percent will be included in the final payment for work under this contract.

#### 3.11.1.1 Cost Data

In the event the Contracting Officer considers that the amount in this item (60 percent) which represents mobilization, does not bear a reasonable relation to the cost of the work in this contract, the Contracting Officer may require the Contractor to produce cost data to justify this portion of the bid. Failure to justify such price to the satisfaction of the Contracting Officer, will result in payment of actual mobilization costs, as determined by the Contracting Officer at the completion of mobilization, and payment of the remainder of this item in the final payment under this contract. The determination of the Contracting Officer is not subject to appeal.

#### 3.11.1.2 Mobilization and Demobilization Costs

All costs connected with the mobilization and demobilization of the Contractor's dredging plant and equipment as defined below shall be included in the contract lump sum price for the Bid Item titled, "Mobilization and Demobilization", as listed in the Bidding Schedule.

a. Mobilization shall include all costs for operations accomplished prior to commencement of actual dredging operations; i.e., transfer of dredge, attendant plant, and equipment to site; preparation of disposal area including sluice and drainage structures; and other incidentals in advance of the actual dredging operations.

b. Demobilization shall include general preparation for transfer of plant to its home or standby base, removal of pipelines, cleanup of disposal area including the removal and disposal of all tires and trash/metal/debris resulting from the dredging operation. Damages to disposal area access roads must be repaired before contract end.

#### 3.11.2 Disposal Area Costs

All costs in connection with the development and cleanup of the disposal area, including sluice and drainage structure work, shall be included in the contract lump sum price for the Bid Item titled "Mobilization and Demobilization", as listed in the Bidding Schedule. Maintenance of the disposal area, and effluent control shall be included in the contract unit price for the Bid Item titled, "Removal & Satisfactory Disposal of Material".

#### 3.11.3 Debris

The work specified in this section for the removal and satisfactory disposal of debris will be measured for payment by the tons of debris removed and satisfactorily disposed of using certified weigh tickets. All costs in connection therewith, including equipment downtime, shall be included in the contract unit price for the Bid Item titled, "Debris Removal". Compute quantities to the nearest whole ton. Debris shall be measured for payment by weighing on approved, accurately calibrated scales furnished by and at the expense of the Contractor. The scales shall be capable of printing a weight ticket including time, date, truck number, and weight. Weight certificates furnished by a public weighmaster will be acceptable. Submit a copy of each Certified Weight Scale Tickets, within 7

working days after weighing.

#### 3.11.4 Dredging Quantities

Dredging quantities will be conducted as follows:

##### 3.11.4.1 Dredging - Channel Clearance Surveys

a. The material to be removed above project depth within each acceptance section will be determined by an before dredging survey conducted by the Government prior to dredging. The sorted XYZ dataset will be generated from the edited multi-beam files utilizing the un-shifted average cell sounding contained within a 3 foot by 3 foot matrix. See Contract Drawings for the required depth template.

b. The material remaining above contract depth within each acceptance section will be determined by an after dredging survey conducted by the Government following the completion of an acceptance section by the Contractor. The sorted XYZ dataset will be generated from the edited multi-beam files utilizing the average cell sounding contained within a 3 foot by 3 foot matrix. See Contract Drawings for required depth template.

c. Surveys will be conducted as outlined in EM 1110-2-1003. Raw data will not be available, however, the edited multi-beam files will be available upon request and the sorted XYZ dataset provided to the Contractor.

