IFB W912BU23B0003

US Army Corps
of Engineers
Philadelphia District

Maintenance Dredging

Delaware River
Philadelphia, Pennsylvania to
Trenton, New Jersey

Construction Solicitation and Specifications

12 April 2023

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INVITATION NO. W912BU23B0003

PHILADELPHIA DISTRICT
CORPS OF ENGINEERS

INVITATION FOR BIDS
FOR

MAINTENANCE DREDGING

DELAWARE RIVER
PHILADELPHIA PENNSYLVANIA TO TRENTON NEW JERSEY

I. NOTE THE AFFIRMATIVE ACTION REQUIREMENT OF THE EQUAL OPPORTUNITY CLAUSE WHICH MAY APPLY TO THE CONTRACT RESULTING FROM THIS SOLICITATION.

II. BIDDERS ARE REQUIRED TO COMPLETE THE REPRESENTATION AND CERTIFICATIONS PORTION OF SECTION 00 45 00 OF THIS SOLICITATION AND SUBMIT THIS WITH THEIR BID.

III. ALL QUESTIONS PERTAINING TO THIS PROCUREMENT MUST BE RECEIVED NO LATER THAN 03:00 P.M., ON 01 May 2023. RESPONSES MAY NOT BE PROVIDED TO REQUEST FOR INFORMATION (RFI'S) RECEIVED AFTER THIS CUTOFF DATE.

IV. PROSPECTIVE OFFERORS ARE STRONGLY ENCOURAGED TO VISIT THE SITE OF THE WORK TO ACQUAINT THEMSELVES WITH THE DISPOSAL AREAS. A FORMAL SITE VISIT OF THE PROJECT SITE WILL NOT BE HELD. SITE VISITS MAY BE ARRANGED DURING NORMAL DUTY HOURS BY CONTACTING MR DANIEL KELLY AT (215) 656-6889 OR VIA EMAIL AT DANIEL.J.KELLY@USACE.ARMY.MIL.

12 April 2023

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SOLICITATION, OFFER, AND AWARD *(Construction, Alteration, or Repair)*	1. SOLICITATION NO. W912BU23B0003	2. TYPE OF SOLICITATION [X] SEALED BID (IFB) [ ] NEGOTIATED *(RFP)*	3. DATE ISSUED 12-Apr-2023	PAGE OF PAGES 1 OF 43

IMPORTANT - The "offer" section on the reverse must be fully completed by offeror.

4. CONTRACT NO.	5. REQUISITION/PURCHASE REQUEST NO.	6. PROJECT NO.

7. ISSUED BY CODE W912BU	8. ADDRESS OFFER TO *(If Other Than Item 7)* CODE
US ARMY ENGINEER DISTRICT, PHILADELPHIA POC: FREDERICK CONWAY 100 SOUTH INDEPENDENCE 2ND FLOOR PHILADELPHIA PA 19106-3400 TEL: 215.656.6833 FAX:	**See Item 7** TEL: FAX:

9. FOR INFORMATION CALL:	A. NAME	B. TELEPHONE NO. *(Include area code)* *(NO COLLECT CALLS)*
	FREDERICK CONWAY	215.656.6833

SOLICITATION

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS *(Title, identifying no., date):*

Construction Solicitation and Specifications and Drawings: The work shall conform to the specifications and the contract drawings identified on the following index of drawings: W912BU23B0003, Dated 12 April 2023, Specifications and Drawings (as noted on drawing cover Sheet G-001).

Philadelphia to Trenton Maintenance Dredging, Philadelphia, Pa & Trenton, NJ
Project Title: Maintenance Dredging, Delaware River, Philadelphia to Trenton
Location: Pennsylvania & New Jersey
NAICS Code 237990, Size Standard $37.0M
Type of Solicitation: Invitation For Bid (IFB) W912BU23B0003
Type of Contract: Firm Fixed Price

11. The Contractor shall begin performance within 30 calendar days and complete it within 270 calendar days after receiving [ ] award, [X] notice to proceed. This performance period is [X] mandatory, [ ] negotiable. *(See* 52.211-10 *.)*

12 A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? *(If "YES," indicate within how many calendar days after award in Item 12B.)* [X] YES [ ] NO	12B. CALENDAR DAYS 10

13. ADDITIONAL SOLICITATION REQUIREMENTS:

A. Sealed offers in original and 1 copies to perform the work required are due at the place specified in Item 8 by 11:00 AM *(hour)* local time 12 May 2023 *(date).* If this is a sealed bid solicitation, offers must be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.

B. An offer guarantee [X] is, [ ] is not required.

C. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.

D. Offers providing less than 120 calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

SOLICITATION, OFFER, AND AWARD (Continued)

(Construction, Alteration, or Repair)

OFFER ***(Must be fully completed by offeror)***

14. NAME AND ADDRESS OF OFFEROR *(Include ZIP Code)*		15. TELEPHONE NO. *(Include area code)*
		16. REMITTANCE ADDRESS *(Include only if different than Item 14)* **See Item 14**
CODE	FACILITY CODE	

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within _____ calendar days after the date offers are due. *(Insert any number equal to or greater than the minimum requirements stated in Item 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.)*

AMOUNTS	SEE SCHEDULE OF PRICES

18. The offeror agrees to furnish any required performance and payment bonds.

19. ACKNOWLEDGMENT OF AMENDMENTS

(The offeror acknowledges receipt of amendments to the solicitation -- give number and date of each)

AMENDMENT NO.										
DATE										

20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER *(Type or print)*	20B. SIGNATURE	20C. OFFER DATE

AWARD ***(To be completed by Government)***

21. ITEMS ACCEPTED:

22. AMOUNT	23. ACCOUNTING AND APPROPRIATION DATA

24. SUBMIT INVOICES TO ADDRESS SHOWN IN *(4 copies unless otherwise specified)*	**ITEM**	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO ☐ 10 U.S.C. 2304(c) ☐ 41 U.S.C. 253(c)
26. ADMINISTERED BY CODE		27. PAYMENT WILL BE MADE BY: CODE

CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

☐ 28. NEGOTIATED AGREEMENT *(Contractor is required to sign this document and return _____ copies to issuing office.)* Contractor agrees to furnish and deliver all items or perform all work, requisitions identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications or incorporated by reference in or attached to this contract.

☐ 29. AWARD *(Contractor is not required to sign this document.)* Your offer on this solicitation, is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.

30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN *(Type or print)*		31A. NAME OF CONTRACTING OFFICER *(Type or print)* TEL: EMAIL:
30B. SIGNATURE	30C. DATE	31B. UNITED STATES OF AMERICA BY
		31C. AWARD DATE

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
0001	N/A	N/A	N/A	N/A
0002	N/A	N/A	N/A	N/A
0003	N/A	N/A	N/A	N/A

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001		1	Job		
	Mobilizatio and Demobilization FFP Mob & Demob FOB: Destination PSC CD: Y1KF				
				NET AMT	

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002		424,500	Cubic Yard		
	Removal of Material FFP Removal and Satisfactory Disposal of Material FOB: Destination				
				NET AMT	

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003		100	Gross Ton		
	Debris Removal FFP FOB: Destination				
				NET AMT	

BIDDING SCHEDULE
(To be attached to SF 1442)

Item No.	Description	Estimated Quantity	Unit	Unit Price	Estimated Amount
BASE BID:					
1.	Mobilization and Demobilization	1	JOB	L.S.	$_____
2.	Removal and Satisfactory Disposal of Material	424,500	CY	$_____	$_____
3.	Debris Removal	100	TON	$_____	$_____
	TOTAL ESTIMATED BID AMOUNT				$_____

NOTE: Bidders must bid on all items.

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INFORMATIONAL TEXT
INFORMATIONAL TEXT

IMPORTANT NOTES REGARDING THIS ACQUISITION:
A. The following documentation must be submitted with your bid for evaluation:
1. SF 1442, Solicitation, Offer.
2. Price Schedule.
3. All amendments (if any) must be acknowledged.
Note: On the SF 1442 be sure to include: company name, address, tax identification number, DUNS number, and Cage Code. Please complete and submit your proposed pricing on the price schedule included with the solicitations.

DUE TO COVID-19, THE NUMBER OF ATTENDEES TO THE BID OPENING IS LIMTED TO ONE (1) PERSON.
B. Request for Information (RFI): The Prospective Offeror may submit RFI inquiries relating to the solicitation by email to the following: Frederick Conway, Contract Specialist, email: Frederick.conway@usace.army.mil. RFIs shall be submitted by 3:00 PM EST, 21 April 2023. Final date to submit RFIs is 3:00 PM EST, 1 May 2023.
Bid Opening is scheduled for 11:00 AM, May 12, 2023 at 100 South Independence Mall West, Philadelphia, PA 19106; 2nd Floor. All Bids must be received prior to the specified time and date to be considered responsive.
The interested offeror may submit any technical questions concerning this IFB at the earliest time possible to enable the Contracting to respond. When submitting your RFI, please provide the project name, location and solicitation number.
ALL INQUIRIES MUST BE IN WRITINIG.
MAGNITUDE OF CONSTRUCTION PROJECT
The estimated value of the proposed work is between $10,000,000.00 - $25,000,000.00.

