

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGES 1
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2. AMENDMENT/MODIFICATION NO. 0001	3. EFFECTIVE DATE 7/10/03	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
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6. ISSUED BY U.S. Army Corps of Engineers, Philadelphia Wanamaker Building, 100 Penn Square East Philadelphia, Pennsylvania 10107-3390	CODE	7. ADMINISTERED BY (If other than Item 6) Maureen Jordan, 215-656-6763	CODE
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8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)	<input checked="" type="checkbox"/>	9A. AMENDMENT OF SOLICITATION NO. DACW61-03-B-0008
	<input checked="" type="checkbox"/>	9B. DATED (SEE ITEM 11) 6/26/03
		10A. MODIFICATION OF CONTRACTS/ORDER NO.
		10B. DATED (SEE ITEM 13)
CODE	FACILITY CODE	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended, is not extended.

Offers 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, DELAWARE RIVER, PHILADELPHIA TO TRENTON

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

<input checked="" type="checkbox"/>	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 is not, 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 BID OPENING DATE OF 29 JULY 2003 AT 11:00 A.M.

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)	
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (Signature of Contracting Officer)	16C. DATE SIGNED

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14. DESCRIPTION OF AMENDMENT (continued)

a. SECTION 00855 - SURVEY CONTROL DESCRIPTION SHEETS:

(1) SECTION 00855 - Please delete pages 00855-14 through 00855-19, 00855-25 through 00855-27 and 00855-30 in its entirety and insert the new pages of the same numbers, annotated Amendment No. 0001, attached hereto.

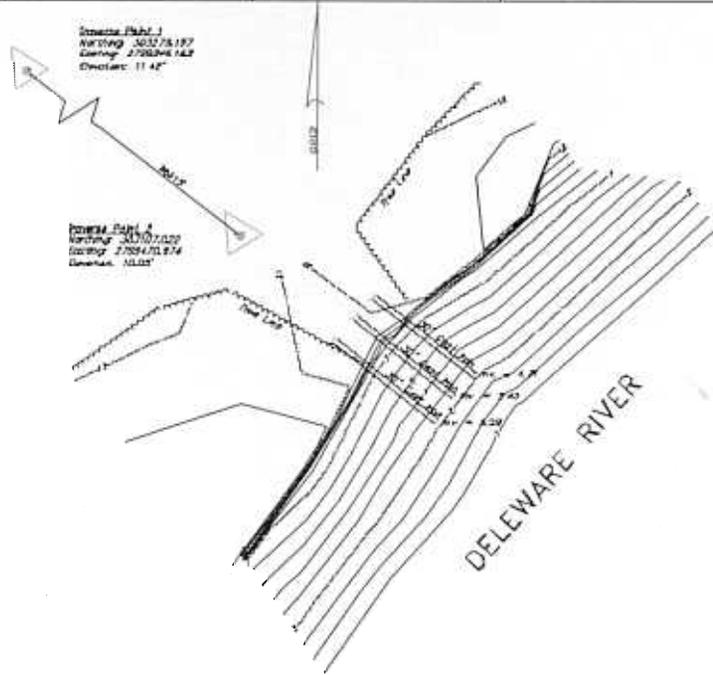
b. SECTION 02325 - DREDGING:

(1) SECTION 02325- Please delete pages 02325-1 through 02325-14 in its entirety and insert the new pages of the same numbers, annotated Amendment No. 0001, attached hereto.

c. Please indicate receipt of this amendment on Standard Form 1442(SOLICITATION, OFFER, AND AWARD) as Amendment No.0001. Failure to acknowledge all amendments may be cause for rejection of the bid.

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COUNTRY USA	TYPE OF MARK BERNSTEN MONUMENT	STATION TR-1		
LOCALITY PENNSYLVANIA	STAMPING ON MARK CORPS OF ENGINEERS- U.S. ARMY	AGENCY (CAST IN MARKS)	ELEVATION 11.42 FT	
LATITUDE 40°-07'-38.9823"N	LONGITUDE 74°-46'-42.9937"W	DATUM NAD 83	DATUM NAVD 88	
<u>(NORTHING)</u> 303279.157 FT	<u>(EASTING)</u> 2799246.162 FT	GRID AND ZONE PA-SOUTH 3702	ESTABLISHED BY (AGENCY) RETTEW ASSOCIATES, INC.	
<u>(NORTHING)</u> 471477.81	<u>(EASTING)</u> 414222.07	GRID AND ZONE NJ - 2900	DATE 7/24/00	
			ORDER 3 rd.	
TO OBTAIN	GRID AZIMUTH, ADD	° ' "	TO THE GEODETIC AZIMUTH	
TO OBTAIN	GRID AZ. (ADD) (SUB)	° ' "	TO THE GEODETIC AZIMUTH	
OBJECT	AZIMUTH OR DIRECTION (GEODETIC) (GRID) (MAGNETIC)	BACK AZIMUTH	GEOD DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		



SKETCH

DA FORM 1959
1 OCT 64

REPLACES DA FORMS 1959
AND 1960, 1 FEB 57, WHICH
ARE OBSOLETE.

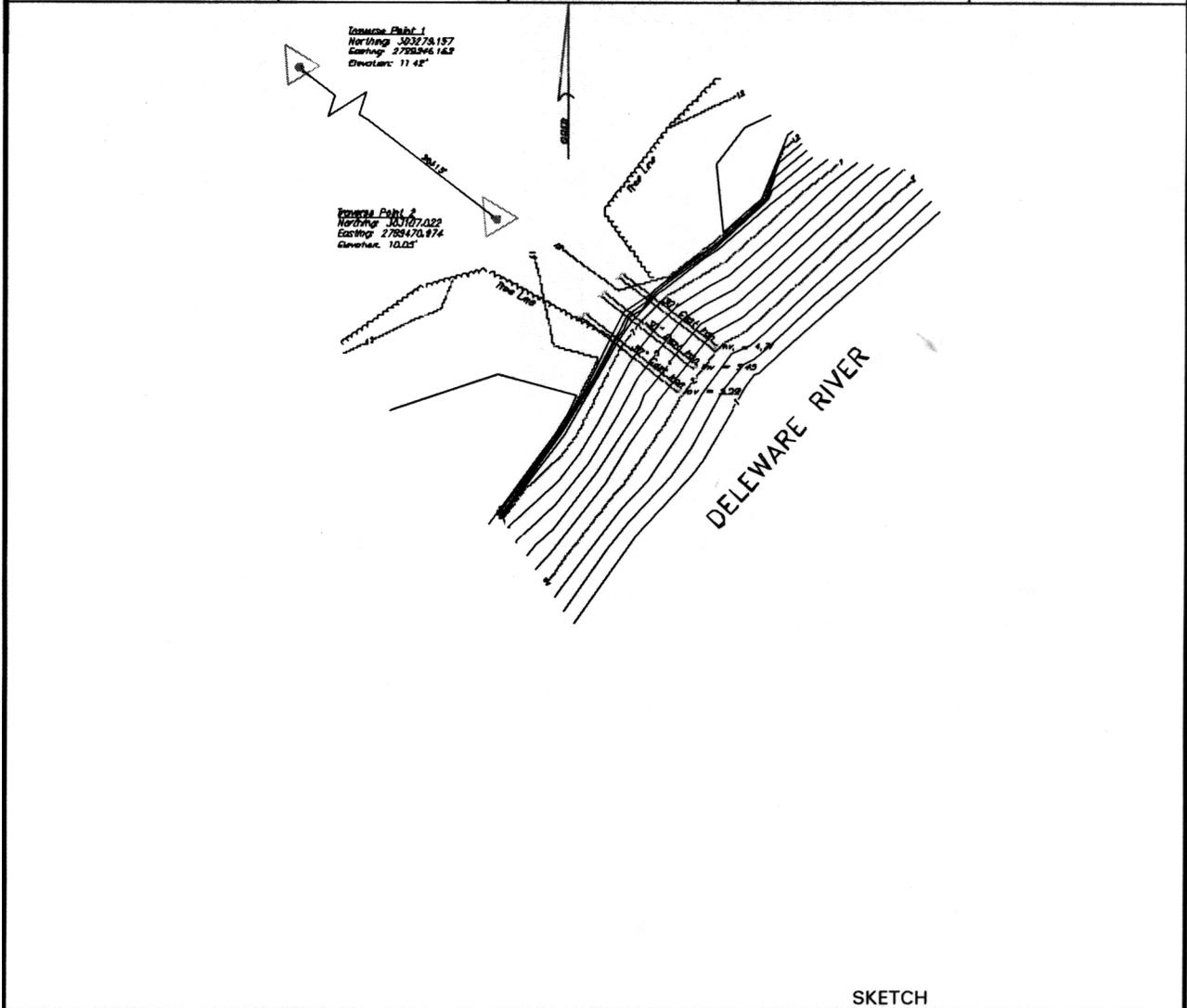
DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent
agency is TRADOC.