##### 3.11.4.2 Dredging - Volume Calculations

The total amount of material to be removed and paid for under the contract will be measured by the cubic yards in place. Measurement of the number of cubic yards in place will be made by computing the volume between the bottom surface shown by soundings of the before dredging survey and the final after dredging survey of the acceptance section once it has been cleared. The volume for measurement will include the material within the limits described in the paragraph "OVERDEPTH, SIDE SLOPES, AND EXCESSIVE DREDGING", less any deductions that may be required for misplaced material described in the paragraph "CONDUCT OF DREDGING WORK" of this Section. The volume of material removed will be generated by using the TIN (Triangulated Irregular Network) computation as outlined in the Hydrographic Survey Manual EM 1110-2-1003. An XYZ file will be generated from the edited multi-beam data using the average sounding within the cell of a 3 foot by 3 foot matrix to perform the TIN volume calculations. All Raw multi-beam files are unavailable. All edited multi-beam files are available to the Contractor upon request. All sorted XYZ files used for computations will be provided to the Contractor. Payment for dredging will be made at the contract unit price for the Base Bid and Option Item titled, "Removal & Satisfactory Disposal of Material", as listed in the Bidding Schedule.

##### 3.11.4.3 Dredging - Plotting

a. Plotting of before dredging and after dredging surveys will be the XYZ dataset generated from the 3x3 average dataset used to compute quantities utilizing the minimum sounding shifted to the center of the cell of a 15 foot by 15 foot matrix. The contour depicting the 3x3 average XYZ dataset will also be plotted. All raw files are unavailable. All edited multi-beam files will be available to the Contractor upon request. All sorted XYZ files used for plotting will be provided to the Contractor.

b. The 15x15 minimum dataset generated for plotting cannot be used for the

calculation of square footage and volumes.

#### 3.11.4.4 Surveys for Acceptance

a. The Government will perform before dredging and after dredging surveys for each Acceptance Section. Request surveys at least three work days in advance of the date for each survey (Saturdays, Sundays and holidays are excluded), and confirm the need by telephone between 0630 and 0700 hours on the day of each survey by calling the Technical Support Branch, O & M Section at 215-656-6750, and by email to both Jason.M.Gray@usace.army.mil and Stephen.A.Farrell@usace.army.mil. Once the surveys have been acquired an additional minimum of three days will be required for processing, plotting and volume computations.

b. For mechanical dredging, request an interim survey to be performed by the Government prior to any drag bar use for leveling. Implement dragging effort after approval of survey results. The advance notice time required to request an interim survey is the same as specified for before and after dredging survey requests.

c. The time for any redredging to remove shoals and for second and subsequent surveys in any acceptance section is the responsibility of the Contractor, and must be accomplished within the completion period established for the contract. The Contractor may accompany the survey party to observe if redredging is required. The Contracting Officer will notify the Contractor if any redredging is required.

#### 3.11.4.5 Existing Conditions

Hydrographic surveys will be taken by the Government before dredging. Determination of quantities removed and the deductions made therefrom to determine quantities by in place measurement to be paid in the area specified, after having once been made, will not be reopened, except on evidence of collusion, fraud, or obvious error. The hydrographic surveys for this contract, containing all edited x,y,z data, will be made available on CD by request.

#### 3.11.4.6 Hydrographic Survey Equipment

Hydrographic surveys will be conducted to meet USACE Performance Standards as defined in EM 1110-2-1003. Surveys will be performed by multi-beam sweep type surveys. All fathometers will be calibrated following procedures outlined in the aforementioned EM.

#### 3.11.4.7 Tide Corrections

Horizontal and vertical vessel positioning for all hydrographic surveys conducted under this contract by the Government, will be based upon Real Time Kinematic (RTK) Global Positioning System, a Real Time Network (RTN), or Post Processed Kinematic (PPK) techniques. All soundings will be corrected to Mean Lower Low Water (MLLW) based upon differences shown in the chart in Section 00 73 53.

#### 3.11.4.8 Partial Payments

Monthly partial payments will be based on acceptance sections completed and cleared to the contract required dredging depth, as determined by soundings or sweepings taken behind the dredge by the Government survey party.

3.11.4.9 Payment

Payment for dredging will be made at the contract unit prices for the Bid Item titled, "Removal and Satisfactory Disposal of Material", as listed in the Bidding Schedule for the number of cubic yards, measured in place, which are removed and satisfactorily disposed of in the disposal area.

-- End of Section --