End of Text

EVIDENCE OF AUTHORITY TO SIGN BIDS/PROPOSALS
Evidence of the authority of individuals signing bids/proposals to submit firm bids/proposals on behalf of the bidder/offeror is required except where the bid/offer is signed, and shows that it is so signed, by: The President, Vice-President, or Secretary of Incorporated bidders; a partner in case of partnership; the owner in the case of sole proprietorships. Failure to submit with the bid satisfactory evidence of authority of all other persons may be cause for rejection of bid as an invalid or non-responsive bid.

End of Text

PREAWARD SAFETY CONFERENCE
(a) Where an apparent awardee, in performance of contracts during the previous three year period incurred one or more accidents, or where, in the opinion of the Contracting Officer, there is any question regarding his compliance with any safety or accident prevention requirement, the apparent awardee, on request of the Contracting Officer prior to any award under this solicitation, shall attend a conference with representatives of the Contracting Officer to discuss any such accidents or non-compliance, the reasons for their occurrence, and measures which will be taken to preclude any recurrence thereof.
(b) Information elicited at this conference will be used by the Contracting Officer, in conjunction with other information obtained in the pre award survey, in determining the awardees' responsibility.
(c) The items discussed, the preventive measures considered, and any conclusions reached in this conference shall be recorded in minutes of the meeting, which shall be authenticated by the signatures of representatives of the awardee and the Contracting Officer, and any procedures noted therein as agreed upon shall become an obligation

of the awardee, along with all other safety and accident prevention requirements of the contract, if award is made to him.

End of Text

SAFETY REQUIREMENTS

The Contractor is advised that he shall be expected to comply with the OSHA Standards as well as the most recent Corps of Engineers Safety and Health Requirements Manual (EM 385-1-1). EM 385-1-1 with applicable addenda and the OSHA Standards are hereby incorporated by reference, as if fully set forth.

DREDGING AND DREDGE RELATED MARINE WORK

The Contractor shall comply with the provisions of EM 385-1-1. If the Contractor is a currently accepted participant in the Dredging Contractors of America (DCA)/ United States Army Corps of Engineers (USACE) Dredging Safety Management Program (DSMP), as determined by the DCA/USACE Joint Committee, and holds a current valid Certificate of Compliance for both the Contractor Program and the Dredge(s) to be used to perform the work required under this contract, the Contractor may, in lieu of the submission of an Accident Prevention Plan (APP), make available for review, upon request, the Contractor's current Safety Management System (SMS) documentation, submit to the Contracting Officer the current valid Company Certificate of Compliance for its SMS, submit the current dredge(s) Certificate of Compliance based on third party audit, and submit for review and acceptance, site-specific addenda to the SMS as specified in the solicitation.

ARITHMETIC DISCREPANCIES

a. For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face of the bidding schedule as submitted by bidder:
1) Obviously misplaced decimal points will be corrected;
2) Discrepancy between unit price and extended price, the unit price will govern;
3) Apparent errors in extension of unit prices will be corrected;
4) Apparent errors in addition of lump-sum and extended prices will be corrected.
b. For the purpose of bid evaluation, the Government will proceed on the assumption that the bidder intends his bid to be evaluated on the basis of the unit prices, the totals arrived at by resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids.
c. These correction procedures shall not be used to resolve any ambiguity concerning which bid is low.

CAUTION TO BIDDERS--BID ERRORS

You are cautioned to exercise extreme care in preparation of your bid. Errors in bids are costly and could result in substantial loss to you as well as delayed award of contracts. Actions you can take to avoid errors are:
(a) Make sure your bid takes into consideration all amendments to the IFB. Amendments will be posted to Betasam.gov.
(b) If you feel bidding requirements are unclear, contact the Philadelphia District Office in writing for an explanation before preparing and submitting your bid.
(c) Verify all quantities and prices, especially quotations from subcontractors. Make sure no line items have been overlooked in recapitulating. Have your bid reviewed by qualified personnel other than those preparing the bid.
(d) Retain all original notes, subcontractor quotations, estimates, and summary worksheets from which your bid was prepared. If you have made a mistake in bid, you will need these papers to determine the nature and amount of an error and to support any request you may make for special relief.

AWARD TO SINGLE BIDDER

No separate award will be made for any item contained in the Bid Schedule. Bidders must submit a bid on all items contained in Bid Schedule, or the Bid will be considered non-responsive and therefore rejected.

DELIVERY OF BIDS/PROPOSALS

Bids/Proposals shall be delivered in person or delivery service and must be received by the bid opening date and time to be accepted to the:
Army Corps of Engineers (Temporary Address)
Frederick Conway

100 South Independence Mall West, 2nd Floor
Philadelphia, PA 19106
WAGE DETERMINATION A U.S. Department of Labor Wage Determination, has been included. If a U.S. Department of Labor Wage Determination has not been included, it should be added by amendment prior to the date set for receipt of bids/proposals. In the event a Department of Labor Wage Rates has not been attached to this contract, neither the contractor nor any subcontractor under the contract shall pay any of his employees performing work under the contract (regardless of whether they are service employees) less than minimum wage specified by Section 6(a) (1) of the Fair Labor Standards Act, as amended.

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SECTION 00 50 05

PRE-AWARD SURVEY SUBMITTAL REQUIREMENTS

PART 1 GENERAL

1.1 DEFINITIVE RESPONSIBILITY CRITERIA

Award of this Contract will be made as a whole to the lowest responsive and responsible Bidder whose bid conforms to all requirements of the specifications. Subsequent to the bid opening, the apparent low Bidder shall submit Pre-Award Survey Information that demonstrates compliance with the requirements set forth in this section as a precondition to receiving award.

1.2 GENERAL PRE-AWARD SURVEY INFORMATION

Complete the pre-award survey information sheets attached to this section, and submit to the Contracting Officer within 5 calendar days after bid opening.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section --

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US ARMY CORPS OF ENGINEERS
PHILADELPHIA DISTRICT
PRE-AWARD SURVEY

A. GENERAL INFORMATION

1) Name of Firm: _____

Address: _____

Phone: _____ Fax: _____

Email: _____

CAGE CODE:

If your company has more than one CAGE Code, please list all that apply.

2) Location where accounts are kept (if different than item 1 above): _____

3) Type of Firm (Please check one):

Sole Proprietorship [ ] Partnership [ ] Corporation [ ] Joint Venture [ ] Other

Date Organized: _____

Date Incorporated: _____

State of Incorporation: _____

4) Attach list of Name of Officers.

Please check "Yes" or "No" for each of the following:

Have current officers of your firm ever been indicted? Yes [ ] No [ ]

Are any of your officers currently under indictment? Yes [ ] No [ ]

If you have answered "Yes" to either of the above, please attach an explanation.

5) Has your firm been terminated for default on any contracts in the past six years? Yes [ ] No [ ]
(If yes, please attach an explanation)

B. PROPOSED SCHEDULE

Submit a preliminary schedule depicting your project plan from start to final completion. The schedule you submit will be used to determine your ability to successfully perform the project within the time frame stated in the specifications.

IAW FAR 52.236-15, Schedules for Construction Contracts, you will be required to submit a fully loaded schedule within five days after work commences on the awarded contract.

C. PERFORMANCE AND PAYMENT BOND INFORMATION

1) Performance & Payment Bonds will be furnished by:

Name of Company: _____

Phone No: _____

2) Firm's bonding capacity as authorized by your Insurance Company:

Single Project: _____

Aggregate Basis: _____

D. BANKING INFORMATION

Name of Bank: _____

Address: _____

Account Representative:_____

Phone No: _____ E-mail: _____

Authorized Credit Line: _____

If additional banks are utilized, please provide this information for each.

E. INSURANCE INFORMATION

Name of Insurance Company: _____

Type of Insurance Provided: _____

Insurance Agency: _____

Address: _____

Agent: _____

Phone No: _____ Email: _____

If more than one insurance company is utilized, please provide this formation for each.

F. FINANCIAL DATA

Please provide the last two certified public accountant's financial statements.

G. SAFETYDATA

Please check "Yes" or "No" for each of the following:

1. Does your firm have a Standard Operating Procedure for Safety?

Yes [ ] No [ ] If yes, please provide a copy.

Does your firm have a Policy Letter dealing with Safety?

Yes [ ] No [ ] If yes, please provide a copy.