COUNTRY USA	TYPE OF MARK BERNSTEN MONUMENT	STATION TR-2		
LOCALITY PENNSYLVANIA	STAMPING ON MARK CORPS OF ENGINEERS- U.S. ARMY	AGENCY (CAST IN MARKS)	ELEVATION 10.05 FT	
LATITUDE 40°-07'-37.2074"N	LONGITUDE 74°-46'-40.1756"W	DATUM NAD 83	DATUM NAVD 88	
(NORTHING) 303107.022 FT	(EASTING) 2799470.974 FT	GRID AND ZONE PA-SOUTH 3702	ESTABLISHED BY (AGENCY) RETTEW ASSOCIATES, INC.	
(NORTHING) 471297.54	(EASTING) 414440.38	GRID AND ZONE NJ - 2900	DATE 7/24/00	ORDER 3 rd.

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH
 TO OBTAIN GRID AZ. (ADD) (SUB) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC) (GRID) (MAGNETIC)	BACK AZIMUTH	GEOD DISTANCE		GRID DISTANCE	
			(METERS)	(FEET)	(METERS)	(FEET)
	° ' "	° ' "				



SKETCH

DA FORM 1959
1 OCT 64

REPLACES DA FORMS 1959
AND 1960, 1 FEB 57, WHICH
ARE OBSOLETE.

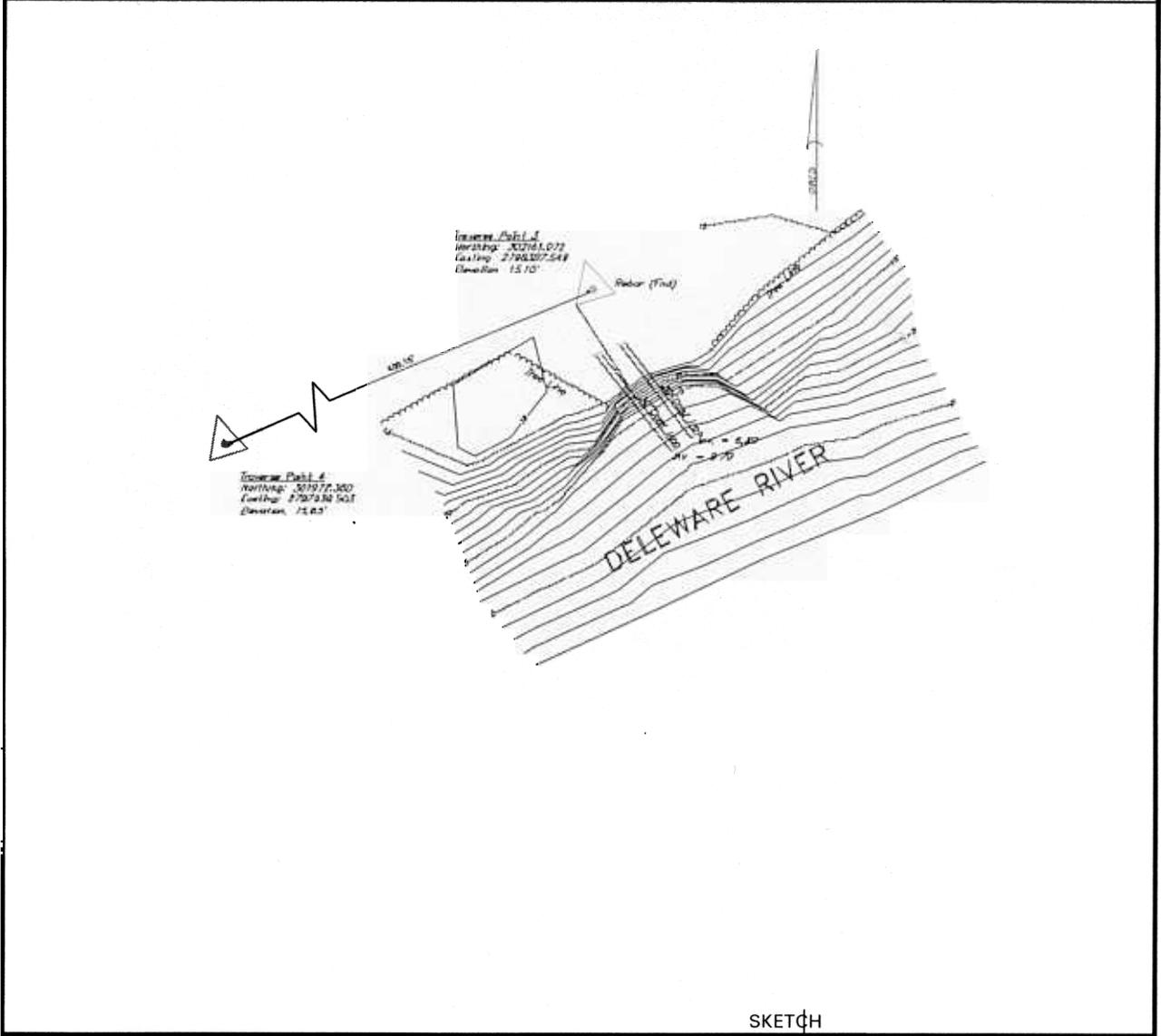
DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent
agency is TRADOC.

