

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE J	PAGE OF PAGES 1 16
2. AMENDMENT/MODIFICATION NO. 0003		3. EFFECTIVE DATE 09-Jul-2003	4. REQUISITION/PURCHASE REQ. NO. W25PHS-3022-6545		5. PROJECT NO.(If applicable)
6. ISSUED BY US ARMY ENGINEER DISTRICT, PHILADELPHIA CONTRACTING DIVISION WANAMAKER BLDG, 100 PENN SQ EAST PHILADELPHIA PA 19107-3390		CODE DACW61	7. ADMINISTERED BY (If other than item 6) US ARMY ENGINEER DISTRICT, PHILADELPHIA POC: SANDRA FLETCHER WANAMAKER BUILDING 100 PENN SQUARE EAST PHILADELPHIA PA 19107-3390		CODE E5CTCSGF
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				X	9A. AMENDMENT OF SOLICITATION NO. DACW61-03-B-0010
				X	9B. DATED (SEE ITEM 11) 11-Jun-2003
					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) MAINTENANCE DREDGING, STA. 0+600 to STA. 22+665, SCHUYLKILL RIVER, MOUTH TO UNIVERSITY AVENUE, PHILA., PA					
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/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 checked="" 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.) THIS AMENDMENT DOES NOT EXTEND THE 15 JULY 2003 BID OPENING DATE AT 11:00 A.M.					
CONTINUED					
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)		09-Jul-2003

14. DESCRIPTION OF AMENDMENT (continued)

a. SECTION 02325 – DREDGING:

(1) Paragraph 1.2 “REFERENCES” and Paragraph 3.4.3 “EFFLUENT DENSITY” – Please delete pages 02325-1 thru 02325-14 in their entirety and insert new pages 02325-1 thru 02325-14 annotated Amendment No. 0003, attached hereto.

b. Please indicate receipt of this amendment on Standard Form 1442 (SOLICITATION, OFFER, AND AWARD) as Amendment No. 0003. Failure to acknowledge all amendments may be cause for rejection of the bid.

PLEASE NOTE: Bonding is required for this procurement. There has been a recent change in the requirements of a Surety with respect to **Bid, Performance and Payment** Bonds. The Surety’s Power of Attorney (POA) accompanying the Bonds, or Certificate of Continuing Validity attached to the POA must bear signatures (original or mechanically applied) that were clearly applied after the document’s creation. Regardless of whether the signature on the POA or Certificate of Continuing Validity is an **Original** or **Mechanically** applied signature, it **must** be clearly evident that the signature was applied after the document was generated. A raised seal and current date on the Certificate of Continuing Validity no longer assures the Government that the Surety unequivocally intended to be bound by the bonds at the time of their execution. The signatures cannot be applied concurrently **With the Printing** of the document. Failure to **SUBMIT properly executed bonding documents** will be cause for rejection of your bid as non-responsive.

SECTION 02325

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 Contract Clause 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-PRESERVERS' ASSOCIATION (AWPA)

AWPA C2 (1995) Lumber, Timbers, Bridge Ties and
Mine Ties - Preservative Treatment by
Pressure Processes

ASTM INTERNATIONAL (ASTM)

ASTM D 2103 (1992) Polyethylene Film and Sheeting

**ASTM E 100 (1995); Rev. 2001) Standard Specification
for ASTM Hydrometers**

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

33 CFR 156 (1992) Navigation and Navigable Waters,
Oil and Hazardous Material Transfer
Operations

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PennDOT)

PennDOT Specifications (1994 Edition) Publication 408
Specifications

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FS MM-L-751 (Rev. H) Lumber; Softwood

SOUTHERN PINE INSPECTION BUREAU (SPIB)

SPIB-01 (1994; Supplements 1 thru 4) Standard
Grading Rules for Southern Pine Lumber

U.S. DEPARTMENT OF COMMERCE (DOC)

DOC PS 20 (1970; Revised 1986) American Softwood
Lumber Standard

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 1110-2-1003 (1 JAN. 2002) Hydrographic Survey Manual

EM 385-1-1 (Latest Revision) Safety and Health
Requirements Manual

1.3 ORDER OF WORK AND DREDGING RESTRICTIONS

Work under this contract shall begin at the downstream end of the project at Acceptance Section 1 and proceed upstream to Acceptance Section 8. Bucket dredging will not be permitted from 15 March through 31 May. No overboard disposal of dredged materials will be permitted. The Contractor shall schedule his work in conformance with these requirements.