2. What was your accident rate for last year? _____

3. What is your accident rate to date for this year? _____

H. QUALITY CONTROL DATA

Please check "Yes" or "No" for each of the following:

1. Does your firm have a Standard Operating Procedure for Quality Control?

Yes [ ] No [ ] If yes, please provide a copy.

2. Does your firm have a Policy Letter dealing with Quality Control?

Yes [ ] No [ ] If yes, please provide a copy.

I. EQUIPMENT DATA

Please provide the following data for **each piece of construction equipment (including equipment you will rent or lease),** intended to be used on the project. Do not include consumables.

Make
Description
Size
Model Number

Year Mfg.
Purchase Price (if equipment is owned)
Book Value (if equipment is owned)
Unpaid Balance (if equipment is owned)

J. EXPERIENCE DATA

1. Please provide the following data for all major projects in progress or completed with the past three years. Also, provide the same data for Corps of Engineer projects completed within the last five years. Those projects containing work similar in nature to that involved under this solicitation are to marked with an asterisk (*).

Name and Address of Owner
Point of Contact and Telephone Number
Project Location
Type of Work performed by your firm
Indicate whether you performed as a prime or subcontractor
Name of Architect/Engineer in charge for Owner
Address of Architect/Engineer
Contract or Subcontract Amount
Approximate date completed or, if not completed provide percent complete

Were time extensions necessary? Were penalties imposed? Were liens, claims or stop work orders filed?

2. How many years have you been in business as a contractor? _____

3. How many years experience in the type of work involved in the subject solicitation do you have

a) as prime contractor? _____

b) as a subcontractor? _____

K. KEY PROJECT PERSONNEL

Please provide resumes for each of the following key personnel to be assigned to this project:
Project Engineer, **Superintendent**, **Quality Control Manager/Technician**, **Safety Technician**, **Office Engineer**

_____
(Signature of Person Supplying Data)

_____
(Print or Type Name and Title of Person Supplying Data)

_____
(Phone No.)

_____
(Email Address)

INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	N/A	N/A	N/A	Government
0002	N/A	N/A	N/A	Government
0003	N/A	N/A	N/A	Government

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Section 00 72 00 - General Conditions

CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	JUN 2020
52.203-5	Covenant Against Contingent Fees	MAY 2014
52.203-6	Restrictions On Subcontractor Sales To The Government	JUN 2020
52.203-7	Anti-Kickback Procedures	JUN 2020
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	MAY 2014
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	MAY 2014
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	JUN 2020
52.203-13	Contractor Code of Business Ethics and Conduct	NOV 2021
52.203-17	Contractor Employee Whistleblower Rights and Requirement To Inform Employees of Whistleblower Rights	JUN 2020
52.204-4	Printed or Copied Double-Sided on Postconsumer Fiber Content Paper	MAY 2011
52.204-9	Personal Identity Verification of Contractor Personnel	JAN 2011
52.204-10	Reporting Executive Compensation and First-Tier Subcontract Awards	JUN 2020
52.204-13	System for Award Management Maintenance	OCT 2018
52.204-14	Service Contract Reporting Requirements	OCT 2016
52.204-18	Commercial and Government Entity Code Maintenance	AUG 2020
52.204-19	Incorporation by Reference of Representations and Certifications.	DEC 2014
52.204-21	Basic Safeguarding of Covered Contractor Information Systems	NOV 2021
52.204-23	Prohibition on Contracting for Hardware, Software, and Services Developed or Provided by Kaspersky Lab and Other Covered Entities	NOV 2021
52.204-24	Representation Regarding Certain Telecommunications and Video Surveillance Services or Equipment	NOV 2021
52.204-25	Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment	NOV 2021
52.204-26	Covered Telecommunications Equipment or Services--Representation.	OCT 2020
52.210-1	Market Research	NOV 2021
52.211-13	Time Extensions	SEP 2000
52.214-3	Amendments To Invitations For Bids	DEC 2016
52.214-4	False Statements In Bids	APR 1984
52.214-5	Submission Of Bids	DEC 2016
52.214-6	Explanation To Prospective Bidders	APR 1984
52.214-7	Late Submissions, Modifications, and Withdrawals of Bids	NOV 1999
52.214-10	Contract Award--Sealed Bidding	JUL 1990
52.214-12	Preparation Of Bids	APR 1984
52.214-15	Period For Acceptance Of Bids	APR 1984
52.214-18	Preparation of Bids-Construction	APR 1984
52.214-19	Contract Award-Sealed Bidding-Construction	AUG 1996
52.214-26	Audit and Records--Sealed Bidding	JUN 2020
52.214-27	Price Reduction for Defective Certified Cost or Pricing Data - Modifications - Sealed Bidding	JUN 2020
52.214-28	Subcontractor Certified Cost Or Pricing Data--Modifications--Sealed Bidding	JUN 2020

52.215-11	Price Reduction for Defective Certified Cost or Pricing Data--Modifications	JUN 2020
52.215-22	Limitations on Pass-Through Charges--Identification of Subcontract Effort	OCT 2009
52.219-9	Small Business Subcontracting Plan	OCT 2022
52.219-14	Limitations On Subcontracting	OCT 2022
52.219-16	Liquidated Damages-Subcontracting Plan	SEP 2021
52.219-28	Post-Award Small Business Program Rerepresentation	MAR 2023
52.222-1	Notice To The Government Of Labor Disputes	FEB 1997
52.222-3	Convict Labor	JUN 2003
52.222-4	Contract Work Hours and Safety Standards - Overtime Compensation	MAY 2018
52.222-6	Construction Wage Rate Requirements	AUG 2018
52.222-8	Payrolls and Basic Records	JUL 2021
52.222-10	Compliance with Copeland Act Requirements	FEB 1988
52.222-11	Subcontracts (Labor Standards)	MAY 2014
52.222-12	Contract Termination-Debarment	MAY 2014
52.222-13	Compliance With Construction Wage Rate Requirements and Related Regulations	MAY 2014
52.222-14	Disputes Concerning Labor Standards	FEB 1988
52.222-15	Certification of Eligibility	MAY 2014
52.222-27	Affirmative Action Compliance Requirements for Construction	APR 2015
52.222-33	Notice of Requirement for Project labor Agreement	MAY 2010
52.222-36	Equal Opportunity for Workers with Disabilities	JUN 2020
52.222-37	Employment Reports on Veterans	JUN 2020
52.222-38	Compliance With Veterans' Employment Reporting Requirements	FEB 2016
52.222-40	Notification of Employee Rights Under the National Labor Relations Act	DEC 2010
52.222-50	Combating Trafficking in Persons	NOV 2021
52.222-54	Employment Eligibility Verification	MAY 2022
52.222-55	Minimum Wages for Contractor Workers Under Executive Order 14026	JAN 2022
52.222-62	Paid Sick Leave Under Executive Order 13706	JAN 2022
52.223-2	Affirmative Procurement of Biobased Products Under Service and Construction Contracts	SEP 2013
52.223-6	Drug-Free Workplace	MAY 2001
52.223-17	Affirmative Procurement of EPA-Designated Items in Service and Construction Contracts	AUG 2018
52.223-18	Encouraging Contractor Policies To Ban Text Messaging While Driving	JUN 2020
52.225-12	Notice of Buy American Requirement - Construction Materials Under Trade Agreements	MAY 2014
52.225-13	Restrictions on Certain Foreign Purchases	FEB 2021
52.225-25	Prohibition on Contracting with Entities Engaging in Certain Activities or Transactions Relating to Iran-- Representation and Certifications.	JUN 2020
52.227-1	Authorization and Consent	JUN 2020
52.227-2	Notice And Assistance Regarding Patent And Copyright Infringement	JUN 2020
52.227-4	Patent Indemnity-Construction Contracts	DEC 2007
52.228-2	Additional Bond Security	OCT 1997
52.228-5	Insurance - Work On A Government Installation	JAN 1997
52.228-11	Individual Surety--Pledge of Assets	FEB 2021