COUNTRY USA	TYPE OF MARK BERNSTEN MONUMENT		STATION TR-3	
LOCALITY PENNSYLVANIA	STAMPING ON MARK CORPS OF ENGINEERS- U.S. ARMY		AGENCY (CAST IN MARKS)	ELEVATION 15.10 FT
LATITUDE 40°-07'-28.2245"N	LONGITUDE 74°-46'-54.5249"W		DATUM NAD 83	DATUM NAVD 88
(NORTHING) 302161.072 FT	(EASTING) 2798387.549 FT		GRID AND ZONE PA-SOUTH 3702	ESTABLISHED BY (AGENCY) RETTEW ASSOCIATES, INC.
(NORTHING) 470392.13	(FT) (MM)	(EASTING) 413322.98	(FT) (MM)	GRID AND ZONE NJ - 2900

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH
 TO OBTAIN GRID AZ. (ADD) (SUB) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC) (GRID) (MAGNETIC)	BACK AZIMUTH	GEOD DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

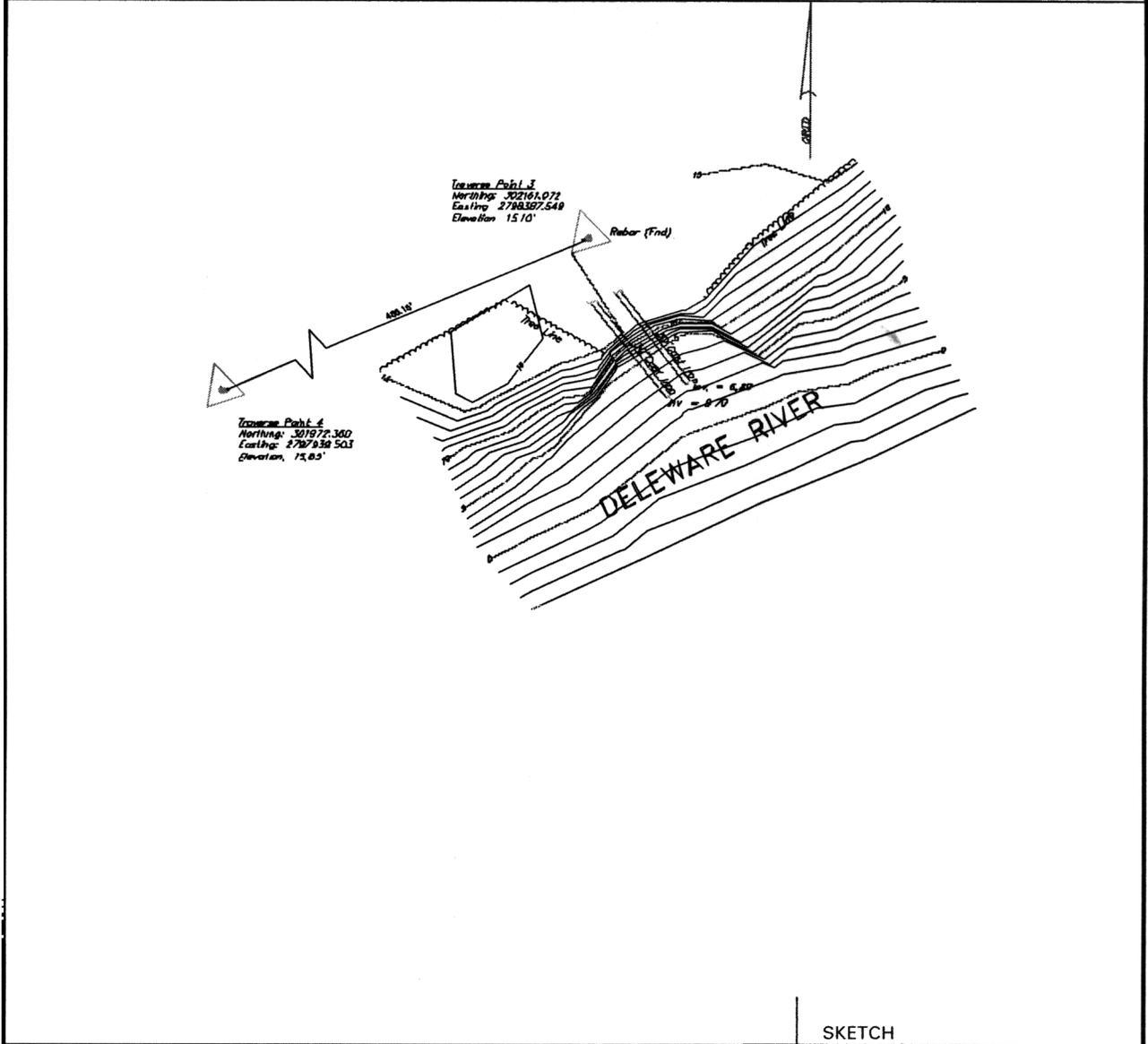


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DA FORM 1959 1 OCT 64 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE. DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY USA	TYPE OF MARK BERNSTEN MONUMENT		STATION TR-4	
LOCALITY PENNSYLVANIA	STAMPING ON MARK CORPS OF ENGINEERS- U.S. ARMY		AGENCY (CAST IN MARKS)	ELEVATION 15.65 FT
LATITUDE 40°-07'-26.5092"N	LONGITUDE 74°-47'-00.3711"W		DATUM NAD 83	DATUM NAVD 88
(NORTHING) 301972.350 FT	(EASTING) 2797939.503 FT		GRID AND ZONE PA-SOUTH 3702	ESTABLISHED BY (AGENCY) RETTEW ASSOCIATES, INC.
(NORTHING) 470220.02	(FT) (MM)	(EASTING) 412868.33	(FT) (M)	GRID AND ZONE NJ - 2900
TO OBTAIN		GRID AZIMUTH, ADD		TO THE GEODETIC AZIMUTH
TO OBTAIN		GRID AZ. (ADD) (SUB)		TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC) (GRID) (MAGNETIC)		BACK AZIMUTH	GEOD DISTANCE (METERS) (FEET)		GRID DISTANCE (METERS) (FEET)	
	°	'		°	'	°	'



SKETCH

DA FORM 1959
1 OCT 64

REPLACES DA FORMS 1959
AND 1960, 1 FEB 57, WHICH
ARE OBSOLETE.

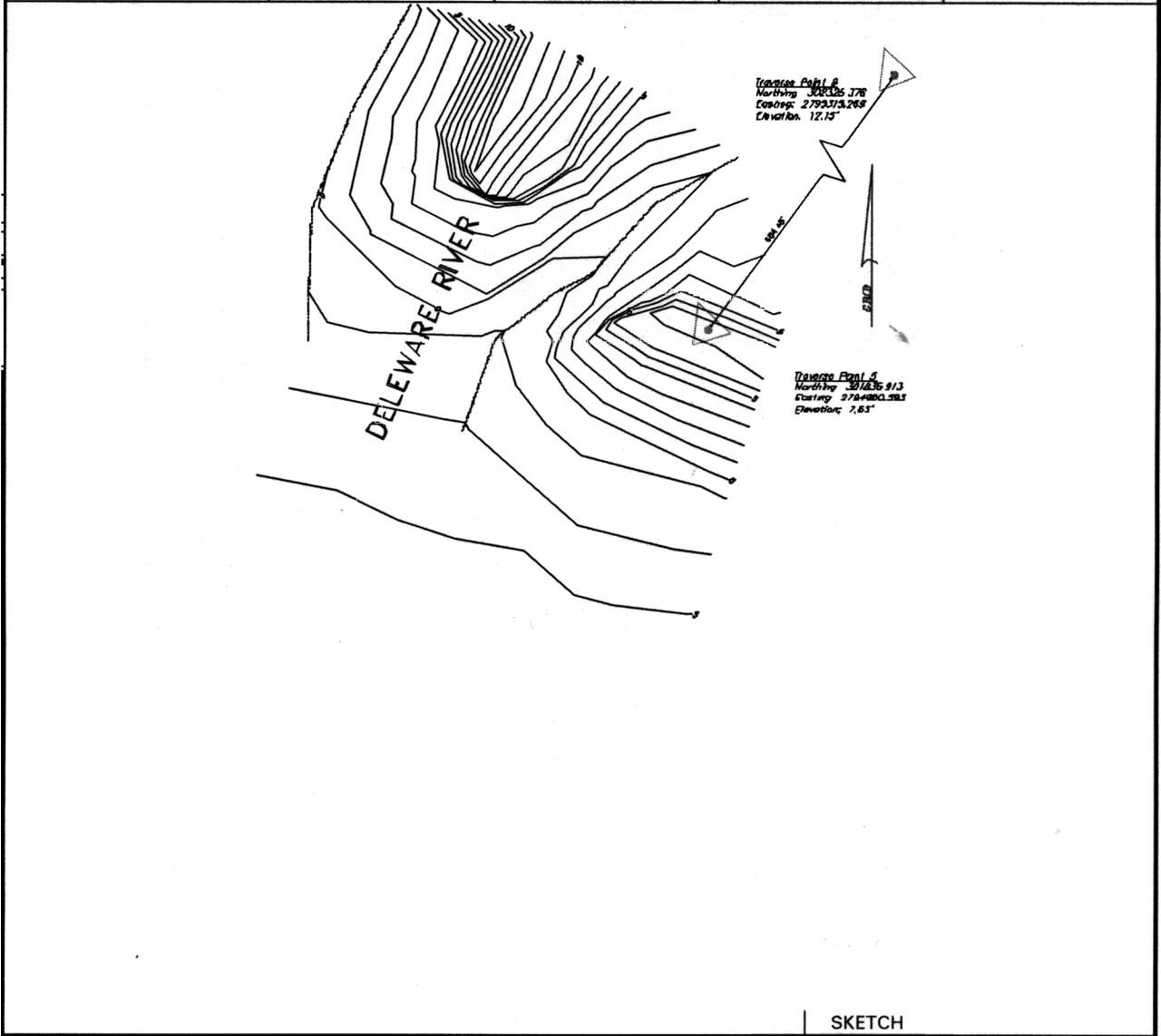
DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent
agency is TRADOC.