1.4 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 that has occurred since the channel was last dredged as noted in the Special Clauses. The character of the material is believed to be as indicated by the results of the Government-conducted sampling. Illegal dumping along the riverbanks of this project has been documented in the past. As a result, small pockets of trash and/or tires may be encountered during dredging operations. An abstract of bottom samples is contained in Section 00855 ABSTRACT OF BOTTOM SAMPLES.

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. However, prior to bidding, the Contractor may, at his discretion and expense, conduct additional investigation to further determine conditions at the site.

1.5 SITE CONDITIONS

Bidders are expected to examine the site of the work, including the disposal areas and decide for themselves as to the conditions affecting their operations. See Contract Clause entitled 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.

1.6 FUEL OIL HANDLING

The Contractor shall assure that all fuel oil transfer operations to or from his plant comply with all Federal, state, and municipal laws, codes and regulations. The Contractor shall incorporate in his accident prevention program, submitted in compliance with the Contract Clause entitled: "ACCIDENT PREVENTION", sufficient information to demonstrate compliance with 33 CFR 156 and any other applicable laws, codes, and regulations.

1.7 DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS) EQUIPMENT

The Contractor must have a differential GPS, in accordance with the requirements for a Class 1 Survey, as defined in the U.S. Army Corps of Engineers Hydrographic Surveying Manual EM 1110-2-1003, dated 1 January 2002. The Contractor shall provide real time positioning on a computer screen during dredging, and have the capability of playback in 15 minute intervals. The position must be recorded on a disk every 15 minutes and submitted to the Contracting Officer on a daily basis. The DGPS shall indicate the position of the dredge and each dump scow. The position of each scow shall automatically be recorded when the dump scow discharges. All scows must be equipped with pressure differential gages.

1.8 SUBMITTALS

Government approval is required for submittals with "G" designation; submittals having no designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

NOTE: Any submittals classified as "SD-01 Preconstruction Submittals" are submittals required to be submitted to, and approved by, the CO prior to mobilization to the contract work site. All other submittals, classified as "SD-02" through "SD-11," shall be submitted to, and approved by, the CO prior to commencing the particular task to which the submittal is associated.

SD-01 Preconstruction Submittals

Pumpout Plan; G CO

If a hopper dredge is used for the contract work, the Contractor shall submit to the Contracting Officer for approval its plan for direct pumpout of dredged material. If a bucket dredge is used for the contract work, the Contractor shall submit a hydraulic unloading system plan for approval by the Contracting Officer. Plans shall include the description, dimensions, and location of the proposed facilities.

Disposal Area Plan; G CO

The Contractor shall submit to the Contracting Officer for approval its plan for usage or modification of the Government-furnished upland disposal area and the development of any Contractor-furnished upland disposal areas.

This plan shall show the areas or portions thereof to be used, the locations and cross-sections of proposed dikes, the locations of sluices and drainage structures, and the manner in which the dredged material will be distributed in the disposal areas.

Discharge Pipe Support Plan; G CO

The Contractor shall submit for approval a description of the proposed method for supporting 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.

SD-03 Product Data

Vessel and Equipment List; G CO

The Contractor shall submit for approval a complete list of all vessels and equipment to be used during the contract, including all dredging plants,

supporting vessels, and equipment. The vessel list shall contain the types, the numbers of each, the draft of each, and all other pertinent information.

SD-06 Test Reports

Daily Report of Operations; G CO

The Contractor shall prepare, maintain, and submit daily for approval, Daily Report of Operations forms, and shall furnish signed copies thereof with the Quality Control Reports required in SECTION 01450: CONTRACTOR QUALITY CONTROL, to the Contracting Officer. Copies of the Daily Report of Operations forms to be used are attached at the end of this section. Further instructions on the preparation and submittal of the forms will be provided at the Pre-Dredging Coordination Meeting.

DGPS Positioning

Records of position during dredging and overboard disposal operations shall be recorded on disk every 15 minutes and submitted to the Contracting Officer on a daily basis.

Disposal Area Effluent Measurements

Records of disposal area effluent measurements and corrective action taken shall be submitted daily to the Contracting Officer.

SD-07 Certificates

Timber-Flash Boards; G CO

Certificates of compliance attesting that the timber-flash boards conform to the requirements of this specification shall be submitted for approval.