52.228-14	Irrevocable Letter of Credit	NOV 2014
52.228-15	Performance and Payment Bonds--Construction	JUN 2020
52.229-11	Tax on Certain Foreign Procurements--Notice and Representation	JUN 2020
52.232-5	Payments under Fixed-Price Construction Contracts	MAY 2014
52.232-13	Notice Of Progress Payments	APR 1984
52.232-16	Progress Payments	NOV 2021
52.232-17	Interest	MAY 2014
52.232-23	Assignment Of Claims	MAY 2014
52.232-27	Prompt Payment for Construction Contracts	JAN 2017
52.232-33	Payment by Electronic Funds Transfer--System for Award Management	OCT 2018
52.232-39	Unenforceability of Unauthorized Obligations	JUN 2013
52.232-40	Providing Accelerated Payments to Small Business Subcontractors	MAR 2023
52.233-1	Disputes	MAY 2014
52.233-3	Protest After Award	AUG 1996
52.233-4	Applicable Law for Breach of Contract Claim	OCT 2004
52.236-3	Site Investigation and Conditions Affecting the Work	APR 1984
52.236-5	Material and Workmanship	APR 1984
52.236-7	Permits and Responsibilities	NOV 1991
52.236-8	Other Contracts	APR 1984
52.236-9	Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements	APR 1984
52.236-10	Operations and Storage Areas	APR 1984
52.236-11	Use and Possession Prior to Completion	APR 1984
52.236-12	Cleaning Up	APR 1984
52.236-13	Accident Prevention	NOV 1991
52.236-16	Quantity Surveys	APR 1984
52.236-17	Layout of Work	APR 1984
52.236-21	Specifications and Drawings for Construction	FEB 1997
52.236-26	Preconstruction Conference	FEB 1995
52.242-5	Payments to Small Business Subcontractors	JAN 2017
52.242-13	Bankruptcy	JUL 1995
52.243-4	Changes	JUN 2007
52.243-5	Changes and Changed Conditions	APR 1984
52.243-6	Change Order Accounting	APR 1984
52.246-21	Warranty of Construction	MAR 1994
52.247-64 Alt I	Preference for Privately Owned U.S.-Flag Commercial Vessels (NOV 2021) - Alternate I	APR 2003
52.253-1	Computer Generated Forms	JAN 1991
252.203-7002	Requirement to Inform Employees of Whistleblower Rights	DEC 2022
252.203-7003	Agency Office of the Inspector General	AUG 2019
252.204-7000	Disclosure Of Information	OCT 2016
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.204-7006	Billing Instructions	OCT 2005
252.204-7012	Safeguarding Covered Defense Information and Cyber Incident Reporting	JAN 2023
252.204-7014	Limitations on the Use or Disclosure of Information by Litigation Support Contractors	JAN 2023
252.204-7015	Notice of Authorized Disclosure of Information for Litigation Support	JAN 2023
252.204-7019	Notice of NIST SP 800-171 DoD Assessment Requirements	MAR 2022
252.204-7020	NIST SP 800-171 DoD Assessment Requirements	JAN 2023
252.205-7000	Provision Of Information To Cooperative Agreement Holders	DEC 1991

252.209-7993 (Dev)	Representation by Corporations Regarding an Unpaid Delinquent Tax Liability or a Felony Conviction under any Federal Law -- Fiscal Year 2014 Appropriations (Deviation)	FEB 2014
252.222-7006	Restrictions on the Use of Mandatory Arbitration Agreements	JAN 2023
252.223-7004	Drug Free Work Force	SEP 1988
252.223-7008	Prohibition of Hexavalent Chromium	JAN 2023
252.225-7031	Secondary Arab Boycott Of Israel	JUN 2005
252.225-7048	Export-Controlled Items	JUN 2013
252.227-7023	Drawings and Other Data to become Property of Government	MAR 1979
252.229-7011	Reporting of Foreign Taxes--U.S. Assistance Programs	SEP 2005
252.229-7012	Tax exemptions (Italy)--representation	MAR 2012
252.231-7000	Supplemental Cost Principles	DEC 1991
252.232-7003	Electronic Submission of Payment Requests and Receiving Reports	DEC 2018
252.232-7010	Levies on Contract Payments	DEC 2006
252.247-7023	Transportation of Supplies by Sea	JAN 2023

CLAUSES INCORPORATED BY FULL TEXT

52.204-7 SYSTEM FOR AWARD MANAGEMENT (OCT 2018)

(a) Definitions. As used in this provision--

Electronic Funds Transfer (EFT) indicator means a four-character suffix to the unique entity identifier. The suffix is assigned at the discretion of the commercial, nonprofit, or Government entity to establish additional System for Award Management records for identifying alternative EFT accounts (see subpart 32.11) for the same entity.

Registered in the System for Award Management (SAM) means that--

(1) The Offeror has entered all mandatory information, including the unique entity identifier and the EFT indicator, if applicable, the Commercial and Government Entity (CAGE) code, as well as data required by the Federal Funding Accountability and Transparency Act of 2006 (see subpart 4.14) into SAM;

(2) The offeror has completed the Core, Assertions, and Representations and Certifications, and Points of Contact sections of the registration in SAM;

(3) The Government has validated all mandatory data fields, to include validation of the Taxpayer Identification Number (TIN) with the Internal Revenue Service (IRS). The offeror will be required to provide consent for TIN validation to the Government as a part of the SAM registration process; and

(4) The Government has marked the record ``Active''.

Unique entity identifier means a number or other identifier used to identify a specific commercial, nonprofit, or Government entity. See www.sam.gov for the designated entity for establishing unique entity identifiers.

(b)(1) An Offeror is required to be registered in SAM when submitting an offer or quotation, and shall continue to be registered until time of award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.

(2) The Offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation ``Unique Entity Identifier'' followed by the unique entity identifier that identifies the Offeror's name and address exactly as stated in the offer. The Offeror also shall enter its EFT indicator, if applicable. The unique entity identifier will be used by the Contracting Officer to verify that the Offeror is registered in SAM.

(c) If the Offeror does not have a unique entity identifier, it should contact the entity designated at www.sam.gov for establishment of the unique entity identifier directly to obtain one. The Offeror should be prepared to provide the following information:

(1) Company legal business name.

(2) Tradestyle, doing business, or other name by which your entity is commonly recognized.

(3) Company physical street address, city, state, and Zip Code.

(4) Company mailing address, city, state and Zip Code (if separate from physical).

(5) Company telephone number.

(6) Date the company was started.

(7) Number of employees at your location.

(8) Chief executive officer/key manager.

(9) Line of business (industry).

(10) Company headquarters name and address (reporting relationship within your entity).

(d) Processing time should be taken into consideration when registering. Offerors who are not registered in SAM should consider applying for registration immediately upon receipt of this solicitation. See https://www.sam.gov for information on registration.

(End of Provision)

52.204-8 ANNUAL REPRESENTATIONS AND CERTIFICATIONS (MAR 2023)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 237990.

(2) The small business size standard is $37,000,000.

(3) The small business size standard for a concern that submits an offer, other than on a construction or service acquisition, but proposes to furnish an end item that it did not itself manufacture, process, or produce is 500 employees, or 150 employees for information technology value-added resellers under NAICS code 541519, if the acquisition--

(i) Is set aside for small business and has a value above the simplified acquisition threshold;

(ii) Uses the HUBZone price evaluation preference regardless of dollar value, unless the offeror waives the price evaluation preference; or

(iii) Is an 8(a), HUBZone, service-disabled veteran-owned, economically disadvantaged women-owned, or women-owned small business set-aside or sole-source award regardless of dollar value.

(b)(1) If the provision at 52.204-7, System for Award Management, is included in this solicitation, paragraph (d) of this provision applies.

(2) If the provision at 52.204-7, System for Award Management, is not included in this solicitation, and the Offeror has an active registration in the System for Award Management (SAM), the Offeror may choose to use paragraph (d) of this provision instead of completing the corresponding individual representations and certifications in the solicitation. The Offeror shall indicate which option applies by checking one of the following boxes:

( ) Paragraph (d) applies.

( ) Paragraph (d) does not apply and the offeror has completed the individual representations and certifications in the solicitation.

(c) (1) The following representations or certifications in SAM are applicable to this solicitation as indicated:

(i) 52.203-2, Certificate of Independent Price Determination. This provision applies to solicitations when a firm-fixed-price contract or fixed-price contract with economic price adjustment is contemplated, unless—

(A) The acquisition is to be made under the simplified acquisition procedures in Part 13;

(B) The solicitation is a request for technical proposals under two-step sealed bidding procedures; or

(C) The solicitation is for utility services for which rates are set by law or regulation.

(ii) 52.203-11, Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions. This provision applies to solicitations expected to exceed $150,000.

(iii) 52.203-18, Prohibition on Contracting with Entities that Require Certain Internal Confidentiality Agreements or Statements--Representation. This provision applies to all solicitations.

(iv) 52.204-3, Taxpayer Identification. This provision applies to solicitations that do not include the provision at 52.204-7, System for Award Management.

(v) 52.204-5, Women-Owned Business (Other Than Small Business). This provision applies to solicitations that—

(A) Are not set aside for small business concerns;

(B) Exceed the simplified acquisition threshold; and

(C) Are for contracts that will be performed in the United States or its outlying areas.

(vi) 52.204-26, Covered Telecommunications Equipment or Services--Representation. This provision applies to all solicitations.

(vii) 52.209-2, Prohibition on Contracting with Inverted Domestic Corporations--Representation.

(viii) 52.209-5, Certification Regarding Responsibility Matters. This provision applies to solicitations where the contract value is expected to exceed the simplified acquisition threshold.