COUNTRY USA	TYPE OF MARK BERNSTEN MONUMENT	STATION TR-5		
LOCALITY PENNSYLVANIA	STAMPING ON MARK CORPS OF ENGINEERS- U.S. ARMY	AGENCY (CAST IN MARKS)	ELEVATION (FT) 7.65	
LATITUDE 40°-07'-26.1486"N	LONGITUDE 74°-47'-38.7567"W	DATUM NAD 83	DATUM	
(NORTHING) 301835.913 FT.	(EASTING) 2794960.593 FT.	GRID AND ZONE PA-SOUTH 3702	ESTABLISHED BY (AGENCY) RETTEW ASSOCIATES, INC.	
(NORTHING) (FT) (MM) 470193.22	(EASTING) (FT) (MM) 409886.62	GRID AND ZONE NJ - 2900	DATE 7/24/00	ORDER 3 rd.

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH
 TO OBTAIN GRID AZ. (ADD) (SUB) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC) (GRID) (MAGNETIC)	BACK AZIMUTH	GEOD DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

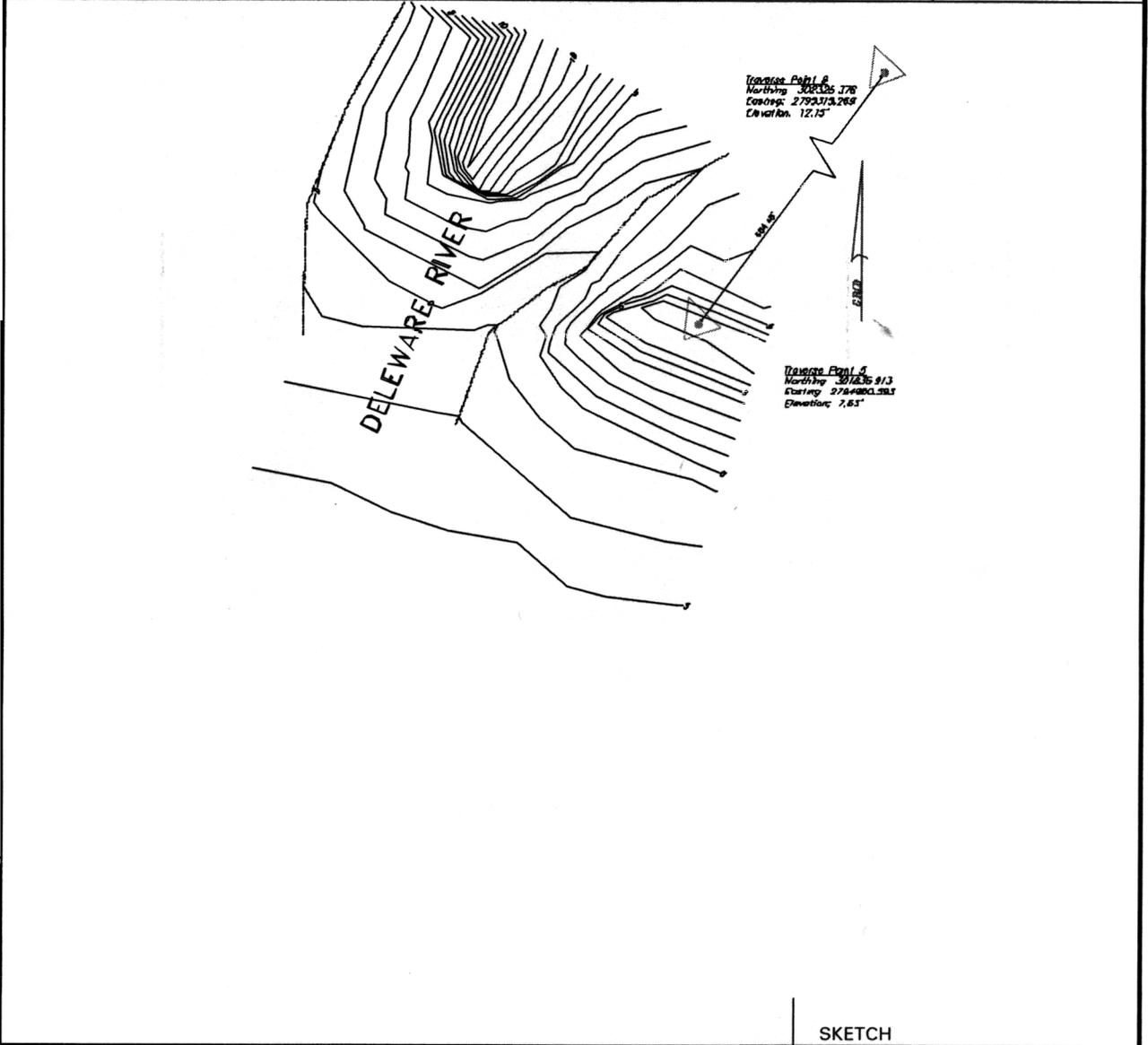


SKETCH

DA FORM 1959 1 OCT 64 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE. DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY USA	TYPE OF MARK BERNSTEN MONUMENT	STATION TR-6		
LOCALITY PENNSYLVANIA	STAMPING ON MARK CORPS OF ENGINEERS- U.S. ARMY	AGENCY (CAST IN MARKS)	ELEVATION 12.15 FT	
LATITUDE 40°-07'-30.8656"N	LONGITUDE 74°-47'-33.9825"W	DATUM NAD 83	DATUM NAVD 88	
(NORTHING) 302325.376 FT	(EASTING) 2795315.269 FT	GRID AND ZONE PA-SOUTH 3702	ESTABLISHED BY (AGENCY) RETTEW ASSOCIATES, INC.	
(NORTHING) 470669.28	(FT) (M)	(EASTING) 410259.03	(FT) (M)	GRID AND ZONE NJ - 2900
TO OBTAIN		GRID AZIMUTH, ADD	° ' "	TO THE GEODETIC AZIMUTH
TO OBTAIN		GRID AZ. (ADD) (SUB)	° ' "	TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC) (GRID) (MAGNETIC)		BACK AZIMUTH	GEOD DISTANCE (METERS) (FEET)		GRID DISTANCE (METERS) (FEET)			
	°	' "		°	' "	M	FT	M	FT



DA FORM 1959 1 OCT 64 REPLACES DA FORMS 1959 AND 1980, 1 FEB 57, WHICH ARE OBSOLETE.