PART 2 PRODUCTS

2.1 TIMBER FLASH-BOARDS

All lumber for flash-boards shall be Southern Yellow Pine, dense structural grade, and shall conform to the SPIB-01 and the applicable requirements of FS MM-L-751. Flash-boards shall be surfaced four sides and the dress size shall conform to DOC PS 20. Flash-boards shall be pressure-preservative treated with chromated copper arsenate (water-borne solution) in accordance with AWPA C2 to have a minimum net retention of solid preservative of 2.5 pounds per cubic foot. Flash-boards shall be 4 inch nominal thickness.

2.2 STONE

Stone used to construct ramps over any discharge pipelines shall be PennDOT #2A stone, in accordance with the PennDOT Specifications Section 703.

PART 3 EXECUTION

3.1 DISPOSAL OF EXCAVATED MATERIAL

3.1.1 General

The material excavated shall be transported, deposited and confined as specified within the disposal area shown on the Contract Drawings, or

within any disposal area furnished by the Contractor, as approved by the Contracting Officer. The Fort Mifflin disposal area shown on the Contract Drawings, will only be available for the disposal of material excavated by hydraulic or hopper dredge. The Government will not furnish a rehandling basin, docking facilities, or a disposal area for disposal of material dredged by bucket dredge under this contract.

3.1.2 Misplaced Material

Any material deposited in places other than those designated or approved by the Contracting Officer, or which escapes from places designated or approved by the Contracting Officer for disposal, will not be paid for. The Contractor may be required to remove such misplaced material in accordance with Contract Clause entitled OBSTRUCTION OF NAVIGABLE WATERWAYS, and deposit it where directed at the Contractor's expense.

3.1.3 Hydraulic Dredging

Material excavated by hydraulic pipeline dredging shall be transported by pipeline to final position in the approved disposal area without the use of rehandling basins or placing in scows or other similar vessels. Material excavated by hopper dredging shall be loaded into bins or hoppers not to exceed overflow and pumped directly into the approved disposal area by a means which will prevent the loss of any material into the river prior to deposition in the disposal area. Special care shall be taken to assure that hoppers do not leak during any phase of the contract work.

For all methods of dredging, all pipelines shall be kept in good condition at all times, and any leaks or breaks along their length shall be promptly and properly repaired. All discharge piping crossing the navigation channel shall be submerged to a minimum depth, as specified in the Special Clause entitled: " SC-5 PHYSICAL DATA".

3.1.4 Bucket Dredging

3.1.4.1 Dredging Restriction

Bucket dredging in the Schuylkill River will not be permitted between 15 March through 31 May.

3.1.4.2 General

Material excavated by bucket (bucket, drag or dipper) dredges shall be placed in scows to overflow only, and transported to either an approved enclosed basin, dumped, and then rehandled by hydraulic dredge to an approved disposal area, or to a mooring where the scows shall be unloaded by pumping directly to an approved disposal area. All rehandling operations either from underwater basins or by direct pumping from moored scows shall be in accordance with the applicable requirements for hydraulic dredging. All scows shall be kept in good condition and the coamings kept in good repair. The decks of all loaded scows shall be washed before they are moved from the loading area.

3.1.4.3 Rehandling

No Government-furnished rehandling basin is available for the contract work. Dump scows shall have their pockets provided with proper doors or appliances to prevent leakage of materials. Underwater rehandling shall be

performed in enclosed basins furnished by the Contractor and approved by the Contracting Officer. The rehandling basins shall be totally enclosed, except for one entrance channel having a maximum opening of 300 feet measured at MLLW. The dumping location shall not be closer than 800 feet from the center of the entrance opening within the enclosure. Dikes or other structures required to enclose the rehandling basins shall have top elevations not less than 10 feet above NAVD88. Material dumped within the rehandling basins shall be removed daily by the rehandling dredge. Scows shall be dumped only within the marked limits of the approved rehandling basins. All rehandling operations shall be maintained to the satisfaction of the Contracting Officer.

a. Navigation Markers: The Contractor shall mark the limits of the rehandling basins and enclosures. Lights and signals as may be prescribed by the U.S. Coast Guard and as necessary to show the limit markers shall be installed and maintained by and at the expense of the Contractor. The Contractor shall apply for and obtain the approval of the U.S. Coast Guard for such signals and lights.

b. Restoration: Upon completion of the work, the Contractor will be required to leave the site in which the basins were located at no higher elevation than existed prior to construction of the basins and any dikes or other structures for enclosing the basins that have been constructed offshore of mean high water shall be removed by the Contractor and the river bottom restored to the elevation which existed prior to their construction.