(ix) 52.209-11, Representation by Corporations Regarding Delinquent Tax Liability or a Felony Conviction under any Federal Law. This provision applies to all solicitations.

(x) 52.214-14, Place of Performance--Sealed Bidding. This provision applies to invitations for bids except those in which the place of performance is specified by the Government.

(xi) 52.215-6, Place of Performance. This provision applies to solicitations unless the place of performance is specified by the Government.

(xii) 52.219-1, Small Business Program Representations (Basic, Alternates I, and II). This provision applies to solicitations when the contract is for supplies to be delivered or services to be performed in the United States or its outlying areas, or when the contracting officer has applied part 19 in accordance with 19.000(b)(1)(ii).

(A) The basic provision applies when the solicitations are issued by other than DoD, NASA, and the Coast Guard.

(B) The provision with its Alternate I applies to solicitations issued by DoD, NASA, or the Coast Guard.

(C) The provision with its Alternate II applies to solicitations that will result in a multiple-award contract with more than one NAICS code assigned.

(xiii) 52.219-2, Equal Low Bids. This provision applies to solicitations when contracting by sealed bidding and the contract is for supplies to be delivered or services to be performed in the United States or its outlying areas, or when the contracting officer has applied part 19 in accordance with 19.000(b)(1)(ii).

(xiv) 52.222-22, Previous Contracts and Compliance Reports. This provision applies to solicitations that include the clause at 52.222-26, Equal Opportunity.

(xv) 52.222-25, Affirmative Action Compliance. This provision applies to solicitations, other than those for construction, when the solicitation includes the clause at 52.222-26, Equal Opportunity.

(xvi) 52.222-38, Compliance with Veterans' Employment Reporting Requirements. This provision applies to solicitations when it is anticipated the contract award will exceed the simplified acquisition threshold and the contract is not for acquisition of commercial products or commercial services.

(xvii) 52.223-1, Biobased Product Certification. This provision applies to solicitations that require the delivery or specify the use of USDA-designated items; or include the clause at 52.223-2, Affirmative Procurement of Biobased Products Under Service and Construction Contracts.

(xviii) 52.223-4, Recovered Material Certification. This provision applies to solicitations that are for, or specify the use of, EPA- designated items.

(xix) 52.223-22, Public Disclosure of Greenhouse Gas Emissions and Reduction Goals--Representation. This provision applies to solicitations that include the clause at 52.204-7.)

(xx) 52.225-2, Buy American Certificate. This provision applies to solicitations containing the clause at 52.225-1.

(xxi) 52.225-4, Buy American-Free Trade Agreements-Israeli Trade Act Certificate. (Basic, Alternates II and III.) This provision applies to solicitations containing the clause at 52.225-3.

(A) If the acquisition value is less than $50,000, the basic provision applies.

(B) If the acquisition value is $50,000 or more but is less than $92,319, the provision with its Alternate II applies.

(C) If the acquisition value is $92,319 or more but is less than $100,000, the provision with its Alternate III applies.

(xxii) 52.225-6, Trade Agreements Certificate. This provision applies to solicitations containing the clause at 52.225-5.

(xxiii) 52.225-20, Prohibition on Conducting Restricted Business Operations in Sudan--Certification. This provision applies to all solicitations.

(xxiv) 52.225-25, Prohibition on Contracting with Entities Engaging in Certain Activities or Transactions Relating to Iran—Representation and Certification. This provision applies to all solicitations.

(xxv) 52.226-2, Historically Black College or University and Minority Institution Representation. This provision applies to solicitations for research, studies, supplies, or services of the type normally acquired from higher educational institutions.

(2) The following representations or certifications are applicable as indicated by the Contracting Officer:

[Contracting Officer check as appropriate.]

(i) 52.204-17, Ownership or Control of Offeror.

(ii) 52.204-20, Predecessor of Offeror.

(iii) 52.222-18, Certification Regarding Knowledge of Child Labor for Listed End Products.

(iv) 52.222-48, Exemption from Application of the Service Contract Labor Standards to Contracts for Maintenance, Calibration, or Repair of Certain Equipment--Certification.

(v) 52.222-52 Exemption from Application of the Service Contract Labor Standards to Contracts for Certain Services--Certification.

(vi) 52.223-9, with its Alternate I, Estimate of Percentage of Recovered Material Content for EPA-Designated Products (Alternate I only).

(vii) 52.227-6, Royalty Information.

(A) Basic.

(B) Alternate I.

(viii) 52.227-15, Representation of Limited Rights Data and Restricted Computer Software.

(d) The Offeror has completed the annual representations and certifications electronically in SAM accessed through https://www.sam.gov. After reviewing the SAM information, the Offeror verifies by submission of the offer that the representations and certifications currently posted electronically that apply to this solicitation as indicated in paragraph (c) of this provision have been entered or updated within the last 12 months, are current, accurate, complete, and applicable to this solicitation (including the business size standard applicable to the NAICS code referenced for this solicitation), as of the date of this offer and are incorporated in this offer by reference (see FAR 4.1201); except for the changes identified below [offeror to insert changes, identifying change by clause

number, title, date]. These amended representation(s) and/or certification(s) are also incorporated in this offer and are current, accurate, and complete as of the date of this offer.

FAR Clause	Title	Date	Change

Any changes provided by the offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications posted on SAM.

(End of provision)

52.209-2 PROHIBITION ON CONTRACTING WITH INVERTED DOMESTIC CORPORATIONS--REPRESENTATION (NOV 2015)

(a) Definitions. Inverted domestic corporation and subsidiary have the meaning given in the clause of this contract entitled Prohibition on Contracting with Inverted Domestic Corporations (52.209-10).

(b) Government agencies are not permitted to use appropriated (or otherwise made available) funds for contracts with either an inverted domestic corporation, or a subsidiary of an inverted domestic corporation, unless the exception at 9.108-2(b) applies or the requirement is waived in accordance with the procedures at 9.108-4.

(c) Representation. The Offeror represents that--

(1) It [___] is, [___] is not an inverted domestic corporation; and

(2) It [___] is, [___] is not a subsidiary of an inverted domestic corporation.

(End of provision)

52.209-6 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (NOV 2021)

(a) Definition. Commercially available off-the-shelf (COTS) item, as used in this clause--

(1) Means any item of supply (including construction material) that is--

(i) A commercial product (as defined in paragraph (1) of the definition of "commercial product" in Federal Acquisition Regulation (FAR) 2.101);

(ii) Sold in substantial quantities in the commercial marketplace; and

(iii) Offered to the Government, under a contract or subcontract at any tier, without modification, in the same form in which it is sold in the commercial marketplace; and

(2) Does not include bulk cargo, as defined in 46 U.S.C. 40102(4), such as agricultural products and petroleum products.

(b) The Government suspends or debars Contractors to protect the Government's interests. Other than a subcontract for a commercially available off-the-shelf item, the Contractor shall not enter into any subcontract, in excess of the threshold specified in FAR 9.405-2(b) on the date of subcontract award, with a Contractor that is debarred, suspended, or proposed for debarment by any executive agency unless there is a compelling reason to do so.

(c) The Contractor shall require each proposed subcontractor whose subcontract will exceed the threshold specified in FAR 9.405-2(b) on the date of subcontract award, other than a subcontractor providing a commercially available off-the-shelf item, to disclose to the Contractor, in writing, whether as of the time of award of the subcontract, the subcontractor, or its principals, is or is not debarred, suspended, or proposed for debarment by the Federal Government.

(d) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party (other than a subcontractor providing a commercially available off-the-shelf item) that is debarred, suspended, or proposed for debarment (see FAR 9.404 for information on the System for Award Management (SAM) Exclusions). The notice must include the following:

(1) The name of the subcontractor.

(2) The Contractor's knowledge of the reasons for the subcontractor being listed with an exclusion in SAM.

(3) The compelling reason(s) for doing business with the subcontractor notwithstanding its being listed with an exclusion in SAM.

(4) The systems and procedures the Contractor has established to ensure that it is fully protecting the Government's interests when dealing with such subcontractor in view of the specific basis for the party's debarment, suspension, or proposed debarment.

(e) Subcontracts. Unless this is a contract for the acquisition of commercial products or commercial services, the Contractor shall include the requirements of this clause, including this paragraph (e) (appropriately modified for the identification of the parties), in each subcontract that--

(1) Exceeds the threshold specified in FAR 9.405-2(b) on the date of subcontract award; and

(2) Is not a subcontract for commercially available off-the-shelf items.

(End of clause)

52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984)

The Contractor shall be required to (a) commence work under this contract within 30 calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than 270 calendar days after receipt of notice to proceed. The time stated for completion shall include final cleanup of the premises.