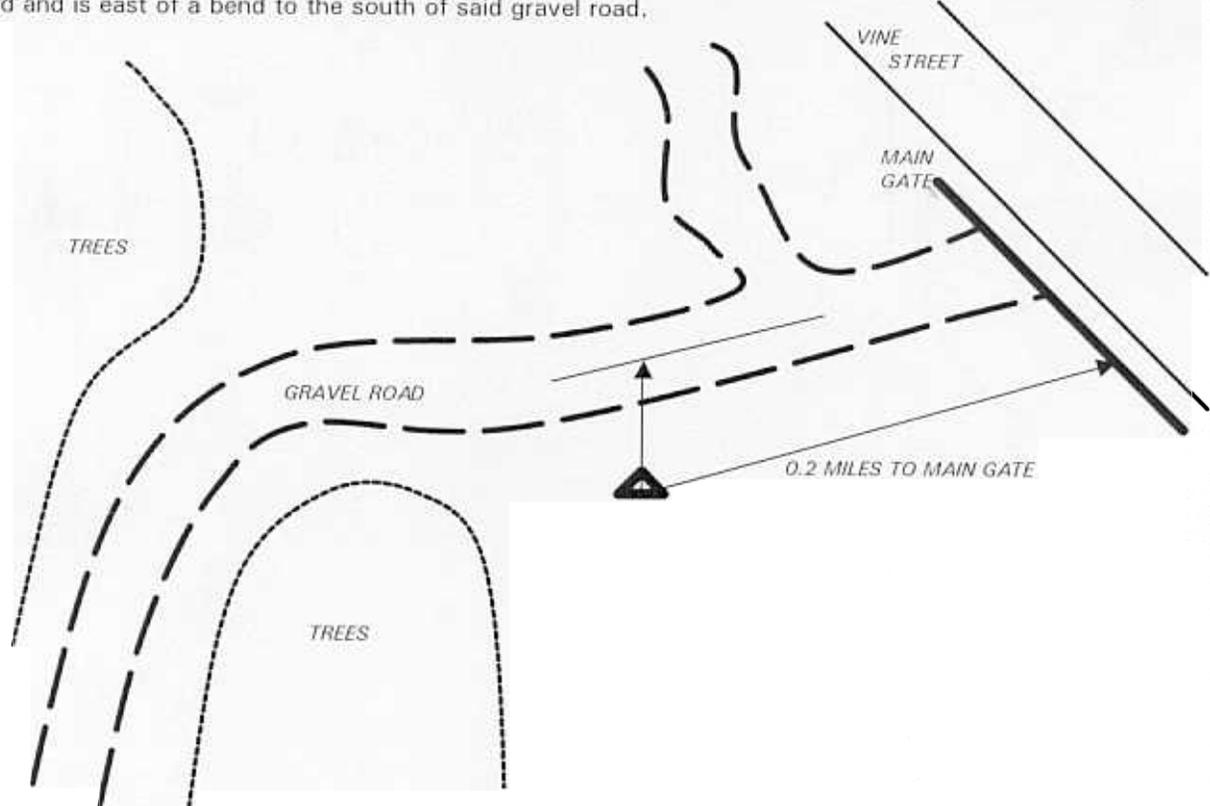
DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
 For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY USA		TYPE OF MARK Breakaway w/ alum. disk		STATION HI 2	
LOCALITY HAWK ISLAND, N.J.		STAMPING ON MARK HI 2		AGENCY (CAST IN MARKS) USACE	
LATITUDE N40 02'47.30260"		LONGITUDE W74 57'58.12156"		ELEVATION (FT) 18.03	
DATUM NAD83 (1986)		DATUM NADV 88		ESTABLISHED BY (AGENCY) WOOLPERT LLP	
(NORTHING) (FT) 442184.56	(EASTING) (FT) 361629.83	GRID AND ZONE NEW JERSEY 2900		DATE 11-6-98	
(NORTHING) (M)	(EASTING) (M)	GRID AND ZONE		ORDER GPS - 3RD	

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH
 TO OBTAIN GRID AZ. (ADD) (SUB) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC) (GRID) (MAGNETIC)	BACK AZIMUTH	GEOD DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

HI 2 is located +/- 0.2 miles west of the main gate to Hawk Island which is located on the west end of Vine Street in the town of Delanco, New Jersey. It is a breakaway mark with a Corps of Engineers aluminum disk set in concrete and is flush with the ground. It is 24feet south of the centerline of a gravel road and is east of a bend to the south of said gravel road.



SKETCH

DA FORM 1959
1 OCT 64

REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY USA		TYPE OF MARK Breakaway w/ alum. disk		STATION HI 1	
LOCALITY HAWK ISLAND, N.J.		STAMPING ON MARK HI 1		AGENCY (CAST IN MARKS) USACE	
LATITUDE N40 02'47.43110"		LONGITUDE W74 57'52.85691"		ELEVATION (FT) 21.17	
(NORTHING) (FT) 442195.43		(EASTING) (FT) 362039.29		DATUM NAD83 (1986)	
(NORTHING) (FT) (M)		(EASTING) (FT) (M)		DATUM NADV 88	
		GRID AND ZONE NEW JERSEY 2900		ESTABLISHED BY (AGENCY) WOOLPERT LLP	
				DATE 11-6-98	
				ORDER GPS - 3RD	

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH
 TO OBTAIN GRID AZ. (ADD) (SUB) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC) (GRID) (MAGNETIC)	BACK AZIMUTH	GEOD DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

HI 1 is located +/- 0.1 miles west of the main gate to Hawk Island which is located on the west end of Vine Street in the town of Delanco, New Jersey. It is a breakaway mark with a Corps of Engineers aluminum disk set in concrete and is flush with the ground. It is 123 feet south of the centerline of a gravel road, 70.5 feet east of a forked tree, and is 14.5 feet west of a small tree.