3.1.4.4 Direct Pumpout Rehandling

When scows are unloaded without dumping, they shall have their contents pumped directly into the approved disposal area by a means which will preclude any loss of material to the river or canal prior to deposit in the disposal area. The location and development of the mooring for direct pumpout operations will be subject to approval by the Contracting Officer.

3.2 CONTRACTOR-FURNISHED DISPOSAL AREAS

The Contractor shall undertake the coordination with Federal and state agencies as specified in Section 01040 COORDINATION FOR CONTRACTOR-FURNISHED DISPOSAL AREAS. As specified in that section, use of these areas will be subject to the approval of the Contracting Officer.

3.3 DEVELOPMENT AND OPERATION OF DISPOSAL AREAS

3.3.1 General

Prior to the use or modification of any Government-furnished disposal area or construction for development of any Contractor-furnished disposal areas, the Contractor shall submit the disposal area plan specified in the Paragraph entitled: "SUBMITTALS" to the Contracting Officer for approval. At least 7 days prior to the use or modification of any Government-owned land or facilities, the Contractor shall contact Mr. Harry Faulls, Fort Mifflin Project Office, at (215) 365-1892/0342. The Contractor shall conduct his 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 shall be responsible for the maintenance and repair of all Government-owned land, roads and facilities used by him under the contract.

All Contractor-owned dredging pipe (shore or submerged) used in the contract work shall be removed from the site by the Contractor within 30 days of completion of all dredging work.

3.3.2 Construction and Maintenance

3.3.2.1 Government-Furnished Upland Disposal Areas

a. If the Contractor elects to use the disposal area shown on the Contract Drawings, he may use the existing government-furnished retaining dikes, sluices and drainage structures and shall 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 shall clear the area within and around the sluices of all vegetation and debris. The Contractor will be permitted, in the Government-furnished disposal areas, to construct any other structures or use any means necessary to control the dredge effluent as required to meet these specifications, with approval from the Contracting Officer.

b. The Contractor shall be responsible for the maintenance, repair and stability of all dikes, roads and structures used by him under the contract, and shall inspect the dikes on a daily basis to assure their safety and stability. The Contractor shall restore all dikes, roads, and areas he disturbs through his 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.

c. The Contractor shall provide his own pipelines and they shall enter the Government-furnished disposal area only within the discharge limits shown on the Contract Drawings. The Contractor shall be responsible for obtaining any required right-of-ways for his operations. The contractor shall ensure that the discharge end of the dredge pipe extends 60 feet from the center line of the containment dike. This 60-foot length of pipe shall be sufficiently and safely supported along the entire length of the pipe by timber cribbing, a compacted earthen embankment or other means approved by the Contracting Officer's Representative. The Contracting Officer reserves the right to direct the extension of Contractor-furnished pipelines beyond the discharge limits shown on the Contract Drawings if required for efficient management of the disposal area. The Contractor shall obtain written permission from the Contracting Officer prior to entering on or utilizing any property owned or leased by the Government other than diked disposal areas.

d. The Contractor shall construct a ramp over any discharge pipeline that crosses any existing access road. The ramp shall be constructed using State of Pennsylvania #2A stone. Upon removal of the pipeline, the Contractor shall spread the 2A material evenly over the existing road surface.

3.3.2.2 Special Requirements for Government-Furnished Disposal Areas

Borrow for diking material may be obtained from within the disposal area but not closer than 40 feet from the inside toe of the dike sections. Wetting or drying of borrow material shall be performed as required to obtain optimum practical moisture content. Borrow material and the ground surface upon which it is to be placed shall be free of all debris, timber and accumulations of vegetation. Dike material shall be placed in

approximately equal layers not exceeding 12 inches in loose thickness and shall be compacted by the controlled traffic of spreading and/or hauling equipment over each layer. The borrowing of material from the area outside the existing perimeter dikes will not be permitted. The Contractor shall provide at his own expense 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.

3.3.2.3 Contractor-Furnished Disposal Areas

In the approved disposal areas, the Contractor shall provide retaining dikes, sluices and drainage facilities as required to confine the excavated material and for controlling disposal area effluent and shall be responsible for the maintenance and stability of the disposal areas until acceptance of all work under the contract.