(End of clause)

52.211-12 LIQUIDATED DAMAGES--CONSTRUCTION (SEP 2000)

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of $3,065.76 for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

(End of clause)

52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a __Firm-Fixed Price Construction___contract resulting from this solicitation.

(End of provision)

52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (MAR 2023)

(a) Definitions. As used in this provision--

Economically disadvantaged women-owned small business (EDWOSB) concern means a small business concern that is at least 51 percent directly and unconditionally owned by, and the management and daily business operations of which are controlled by, one or more women who are citizens of the United States and who are economically disadvantaged in accordance with 13 CFR part 127, and the concern is certified by SBA or an approved third-party certifier in accordance with 13 CFR 127.300. It automatically qualifies as a women-owned small business concern eligible under the WOSB Program.

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a service-disabled veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

Small business concern--

(1) Means a concern, including its affiliates, that is independently owned and operated, not dominant in its field of operation, and qualified as a small business under the criteria in 13 CFR part 121 and the size standard in paragraph (b) of this provision.

(2) Affiliates, as used in this definition, means business concerns, one of whom directly or indirectly controls or has the power to control the others, or a third party or parties control or have the power to control the others. In determining whether affiliation exists, consideration is given to all appropriate factors including common ownership, common management, and contractual relationships. SBA determines affiliation based on the factors set forth at 13 CFR 121.103.

Small disadvantaged business concern, consistent with 13 CFR 124.1002, means a small business concern under the size standard applicable to the acquisition, that--

(1) Is at least 51 percent unconditionally and directly owned (as defined at 13 CFR 124.105) by--

(i) One or more socially disadvantaged (as defined at 13 CFR 124.103) and economically disadvantaged (as defined at 13 CFR 124.104) individuals who are citizens of the United States, and

(ii) Each individual claiming economic disadvantage has a net worth not exceeding $750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and

(2) The management and daily business operations of which are controlled (as defined at 13 CFR 124.106) by individuals who meet the criteria in paragraphs (1)(i) and (ii) of this definition.

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

Women-owned small business concern means a small business concern--

(1) That is at least 51 percent owned by one or more women; or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

Women-owned small business (WOSB) concern eligible under the WOSB Program (in accordance with 13 CFR part 127) means a small business concern that is at least 51 percent directly and unconditionally owned by, and the management and daily business operations of which are controlled by, one or more women who are citizens of the United States, and the concern is certified by SBA or an approved third-party certifier in accordance with 13 CFR 127.300.

(b)(1) The North American Industry Classification System (NAICS) code for this acquisition is [insert NAICS code].

(2) The small business size standard is [insert size standard].

(3) The small business size standard for a concern that submits an offer, other than on a construction or service acquisition, but proposes to furnish an end item that it did not itself manufacture, process, or produce (i.e., nonmanufacturer), is 500 employees, or 150 employees for information technology value-added resellers under NAICS code 541519, if the acquisition--

(i) Is set aside for small business and has a value above the simplified acquisition threshold;

(ii) Uses the HUBZone price evaluation preference regardless of dollar value, unless the offeror waives the price evaluation preference; or

(iii) Is an 8(a), HUBZone, service-disabled veteran-owned, economically disadvantaged women-owned, or women-owned small business set-aside or sole-source award regardless of dollar value.

(c) Representations.

(1) The offeror represents as part of its offer that--

(i) It [___] is, [___] is not a small business concern; or

(ii) It [___] is, [___] is not a small business joint venture that complies with the requirements of 13 CFR 121.103(h) and 13 CFR 125.8(a) and (b). [The offeror shall enter the name and unique entity identifier of each party to the joint venture: ___ .]

(2) [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents that it [___] is, [___] is not, a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents as part of its offer that it [___] is, [___] is not a women-owned small business concern.

(4) Women-owned small business (WOSB) joint venture eligible under the WOSB Program. The offeror represents as part of its offer that it [____] is, [____] is not a joint venture that complies with the requirements of 13 CFR 127.506(a) through (c). [The offeror shall enter the name and unique entity identifier of each party to the joint venture: ___ .]

(5) Economically disadvantaged women-owned small business (EDWOSB) joint venture. The offeror represents as part of its offer that it [___] is, [___] is not a joint venture that complies with the requirements of 13 CFR 127.506(a) through (c). [The offeror shall enter the name and unique entity identifier of each party to the joint venture: ___ .]

(6) [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents as part of its offer that it [___] is, [___] is not a veteran-owned small business concern.

(7) [Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (c)(6) of this provision.] The offeror represents as part of its offer that--

(i) It [___] is, [___] is not a service-disabled veteran-owned small business concern; or

(ii) It [___] is, [___] is not a service-disabled veteran-owned joint venture that complies with the requirements of 13 CFR 125.18(b)(1) and (2). [The offeror shall enter the name and unique entity identifier of each party to the joint venture: ___ .] Each service-disabled veteran-owned small business concern participating in the joint venture shall provide representation of its service-disabled veteran-owned small business concern status.

(8) [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents, as part of its offer, that--

(i) It [___] is, [___] is not a HUBZone small business concern listed, on the date of this representation, as having been certified by SBA as a HUBZone small business concern in the Dynamic Small Business Search and SAM, and will attempt to maintain an employment rate of HUBZone residents of 35 percent of its employees during performance of a HUBZone contract (see 13 CFR 126.200(e)(1)); and

(ii) It [___] is, [___] is not a HUBZone joint venture that complies with the requirements of 13 CFR 126.616(a) through (c). [The offeror shall enter the name and unique entity identifier of each party to the joint venture: ___ .]

Each HUBZone small business concern participating in the HUBZone joint venture shall provide representation of its HUBZone status.

(d) Notice. Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a business concern that is small, HUBZone small, small disadvantaged, service-disabled veteran-owned small, economically disadvantaged women-owned small, or women-owned small eligible under the WOSB Program in order to obtain a contract to be awarded under the preference programs established pursuant to section 8, 9, 15, 31, and 36 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall—

(1) Be punished by imposition of fine, imprisonment, or both;

(2) Be subject to administrative remedies, including suspension and debarment; and

(3) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

52.222-5 CONSTRUCTION WAGE RATE REQUIREMENTS--SECONDARY SITE OF THE WORK (MAY 2014)

(a)(1) The offeror shall notify the Government if the offeror intends to perform work at any secondary site of the work, as defined in paragraph (a)(1)(ii) of the FAR clause at 52.222-6, Construction Wage Rate Requirements, of this solicitation.

(2) If the offeror is unsure if a planned work site satisfies the criteria for a secondary site of the work, the offeror shall request a determination from the Contracting Officer.

(b)(1) If the wage determination provided by the Government for work at the primary site of the work is not applicable to the secondary site of the work, the offeror shall request a wage determination from the Contracting Officer.

(2) The due date for receipt of offers will not be extended as a result of an offeror's request for a wage determination for a secondary site of the work.

(End of provision)

52.222-23 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999)

(a) The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for minority participation for each trade	Goals for female participation for each trade
17.3	6.9

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

(c) The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on (1) its implementation of the Equal Opportunity clause, (2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and (3) its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

(d) The Contractor shall provide written notification to the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the --

(1) Name, address, and telephone number of the subcontractor;

(2) Employer's identification number of the subcontractor;

(3) Estimated dollar amount of the subcontract;

(4) Estimated starting and completion dates of the subcontract; and

(5) Geographical area in which the subcontract is to be performed.

(e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is
Philadelphia to Trenton Maintenance Dredging, Pennsylvania and New Jersey

(End of provision)

52.222-26 EQUAL OPPORTUNITY (SEPT 2016)

(a) Definitions. As used in this clause--

Compensation means any payments made to, or on behalf of, an employee or offered to an applicant as remuneration for employment, including but not limited to salary, wages, overtime pay, shift differentials, bonuses, commissions, vacation and holiday pay, allowances, insurance and other benefits, stock options and awards, profit sharing, and retirement.

Compensation information means the amount and type of compensation provided to employees or offered to applicants, including, but not limited to, the desire of the Contractor to attract and retain a particular employee for the value the employee is perceived to add to the Contractor's profit or productivity; the availability of employees with like skills in the marketplace; market research about the worth of similar jobs in the relevant marketplace; job analysis, descriptions, and evaluations; salary and pay structures; salary surveys; labor union agreements; and Contractor decisions, statements and policies related to setting or altering employee compensation.

Essential job functions means the fundamental job duties of the employment position an individual holds. A job function may be considered essential if--

(1) The access to compensation information is necessary in order to perform that function or another routinely assigned business task; or

(2) The function or duties of the position include protecting and maintaining the privacy of employee personnel records, including compensation information.

Gender identity has the meaning given by the Department of Labor's Office of Federal Contract Compliance Programs, and is found at www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

Sexual orientation has the meaning given by the Department of Labor's Office of Federal Contract Compliance Programs, and is found at www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

United States means the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island.