SKETCH

DA FORM 1959
1 OCT 64

REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

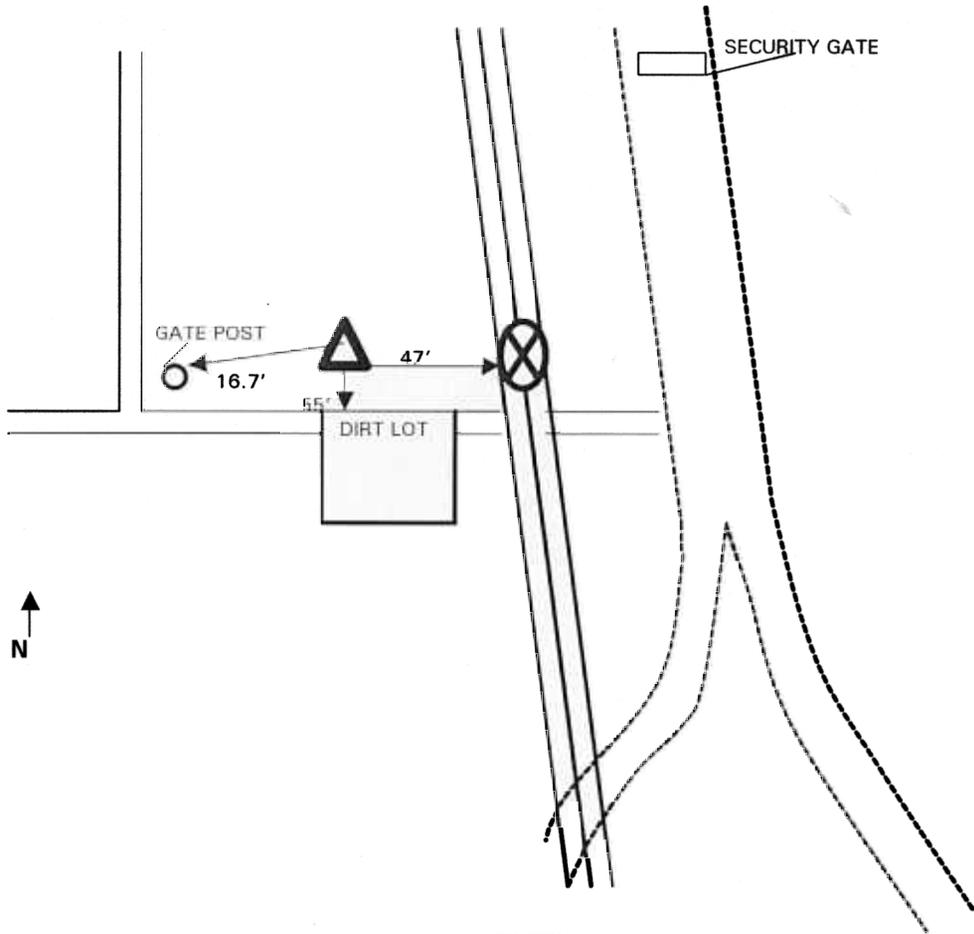
For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY USA		TYPE OF MARK Breakaway w/ alum. disk		STATION BI 2 (P2)	
LOCALITY BILES ISLAND PA.		STAMPING ON MARK BI 1		AGENCY (CAST IN MARKS) USACE	
LATITUDE N40 10'14.99758"		LONGITUDE W74 45'13.69804"		ELEVATION 17.95	
DATUM NAD83 (1986)		DATUM NADV 88		ESTABLISHED BY (AGENCY) WOOLPERT LLP	
(NORTHING) 487243.18	(FT)	(EASTING) 421202.79	(FT)	GRID AND ZONE NEW JERSEY 2900	
(NORTHING) (M)	(M)	(EASTING) (M)	(M)	DATE 11-8-98	ORDER GPS - 3RD

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH
 TO OBTAIN GRID AZ. (ADD) (SUB) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC) (GRID) (MAGNETIC)		BACK AZIMUTH ° ' "	GEOD DISTANCE (METERS) (FEET)		GRID DISTANCE (METERS) (FEET)	
	°	' "					

BI 2 (P2) is located southwest of the guard house for the U.S. Steel plant just south of Biles Island. The station is +/- .8 miles south of Tybron Road along S. Pennsylvania Avenue. The mark is a 30 inch iron pin with an aluminum cap is flush with the ground. It is 47 feet west of a transmission line tower, 55 feet north of the north edge of a dirt parking lot, and is 16.7 feet northeast of a gate post.



SKETCH

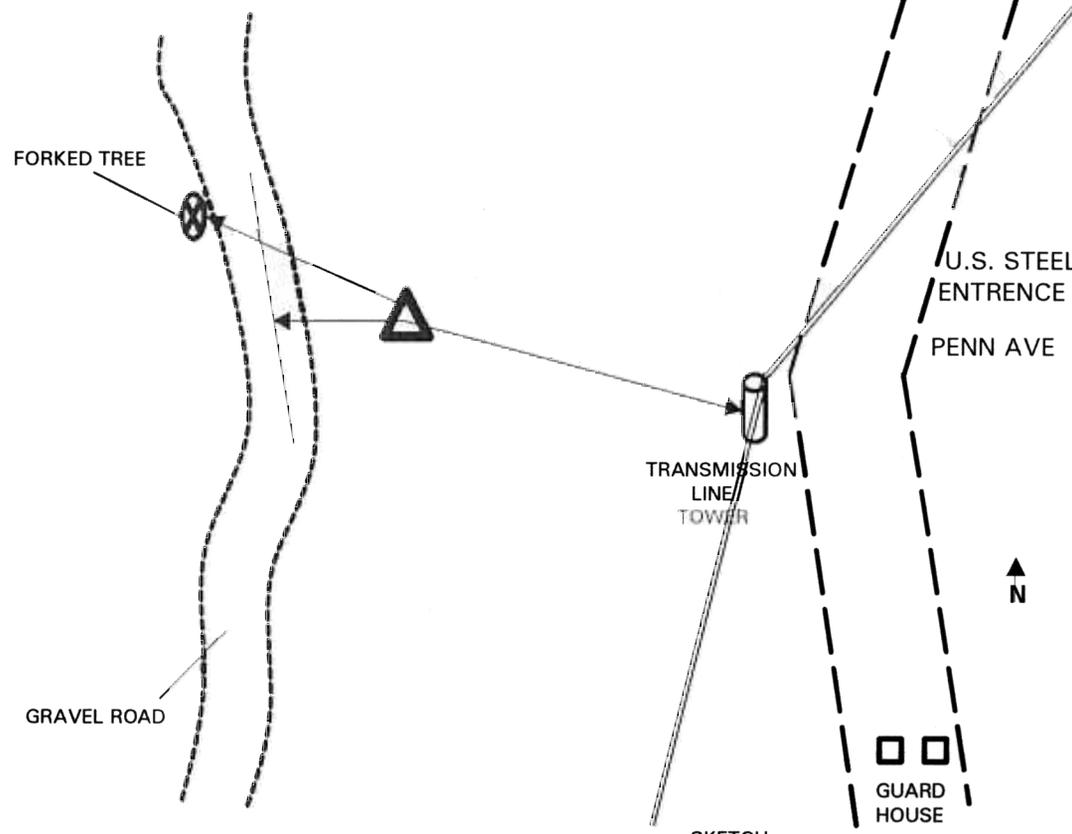
DA FORM 1959 1 OCT 64 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE. **DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION**
 For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY USA		TYPE OF MARK Breakaway w/ alum. disk		STATION BI 1 (P1)	
LOCALITY BILES ISLAND PA.		STAMPING ON MARK BI 1		AGENCY (CAST IN MARKS) USACE	
LATITUDE N40 10'33.16629"		LONGITUDE W74 45'27.30556"		ELEVATION 20.00	
DATUM NAD83 (1986)		DATUM NADV 88		ESTABLISHED BY (AGENCY) WOOLPERT LLP	
(NORTHING) 489084.60	(FT)	(EASTING) 420151.91	(FT)	GRID AND ZONE NEW JERSEY 2900	
(NORTHING) (M)	(M)	(EASTING) (M)	(M)	DATE 11-8-98	ORDER GPS - 3RD

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH
 TO OBTAIN GRID AZ. (ADD) (SUB) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC) (GRID) (MAGNETIC)		BACK AZIMUTH ° ' "	GEOD DISTANCE (METERS) (FEET)		GRID DISTANCE (METERS) (FEET)	
	°	' "		°	' "	°	' "

BI 1 (P1) is located northwest of the guard house for the U.S. Steel plant just south of Biles Island. The station is +/- .3 miles south of Tybron Road along S. Pennsylvania Avenue. The mark is a breakaway mark with a Corps of Engineers aluminum disk and is flush with the ground. It is 158.5 feet northwest of a transmission line tower, 40.6 feet east of the centerline of a gravel road, and is 78 feet southeast of a forked tree.