3.3.2.4 Additional Requirements for Government-Furnished and Contractor-Furnished Disposal Areas

a. A freeboard of two feet or more, measured vertically between the retained materials and water and the top of the adjacent confining dikes, shall be maintained at all times during the operation of the disposal area. If the required freeboard is not met, the Contractor shall stop pumping into the disposal area until corrective means have been taken which are satisfactory to the Contracting Officer.

b. Pipe type sluices will not be permitted through exterior dikes, and at no time will the dredge pipe be permitted to enter the disposal area through an exterior dike. The hydraulic placing of perimeter dikes will not be permitted.

c. Development of the Contractor-furnished disposal areas or any modifications to the Government-furnished disposal area shall be done so as to prevent 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. The dredged materials shall be distributed within the used portion of the disposal area in a reasonably uniform manner so as to permit full drainage without ponding on the fill surface during and after fill operations.

d. The Contractor shall ensure that all sluice boxes have structurally sound access walkways with handrails on both sides of the walkway. The walkways shall be constructed from the top of the dike to the sluices, along the frontage of the sluice structure, and along the entire length of each individual sluice box to enable the inspector to readily obtain the samples of the mixture going over the sluices as hereinafter specified. Timber used to construct the walkways shall be in accordance with the requirements for the sluice box timber and in accordance with Section 21 of EM 385-1-1.

e. Prior to pumping material into the disposal area, the Contractor shall weld 1-inch diameter steel rings to the underside of the upper cross members on each end of all sluices. The Contractor shall attach a 3/8-inch steel cable to these rings which will run the length of each sluice. The cables shall be used to attach full body safety harnesses for employees working on the sluices.

f. The Contractor shall provide a full body safety harness for

employees and Government inspectors to use during the installation and removal of sluice boards and the taking of samples from the sluice. Each person working on the sluice will wear the safety harness and attach it to the cable installed on each sluice.

g. The Contractor shall have a minimum of 2 personnel at the disposal area when work (disposal or other) is being done at a disposal area, and a generator with a light plant sufficient to light the sluice area during darkness. The disposal area personnel shall have radio communication with the dredge at all times.

3.4 CONTROL OF DISPOSAL AREA EFFLUENT

3.4.1 General

The Contractor shall monitor disposal area conditions to maintain sufficient freeboard, as described in the Paragraph entitled: "Additional Requirements for Government-Furnished and Contractor-Furnished Disposal Areas", and to maintain effluent quality as prescribed below. Sluice height shall be reviewed by the Contractor on a continuing basis to insure that the optimum height needed to satisfy both of these requirements is employed at all times. The Contractor shall be required to raise the elevation of the crest of the sluice or to stop pumping into the disposal area and permit the fill to settle whenever the density of the samples of the mixture of suspended material and water discharged over the sluice is greater than 8 grams per liter at the sluice at the Fort Mifflin disposal area or any other sluice which discharges outside of an approved disposal area. This shall include disposal areas where material is being rehandled in accordance with the Paragraph entitled: "DISPOSAL OF EXCAVATED MATERIAL". Samples for density determination shall be taken, tested, and recorded by the Contractor. Samples at the sluice shall be taken as often as required and at least twice daily at times when the flow is at maximum rate and after the dredge has been operating continuously for not less than the time required for solids in suspension to flow from the discharge pipe to the sluice. The minimum frequency of sampling at the sluice shall be increased when effluent density increases or nears the maximum specified. The Contracting Officer may require the Contractor to increase the frequency of sampling if he deems it necessary. All density determinations including times of sampling shall be recorded on the Daily Report of Operations forms required in the Paragraph entitled: "CONTRACTOR QUALITY CONTROL".

3.4.2 Special Requirements for Fort Mifflin Disposal Area

If the Contractor elects to use the Fort Mifflin disposal area, the Contractor shall discharge into Area B. The Contractor shall maintain an effluent density at the sluice of less than 8 grams per liter at all times.