(b)(1) If, during any 12-month period (including the 12 months preceding the award of this contract), the Contractor has been or is awarded nonexempt Federal contracts and/or subcontracts that have an aggregate value in excess of $10,000, the Contractor shall comply with this clause, except for work performed outside the United States by employees who were not recruited within the United States. Upon request, the Contractor shall provide information necessary to determine the applicability of this clause.

(2) If the Contractor is a religious corporation, association, educational institution, or society, the requirements of this clause do not apply with respect to the employment of individuals of a particular religion to perform work connected with the carrying on of the Contractor's activities (41 CFR 60-1.5).

(c) (1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. However, it shall not be a violation of this clause for the Contractor to extend a publicly announced preference in employment to Indians living on or near an Indian reservation, in connection with employment opportunities on or near an Indian reservation, as permitted by 41 CFR 60-1.5.

(2) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. This shall include, but not be limited to, (i) employment, (ii) upgrading, (iii) demotion, (iv) transfer, (v) recruitment or recruitment advertising, (vi) layoff or termination, (vii) rates of pay or other forms of compensation, and (viii) selection for training, including apprenticeship.

(3) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(4) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(5)(i) The Contractor shall not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This prohibition against discrimination does not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such

disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Contractor's legal duty to furnish information.

(ii) The Contractor shall disseminate the prohibition on discrimination in paragraph (c)(5)(i) of this clause, using language prescribed by the Director of the Office of Federal Contract Compliance Programs (OFCCP), to employees and applicants by--

(A) Incorporation into existing employee manuals or handbooks; and

(B) Electronic posting or by posting a copy of the provision in conspicuous places available to employees and applicants for employment.

(6) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(7) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(8) The Contractor shall furnish to the contracting agency all information required by Executive Order 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor. The Contractor shall also file Standard Form 100 (EEO-1), or any successor form, as prescribed in 41 CFR part 60-1. Unless the Contractor has filed within the 12 months preceding the date of contract award, the Contractor shall, within 30 days after contract award, apply to either the regional Office of Federal Contract Compliance Programs (OFCCP) or the local office of the Equal Employment Opportunity Commission for the necessary forms.

(9) The Contractor shall permit access to its premises, during normal business hours, by the contracting agency or the OFCCP for the purpose of conducting on-site compliance evaluations and complaint investigations. The Contractor shall permit the Government to inspect and copy any books, accounts, records (including computerized records), and other material that may be relevant to the matter under investigation and pertinent to compliance with Executive Order 11246, as amended, and rules and regulations that implement the Executive Order.

(10) If the OFCCP determines that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts, under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended; in the rules, regulations, and orders of the Secretary of Labor; or as otherwise provided by law.

(11) The Contractor shall include the terms and conditions of this clause in every subcontract or purchase order that is not exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor.

(12) The Contractor shall take such action with respect to any subcontract or purchase order as the Director of OFCCP may direct as a means of enforcing these terms and conditions, including sanctions for noncompliance; provided, that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of any direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

(d) Notwithstanding any other clause in this contract, disputes relative to this clause will be governed by the procedures in 41 CFR part 60-1.

(End of clause)

52.222-35 EQUAL OPPORTUNITY FOR VETERANS (JUN 2020)

(a) Definitions. As used in this clause--

"Active duty wartime or campaign badge veteran," "Armed Forces service medal veteran," "disabled veteran," "protected veteran," "qualified disabled veteran," and "recently separated veteran" have the meanings given at Federal Acquisition Regulation (FAR) 22.1301.

(b) Equal opportunity clause. The Contractor shall abide by the requirements of the equal opportunity clause at 41 CFR 60-300.5(a), as of March 24, 2014. This clause prohibits discrimination against qualified protected veterans, and requires affirmative action by the Contractor to employ and advance in employment qualified protected veterans.

(c) Subcontracts. The Contractor shall insert the terms of this clause in subcontracts valued at or above the threshold specified in FAR 22.1303(a) on the date of subcontract award, unless exempted by rules, regulations, or orders of the Secretary of Labor. The Contractor shall act as specified by the Director, Office of Federal Contract Compliance Programs, to enforce the terms, including action for noncompliance. Such necessary changes in language may be made as shall be appropriate to identify properly the parties and their undertakings.

(End of clause)

52.225-11 BUY AMERICAN--CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS (DEC 2022)

(a) Definitions. As used in this clause--

Caribbean Basin country construction material means a construction material that--

(1) Is wholly the growth, product, or manufacture of a Caribbean Basin country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a Caribbean Basin country into a new and different construction material distinct from the materials from which it was transformed.

Commercially available off-the-shelf (COTS) item—

(1) Means any item of supply (including construction material) that is--

(i) A commercial product (as defined in paragraph (1) of the definition of "commercial product" at Federal Acquisition Regulation (FAR) 2.101);

(ii) Sold in substantial quantities in the commercial marketplace; and

(iii) Offered to the Government, under a contract or subcontract at any tier, without modification, in the same form in which it is sold in the commercial marketplace; and

(2) Does not include bulk cargo, as defined in 46 U.S.C. 40102(4) such as agricultural products and petroleum products.

Component means an article, material, or supply incorporated directly into a construction material.

Construction material means an article, material, or supply brought to the construction site by the Contractor or subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

Cost of components means--

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the construction material (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the construction material.

Critical component means a component that is mined, produced, or manufactured in the United States and deemed critical to the U.S. supply chain. The list of critical components is at FAR 25.105.

Critical item means a domestic construction material or domestic end product that is deemed critical to U.S. supply chain resiliency. The list of critical items is at FAR 25.105.

Designated country means any of the following countries:

(1) A World Trade Organization Government Procurement Agreement (WTO GPA) country (Armenia, Aruba, Australia, Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea (Republic of), Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Montenegro, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Taiwan, Ukraine, or United Kingdom);

(2) A Free Trade Agreement (FTA) country (Australia, Bahrain, Chile, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Korea (Republic of), Mexico, Morocco, Nicaragua, Oman, Panama, Peru, or Singapore);

(3) A least developed country (Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Laos, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Nepal, Niger, Rwanda, Samoa, Sao Tome and Principe, Senegal, Sierra Leone, Solomon Islands, Somalia, South Sudan, Tanzania, Timor-Leste, Togo, Tuvalu, Uganda, Vanuatu, Yemen, or Zambia); or

(4) A Caribbean Basin country (Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bonaire, British Virgin Islands, Curacao, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saba, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Sint Eustatius, Sint Maarten, or Trinidad and Tobago).

Designated country construction material means a construction material that is a WTO GPA country construction material, an FTA country construction material, a least developed country construction material, or a Caribbean Basin country construction material.

Domestic construction material means--

(1) For construction material that does not consist wholly or predominantly of iron or steel or a combination of both-

(i) An unmanufactured construction material mined or produced in the United States; or

(ii) A construction material manufactured in the United States, if--

(A) The cost of its components mined, produced, or manufactured in the United States exceeds 60 percent of the cost of all its components, except that the percentage will be 65 percent for items delivered in calendar years 2024 through 2028 and 75 percent for items delivered starting in calendar year 2029. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic. Components of unknown origin are treated as foreign; or

(B) The construction material is a COTS item; or

(2) For construction material that consists wholly or predominantly of iron or steel or a combination of both, a construction material manufactured in the United States if the cost of foreign iron and steel constitutes less than 5 percent of the cost of all components used in such construction material. The cost of foreign iron and steel includes but is not limited to the cost of foreign iron or steel mill products (such as bar, billet, slab, wire, plate, or sheet), castings, or forgings utilized in the manufacture of the construction material and a good faith estimate of the cost of all foreign iron or steel components excluding COTS fasteners. Iron or steel components of unknown origin are treated as foreign. If the construction material contains multiple components, the cost of all the materials used in such construction material is calculated in accordance with the definition of "cost of components".

Fastener means a hardware device that mechanically joins or affixes two or more objects together. Examples of fasteners are nuts, bolts, pins, rivets, nails, clips, and screws.

Foreign construction material means a construction material other than a domestic construction material.

Foreign iron and steel means iron or steel products not produced in the United States. Produced in the United States means that all manufacturing processes of the iron or steel must take place in the United States, from the initial melting stage through the application of coatings, except metallurgical processes involving refinement of steel additives. The origin of the elements of the iron or steel is not relevant to the determination of whether it is domestic or foreign.

Least developed country construction material means a construction material that--

(1) Is wholly the growth, product, or manufacture of a least developed country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a least developed country into a new and different construction material distinct from the materials from which it was transformed.

Free Trade Agreement country construction material means a construction material that—

(1) Is wholly the growth, product, or manufacture of a Free Trade Agreement (FTA) country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a FTA country into a new and different construction material distinct from the materials from which it was transformed.