DA FORM 1959
1 OCT 64

REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is TRADOC.

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 judgement 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 Contract Clause: "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 the basic designation only.

AMERICAN WOOD PRESERVERS' ASSOCIATION (AWPA)

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

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 2103 (1992) Polyethylene Film and Sheeting

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

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PennDOT)

PENNDOT Specifications (2000 Edition) Publication 408
Specifications

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

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

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 Souther Pine Lumber

U.S. DEPARTMENT OF COMMERCE (DOC)

PS-20 (1970) 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 Rev.) Safety and Health
Requirements Manual

1.3 DREDGING RESTRICTIONS AND ORDER OF WORK

The following dredging time restrictions apply to this contract:

a. Hydraulic Dredging- Station 112+439 (Kinkora Range) to Station 160+325 (Bridge Range/Upper end of project), dredging can be performed from July 15 to January 1.

b. Bucket Dredging - Station 0+000 (Allegheny Avenue) to Station 160+325 (Bridge Range/Upper End of Project), dredging is prohibited from 15 March through 31 May.

The Contractor shall establish his order of work in accordance with these restrictions and plan his work accordingly.

1.4 CHARACTER OF MATERIALS

a. The material to be removed to restore the depth 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 indicated in the Special Clauses. The character of the material is believed to be as indicated in the Abstract of Bottom Samples included in Section 00845 of this contract, which depicts the typical density of maintenance dredging material that historically has accumulated within the project channel and is considered representative of the pay quantity for this contract.

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 INVESTIGATION AND CONDITIONS AFFECTING THE WORK." The entire work site is designated as a hard hat area in accordance with Corps of Engineers 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 Contract Clause: "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 COR

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 COR

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. Plans for any contractor-furnished rehandling basins and inclosures, including character of materials to be used, means of placement, and cross-sections of proposed dikes and other structures, shall also be submitted for approval by the Contracting Officer.

Discharge Pipe Support Plan; G COR

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 COR

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 COR

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 (CQC), 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 COR

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

Plans for Contractor-Furnished Rehandling Basin; G COR

Plans for the rehandling basins, and inclosures, including character of materials to be used, means of placement and cross-sections of proposed dikes or other structures shall be submitted for approval.

PART 2 PRODUCTS

All lumber for flash-boards shall be Southern Yellow Pine, dense structural grade, and shall conform to 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 U.S. Department of Commerce 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. Strong solution for brush treatment shall be available at the site and all cut surfaces shall be heavily brushed. Flash-boards shall be 4 inch nominal thickness.

PART 3 EXECUTION

3.1 DISPOSAL OF EXCAVATED MATERIAL

3.1.1 General

The material excavated shall be transported, deposited, confined and graded to drain as specified within the disposal areas shown on the drawings or within disposal areas furnished by the Contractor and approved by the Contracting Officer.

3.1.2 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 his expense.

3.1.3 Hydraulic Dredging

Material excavated by hydraulic pipeline dredging shall be transported by pipeline to final position in the approved disposal areas. 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 materials and water that leak from any pipeline on or around access roads, shall be cleared, removed and placed within the limits of the disposal area. Material excavated by hopper dredging shall be loaded into bins or hoppers to overflow only and pumped directly into the approved disposal areas by a means which will preclude any loss of material to the river prior to deposit in the disposal areas.

The use of hopper dredge is subject to the following conditions:

- a. Bottom dumping prohibited
- b. Pumping operations must cease at overflow
- c. The Government must approve location of mooring facility to be utilized for pump out.

Special care shall be taken to assure that hoppers do not leak during any portion of the work.

3.1.4 Bucket Dredging

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.

3.1.4.1 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 mean low water. 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 the Corps of Engineers Delaware River datum. 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. Plans for the rehandling basins, and inclosures, including character of materials to be used, means of placement and cross-sections of proposed dikes or other structures shall be submitted to the Contracting Officer for approval. 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.

3.1.4.2 Direct Pumpout Rehandling

When scows are unloaded without dumping, they shall have their contents pumped directly into the approved disposal areas by a means which will preclude any loss of material to the river prior to deposit in the disposal areas. 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 areas

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. The Contractor shall conduct his work in accordance with the approved plan; however, approval of the plan does not in any manner relieve the Contractor of his responsibility for the adequacy of the design and construction of the structures and drainage facilities required. The plan shall detail construction methods and equipment for the development of the Government furnished disposal areas or any Contractor furnished disposal areas. All Contractor-owned dredging pipe 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 Disposal Areas

a. The Contractor shall develop all disposal areas shown on the drawings and he shall construct new dikes as detailed in SECTION 02212: DIKE EMBANKMENT and construct new sluice boxes and outflow pipes as specified in SECTION 05900: SLUICE BOXES AND OUTFLOW PIPES. The Contractor shall 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 of 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.

3.3.2.2 Special Requirements for Government-Furnished Disposal Areas

a. Dikes shall be constructed as detailed in SECTION 02212: DIKE EMBANKMENT. The Contractor shall 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. The agreement with the owner of the disposal areas indicated on the drawings are on file and may be examined at the Philadelphia District Office, Wanamaker Building, 100 Penn Square East, Philadelphia, PA. In addition to the requirements indicated herein, the Contractor shall deposit the excavated material in accordance with the requirements of said agreements.

b. The dredge discharge pipelines shall be located in the disposal areas as shown on the drawings. The Contractor will be required to place the discharge pipes within the designated access corridors as shown on the drawings. The Contractor shall make provisions to prevent erosion of the dike embankment at the discharge points. Discharge pipes shall extend beyond the interior crest of the dike by a distance as specified on the contract drawings.

c. Crushed aggregate access ramps shall be constructed as shown on the drawings to protect discharge pipes where they cross the existing gravel access roads. The crushed aggregate shall conform to Section 703 of PENNDOT Specifications, PENNDOT Type 2A. The crushed aggregate shall

be compacted around the discharge pipe and the access ramp shall be constructed to the width of the gravel access road.

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.

Note:

If the Contractor elects to use a Contractor-Furnished disposal area(s), the Contractor is still responsible for developing all Government-Owned disposal areas, as listed in the bid schedule.

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. 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. Except at Biles Island, pipe type weirs 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. If overflow is achieved at Biles Island, the same requirements as specified in paragraph "CONTROL OF DISPOSAL AREA EFFLUENT" will apply.

c. Development of the Contractor-furnished disposal areas or any modifications of the Government-furnished disposal areas 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 areas 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.

e. Prior to pumping material into the disposal areas, 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 preclude excessive ponding as described under paragraph entitled: "Additional Requirements for Government-Furnished and Contractor-Furnished Disposal Areas", and also to maintain effluent quality as prescribed below:

a. Total Suspended Solids in the discharge from the dredge material disposal areas shall not exceed 8 grams/liter. Sampling shall be done daily (or once per discharge, whichever is more frequent) using an 8-hours composite sample.

b. The pH of the discharge shall be maintained at 6 to 9 standard units at all times. Sampling shall be done once per week (or once per discharge, whichever is more frequent) using a grab sample.