3.4.3 Effluent Density

Each sample at the sluice shall be made up by partially filling, without overflow, a one-quart container with the mixture flowing over the sluice at not less than ten different places in the length of the sluice and combining the mixture in a bucket or other suitable container. When settled solids are not present in the sample, the density may be determined by the hydrometer method or the weight-volume method as hereinafter specified. When settled solids are present, the density shall be determined by the weight-volume method.

a. Hydrometer Method: When the hydrometer method is used for density determination the following hydrometer model shall be used, or equivalent: **ASTM E 100 Hydrometer No. 152 H-62, -5 to +60 g/L**, manufactured by Chase Instrument Company, model 343650. The hydrometer shall be used as specified by the manufacturer and as specified herein. This hydrometer reads density directly in grams per liter.

b. Weight-Volume Method: When the weight-volume method is used for density determination, the total sample shall be measured to obtain volume in liters and weight in grams. Measurements shall be made with a 1,000 c.c. laboratory cylinder and a scale or balance capable of weighing the sample and cylinder to the nearest gram. The unit weight shall then be obtained by dividing the total weight in grams by the total volume in liters.

3.4.4 Timber Flash-Boards

The Contractor shall provide, prior to commencement of pumping, a sufficient number of flash-boards for the sluice, as required, for the retention of dredged material under this contract and shall assure that the entire sluice length is effective. Strong solution for brush treatment shall be available at the site and all cut surfaces shall be heavily brushed.

3.4.5 Continuing Effluent Control

Upon completion and acceptance of a work assignment, the Contractor shall provide continuing, intermittent labor to assure that effluent control is continued beyond the completion of dredged discharge into the disposal area. Control, including the removal of flash-boards, shall be continued 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 shall not be considered part of the completion time for the contract.

3.5 OVERDEPTH AND SIDE SLOPES

3.5.1 Overdepth

To cover inaccuracies of the dredging process, material actually removed from within the contract limits shown on the Contract Drawings 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 dredging. Specifically, the Contractor shall meet the following requirements:

a. Stations 0+600 to 20+487: Dredging of this portion of the 33-foot project channel will be required within the authorized channel limits to a depth of 33 feet plus 1-foot allowable overdepth limited by a vertical plane through the 33-foot contour, with no side or end slopes (box cut).

b. Stations 20+487 to 22+665: Dredging of this portion of the 26-foot project channel will be required within the authorized channel limits to a depth of 26 feet plus 1-foot allowable overdepth limited by a vertical plane through the 26-foot contour, with no side or end slopes (box cut).

3.5.2 Side and End Slopes

No side or end slopes are specified for this contract.

3.5.3 Excessive Dredging

Material taken from beyond the limits specified in the Paragraphs entitled "Overdepth" and "Side and End Slopes" will be deducted from the total amount dredged, and deemed 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 Special Clauses entitled: "FINAL EXAMINATION AND ACCEPTANCE" and "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 is as follows for each of the acceptance sections:

Acceptance Section	Station to Station	Req'd Dredging (CY) (33 ft. Depth)	Allowable Overdepth(1')	Total (CY) Available
1	0+600- 4+015	35,577	30,078	65,655
2	4+015- 7+565	20,692	16,356	37,048
3	7+565-10+763	4,032	5,408	9,440
4	10+763-13+582	13,327	22,841	36,168
5	13+582-16+023	4,912	6,634	11,546
6	16+023-17+328	13,544	7,454	20,998
7	17+328-20+487	24,073	14,949	39,022
Subtotals		116,157	103,720	219,877
		Req'd Dredging (CY) (26 ft. Depth)	Allowable Overdepth(1')	Total(CY) Available
8	20+487-22+665	37,214	8,573	45,787
TOTALS		153,371	112,293	265,664

3.7 LIMIT OF DREDGING

3.7.1 General

The areas to be dredged are the contract limits as indicated on the Contract Drawings, as specified in the Special Clause entitled: "FINAL EXAMINATION AND ACCEPTANCE", and as defined by dredging prism indicated in the Paragraphs entitled: "OVERDEPTH AND SIDE SLOPES" and "MEASUREMENT AND PAYMENT".

3.7.2 Quantity Acceptance

The Contractor is responsible for completing all dredging requirements for each acceptance section prior to acceptance of the work by the Government. In any portion of an acceptance section, when the before dredging survey indicates dredging is required, the Contractor is responsible for removing

any required material found to be remaining above the depth by the after dredging survey, unless such dredging is waived by the Contracting Officer. Material removed as a result of redredging within the dredging contour, will be paid for at the contract unit price and as determined by the quantity calculation resulting from the before 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, the Contractor shall be responsible for removing such material to the required depth, unless waived by the Contracting Officer. The Contractor will be paid for such work at the contract unit price and an additional quantity calculation will be made based on the after dredge survey, provided that the material is not determined by the Contracting Officer to be misplaced material.

3.8 CONTRACTOR QUALITY CONTROL

The Contractor shall prepare and maintain Daily Report of Operations forms, and shall furnish signed copies thereof with the Daily Quality Control records required in Section 01450 CONTRACTOR QUALITY CONTROL to the Contracting Officer. Copies of the Daily Report of Operations forms to be used are attached at the end of this section. Further instructions on the preparation and submittal of the forms will be provided at the Pre-Dredging Coordination Meeting.

3.9 MEASUREMENT AND PAYMENT

3.9.1 Mobilization and Demobilization

All costs connected with the mobilization and demobilization of all of the Contractor's dredging plant and equipment will be paid for at the contract lump sum price for this item. Sixty percent (60%) 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 (40%) will be included in the final payment for work under this contract.

In the event the Contracting Officer considers that the amount in this item (60%) 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.

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 Bid Item No. 1, "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; initial installation of pipe; preparation of disposal area, including sluices, drainage structures and building of walkways; 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 areas, and transfer of plant to its home or standby base.

3.9.2 Disposal Area Costs

All costs in connection with the development and cleanup of disposal areas shall be included in the contract lump sum price for Bid Item No. 1 "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 Bid Item No. 2, "Removal & Satisfactory Disposal of Material".

3.9.3 Deduction Associated With Contractor-Furnished Disposal Areas

The Contractor shall include as Item 3 of the bidding schedule, the deduction that will occur in the contract bid total should one or more Contractor-furnished disposal areas be used as specified herein. If no Contractor-furnished disposal area is proposed, then the item shall remain blank.

3.9.4 Dredging

The total amount of material removed and to be paid for under the contract, will be measured by the cubic yard 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 last survey made before dredging and the bottom surface shown by the soundings of surveys made as soon as practicable after the work specified in each acceptance section has been completed. The volume for measurement will include the material within the limits described in the Paragraph entitled: OVERDEPTH AND SIDE SLOPES, less any deductions that may be required for misplaced material described in the Paragraph entitled: DISPOSAL OF EXCAVATED MATERIAL, of this section. The volume of material removed will be generated using either the Average End method or by the TIN(Triangulated Irregular Network) computation, as outlined in the Hydrographic Surveying Manual-EM 1110-2-1003 dated 1 Jan 2002. All depths obtained from single beam surveys will be utilized for volume computation purposes. If multi-beam survey methodology is used, a 5 foot X 5 foot matrix utilizing the sounding closest to cell center(shot depth) will be generated from the multi-beam data collected to perform the TIN computation. All survey data will be available upon request.

3.9.4.1 Surveys for Acceptance

The Contractor shall notify the Government of his need for acceptance surveys at least three days in advance of the date for each survey (Saturdays, Sundays and holidays are excluded), and shall confirm his need by telephone between 0730 and 0800 hours on the day of each survey by calling O & M Section at (Area Code 215) 656-6750. The Contractor shall schedule the before-dredging survey for an acceptance section within 2 weeks of the expected start date of dredging operations. Only one before-dredging survey will be provided for each acceptance section. 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. The Contractor may accompany the survey party to determine whether he at his own election will perform redredging. The Contracting Officer will notify the Contractor if any redredging is required.

3.9.4.2 Existing Conditions

The drawings as listed under the Special Clause entitled: "CONTRACT DRAWINGS, MAPS AND SPECIFICATIONS" are believed to accurately represent conditions existing at the time indicated, but the depths shown thereon will be updated, as required, by soundings taken prior to the commencement of dredging. Determination of quantities removed and the deductions made therefrom to determine quantities by 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.

3.9.4.3 Hydrographic Survey Equipment

Hydrographic surveys will be conducted to meet USACE Performance Standards as defined in the Hydrographic Surveying Manual EM-1110-2-1003, dated 1 January 2002. Surveys will be performed by single transducer sounding techniques, multi-beam sweep type surveys or both. Bottom soundings will 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. All fathometers will be calibrated following procedures outlined in the aforementioned EM.

3.9.4.4 Partial Payment Quantity Determination

Monthly partial payments will be based on acceptance sections completed as determined by soundings or sweepings taken behind the dredge by the Government survey party.

-- End of Section --