Weekly hand written results are to be given to the Government Inspector on site. Three (3) copies of a report of data collected is to be provided to the U.S. Army Corps of Engineers, Technical Support Branch within 10 days after the end of each month and after the completion of dredging. Sluice height shall be reviewed by the Contractor on a continuing basis to insure that the optimum height needed to satisfy of these requirements is employed at all times. The Contractor shall be required to raise the elevation of the crest of the sluice boxes or to stop pumping into the disposal area and permit the fill to settle whenever the density and pH of samples of the mixture of suspended material and water discharged over the sluice is outside of the above stated requirements. The disposal area effluent shall be controlled at all times with the sluice boxes. This shall include disposal areas where material is being hydraulically rehandled in accordance with paragraph: "DISPOSAL OF EXCAVATED MATERIAL." Samples for density determination shall be taken, tested, and recorded by the Contractor at the sluices 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 sluices. Minimum frequency of testing shall be increased when effluent density and/or ph increases or nears the maximum specified. Samples of the river water shall be taken in accordance with SECTION 01355 ENVIRONMENTAL PROTECTION: DREDGING. All density determinations including times of sampling shall be recorded on the Quality Control Reports required in SECTION 01450: CONTRACTOR QUALITY CONTROL (CQC).

3.4.1.1 Effluent Density

Each grab sample shall be taken from the mixture flowing over the sluice at

a depth of not over two feet and shall be made up by partially filling, without overflow, a one-quart container 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. 152H-62, -5/+60**, 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.

3.4.1.2 Timber Flash-Boards

The Contractor shall provide prior to commencement of pumping, a sufficient number of flash-boards for the sluice boxes as required for the retention of dredged material under this contract and shall assure that the entire sluice length is effective.

3.4.1.3 Payment

All costs in connection with the construction and maintenance of disposal areas, including all required effluent control, shall be included in the contract lump sum price for Item No. 3, "Disposal Area Construction" as listed in the Bidding Schedule.

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.

3.5.2 Side and End Slopes

No side or end slopes are specified for this contract (box cut). Computation of payment quantities will be to the specified depth within the channel limits, except where dredging is to be performed to a distance of 25 feet outside the channel edges. This dredging shall be completed by the Contractor at locations where required dredging depths exist in a contiguous area inside the federal channel at the same stationing, unless otherwise directed by the Contracting Officer.

3.5.3 Excessive Dredging

Material taken from beyond the limits specified in paragraphs entitled: "Overdepth" and "Side and End Slopes" will be deducted from the total amount dredged as excessive overdepth dredging, or excessive side slope 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 provisions of Special Clauses: "FINAL EXAMINATION AND ACCEPTANCE" and "SHOALING."

3.5.4 Acceptance Section Stationing

The Contracting Officer reserves the right to extend the stationing of any acceptance section within the contract limits to include the removal of any shoaling identified during before-dredging surveys.

3.6 ESTIMATED QUANTITIES

The total estimated quantity of material necessary to be removed within the specified limits, including allowable overdepth as previously specified, is as follows:

Station to Station	Acceptance Section	Allowable Required Dredging to 42' (CY)	Overdepth 42' to 43' (CY)
12+000 to 14+000	1	1,400	2,600
18+477 to 21+577	2	18,900	10,000
28+400 to 30+400	3	10,500	6,175
32+623 to 35+200	4	12,700	9,250
40+993 to 43+600	5	21,000	11,950
43+600 to 46+000	6	19,500	11,300
60+000 to 62+000	7	9,200	4,750
64+403 to 68+000	8	30,750	13,000
70+800 to 73+263	9	9,450	8,775
73+263 to 75+600	10	21,465	20,910
83+503 to 85+097	11	6,000	2,650
88+547 to 91+097	12	34,325	8,750
91+097 to 93+600	13	25,550	8,375
102+624 to 105+600	14	16,000	8,275
108+400 to 110+988	15	36,400	8,200
110+988 to 114+000	16	37,900	9,100
114+000 to 116+800	17	17,325	12,625
116+800 to 119+978	18	14,400	7,075
119+978 to 122+778	19	40,700	9,650
		Required Dredging to 24' (CY)	Overdepth 24' to 25' (CY)
122+778 to 124+676	20	38,500	6,600
		Required Dredging to 22' (CY)	Overdepth 22' to 23' (CY)
142+000 to 144+675	21	81,700	26,400
		Required Dredging to 35' (CY)	Overdepth 35' to 36' (CY)

Turning Basin

0+000 to 0+800	22	16,800	13,100
	CONTRACT TOTALS	520,465	219,510
	TOTAL	739,975	

3.7 LIMIT OF DREDGING

3.7.1 General

The areas to be dredged are the channel and turning basin within the acceptance sections indicated on the drawings and specified in Special Clause entitled: "FINAL EXAMINATION AND ACCEPTANCE," as defined by the dredging prism specified in paragraphs entitled: "OVERDEPTH AND SIDE SLOPES" and "MEASUREMENT AND PAYMENT."

3.7.2 Quantity Acceptance

The Contractor is responsible for clearing each acceptance section in its entirety prior to acceptance of the work by the Government. In any portion of an acceptance section where the before-dredging survey indicates dredging is required, the Contractor is responsible for removing any required material found to be remaining above the required depth by the after-dredging surveys unless such dredging is waived. Material removed as a result of redredging, within the dredging contour, will be paid at the contract unit price and quantity as determined by the difference between initial before-dredging survey and the final after-dredge survey. In any portion of an acceptance section where the after-dredging surveys indicate dredging is required that was not indicated by the before-dredging surveys, 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 any additional quantity calculation will be made based on the after-dredge surveys, provided 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 (CQC) to the Contracting Officer. Copies of the Daily Report of Operations form 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 work site. 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; 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/debris resulting from the dredging operation, seeding and mulching as specified in SECTION 02935: SEEDING AND MULCHING, and transfer of plant to its home or standby base.

3.9.2 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 paragraph: "OVERDEPTH AND SIDE SLOPES," less any deductions that may be required for misplaced material described in paragraph entitled: "DISPOSAL OF EXCAVATED MATERIAL", of this section. The volume of material removed will be generated by using either the Average End Area Method or by the TIN (Triangulated Irregular Network) computation, as outlined in the Hydrographic Surveying Manual EM 1110-2-1003, dated 1 January 2002. All depths obtained from single beam surveys will be utilized for volume computation purposes. If multi-beam survey technology is used, a 5-foot by 5-foot matrix using the sounding closest to cell center (shot depth) will be generated from the edited multi-beam data to perform the TIN volume computations. The corresponding plotted sounding sheets soundings will be generated using a cell size for their matrix that is plot-scale dependent utilizing the sounding that is closest to cell center (shot depth) shifted to the center of the cell from the edited multi-beam data. The contour for the plotted sheet will be generated by using a 5 foot by 5 foot matrix using the sounding closest to cell center (shot depth). If the material to be dredged in the contract is categorized to be hard bottom the matrix used for the volume computations and plotted contours will be reduced to 3 foot by 3 foot and an average of the soundings in the cell will be used. All raw survey data and data used for the volume computations shall be available to the Contractor upon request. Payment for dredging will be made at the contract unit price for Bid Item No. 2, "Removal and Satisfactory Disposal of Material" as listed in the Bidding Schedule.

3.9.2.1 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 Contracts Branch 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 contract area 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.

3.9.2.2 Existing Conditions

The drawings as listed under Special Clause: "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.

3.9.2.3 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.

3.9.2.4 Partial Payments

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 --