Least developed country construction material means a construction material that—

(1) Is wholly the growth, product, or manufacture of a least developed country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a least developed country into a new and different construction material distinct from the materials from which it was transformed.

Predominantly of iron or steel or a combination of both means that the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products (such as bar, billet, slab, wire, plate, or sheet), castings, or forgings utilized in the manufacture of the product and a good faith estimate of the cost of iron or steel components excluding COTS fasteners.

Steel means an alloy that includes at least 50 percent iron, between 0.02 and 2 percent carbon, and may include other elements.

United States means the 50 States, the District of Columbia, and outlying areas.

WTO GPA country construction material means a construction material that--

(1) Is wholly the growth, product, or manufacture of a WTO GPA country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a WTO GPA country into a new and different construction material distinct from the materials from which it was transformed.

(b) Construction materials.

(1) This clause implements 41 U.S.C. chapter 83, Buy American, by providing a preference for domestic construction material. In accordance with 41 U.S.C. 1907, the domestic content test of the Buy American statute is waived for construction material that is a COTS item, except that for construction material that consists wholly or predominantly of iron or steel or a combination of both, the domestic content test is applied only to the iron and steel content of the construction material, excluding COTS fasteners. (See FAR 12.505(a)(2)). In addition, the Contracting Officer has determined that the WTO GPA and Free Trade Agreements (FTAs) apply to this acquisition. Therefore, the Buy American restrictions are waived for designated country construction materials.

(2) The Contractor shall use only domestic or designated country construction material in performing this contract, except as provided in paragraphs (b)(3) and (b)(4) of this clause.

(3) The requirement in paragraph (b)(2) of this clause does not apply to information technology that is a commercial product or to the construction materials or components listed by the Government as follows:

None

(4) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(3) of this clause if the Government determines that--

(i) The cost of domestic construction material would be unreasonable.

(A) For domestic construction material that is not a critical item or does not contain critical components.

(1) The cost of a particular domestic construction material subject to the restrictions of the Buy American statute is unreasonable when the cost of such material exceeds the cost of foreign material by more than 20 percent;

(2) For construction material that is not a COTS item and does not consist wholly or predominantly of iron or steel or a combination of both, if the cost of a particular domestic construction material is determined to be unreasonable or there is no domestic offer received, and the low offer is for foreign construction material that does not exceed 55

percent domestic content, the Contracting Officer will treat the lowest offer of foreign construction material that is manufactured in the United States and exceeds 55 percent domestic content as a domestic offer and determine whether the cost of that offer is unreasonable by applying the evaluation factor listed in paragraph (b)(4)(i)(A)(1) of this clause.

(3) The procedures in paragraph (b)(4)(i)(A)(2) of this clause will no longer apply as of January 1, 2030.

(B) For domestic construction material that is a critical item or contains critical components.

(1) The cost of a particular domestic construction material that is a critical item or contains critical components, subject to the requirements of the Buy American statute, is unreasonable when the cost of such material exceeds the cost of foreign material by more than 20 percent plus the additional preference factor identified for the critical item or construction material containing critical components listed at FAR 25.105.

(2) For construction material that does not consist wholly or predominantly of iron or steel or a combination of both, if the cost of a particular domestic construction material is determined to be unreasonable or there is no domestic offer received, and the low offer is for foreign construction material that does not exceed 55 percent domestic content, the Contracting Officer will treat the lowest offer of foreign construction material that is manufactured in the United States and exceeds 55 percent domestic content as a domestic offer, and determine whether the cost of that offer is unreasonable by applying the evaluation factor listed in paragraph (b)(4)(i)(B)(1) of this clause.

(3) The procedures in paragraph (b)(4)(i)(B)(2) of this clause will no longer apply as of January 1, 2030.

(ii) The application of the restriction of the Buy American statute to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American statute.

(1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(4) of this clause shall include adequate information for Government evaluation of the request, including--

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American statute applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(4)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American statute applies, use of foreign construction material is noncompliant with the Buy American statute.

(d) Data. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

Foreign and Domestic Construction Materials Price Comparison

Construction material description	Unit of measure	Quantity	Price (dollars) *
Item 1:			
Foreign construction material....	.....	.....	.....
Domestic construction material...	.....	.....	.....
Item 2:			
Foreign construction material....	.....	.....	.....
Domestic construction material...	.....	.....	.....

[* Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued)].

[List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.]

[Include other applicable supporting information.]

(End of clause)

52.228-1 BID GUARANTEE (SEP 1996)

(a) Failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

(b) The bidder shall furnish a bid guarantee in the form of a firm commitment, e.g., bid bond supported by good and sufficient surety or sureties acceptable to the Government, postal money order, certified check, cashier's check, irrevocable letter of credit, or, under Treasury Department regulations, certain bonds or notes of the United States. The Contracting Officer will return bid guarantees, other than bid bonds, (1) to unsuccessful bidders as soon as practicable after the opening of bids, and (2) to the successful bidder upon execution of contractual documents and

bonds (including any necessary coinsurance or reinsurance agreements), as required by the bid as accepted.-

(c) The amount of the bid guarantee shall be 20% percent of the bid price or $3,000,000, whichever is less.-

(d) If the successful bidder, upon acceptance of its bid by the Government within the period specified for acceptance, fails to execute all contractual documents or furnish executed bond(s) within 10 days after receipt of the forms by the bidder, the Contracting Officer may terminate the contract for default.-

(e) In the event the contract is terminated for default, the bidder is liable for any cost of acquiring the work that exceeds the amount of its bid, and the bid guarantee is available to offset the difference.

(End of provision)

52.233-2 SERVICE OF PROTEST (SEP 2006)

Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the Government Accountability Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from

Temporary Address:
U.S. Army Corps of Engineers
Philadelphia District
Attn: Contracting Office 2nd Floor, Macquarie Building
100 S. Independence Hall
Philadelphia, PA 19106-3400

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

52.236-4 PHYSICAL DATA (APR 1984)

Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

(a) The indications of physical conditions on the drawings and in the specifications are the result of site investigations by . . . . . [insert a description of investigational methods used, such as surveys, auger borings, core borings, test pits, probings, test tunnels].

(b) Weather conditions . . . . . (insert a summary of weather records and warnings).

(c) Transportation facilities . . . . . (insert a summary of transportation facilities providing access from the site, including information about their availability and limitations.

(d) . . . . . (insert other pertinent information).

(End of clause)

52.236-27 SITE VISIT (CONSTRUCTION) (FEB 1995)

(a) The clauses at 52.236-2, Differing Site Conditions, and 52.236-3, Site Investigations and Conditions Affecting the Work, will be included in any contract awarded as a result of this solicitation. Accordingly, offerors or quoters are urged and expected to inspect the site where the work will be performed.

(b) Site visits may be arranged during normal duty hours by contacting:

Name: Daniel Kelly
Address: 100 South Independence Mall West
Telephone: 215 656-6889

(End of provision)

52.242-14 SUSPENSION OF WORK (APR 1984)

(a) The Contracting Officer may order the Contractor, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the Government.

(b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of this contract, or (2) by the Contracting Officer's failure to act within the time specified in this contract (or within a reasonable time if not specified), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by the unreasonable suspension, delay, or interruption, and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor, or for which an equitable adjustment is provided for or excluded under any other term or condition of this contract.

(c) A claim under this clause shall not be allowed—

(1) For any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order); and

(2) Unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

(End of clause)

52.244-6 SUBCONTRACTS FOR COMMERCIAL PRODUCTS AND COMMERCIAL SERVICES (MAR 2023)

(a) Definitions. As used in this clause--

Commercial product, commercial service, and commercially available off-the-shelf item have the meanings contained in Federal Acquisition Regulation (FAR) 2.101.

Subcontract includes a transfer of commercial products or commercial services between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial products, commercial services, or non-developmental items as components of items to be supplied under this contract.

(c)(1) The Contractor shall insert the following clauses in subcontracts for commercial products or commercial services:

(i) 52.203-13, Contractor Code of Business Ethics and Conduct (NOV 2021) (41 U.S.C. 3509), if the subcontract exceeds the threshold specified in FAR 3.1004(a) on the date of subcontract award, and has a performance period of more than 120 days. In altering this clause to identify the appropriate parties, all disclosures of violation of the civil False Claims Act or of Federal criminal law shall be directed to the agency Office of the Inspector General, with a copy to the Contracting Officer.

(ii) 52.203-15, Whistleblower Protections Under the American Recovery and Reinvestment Act of 2009 (JUN 2010) (Section 1553 of Pub. L. 111-5), if the subcontract is funded under the Recovery Act.

(iii) 52.203-19, Prohibition on Requiring Certain Internal Confidentiality Agreements or Statements (JAN 2017).

(iv) 52.204-21, Basic Safeguarding of Covered Contractor Information Systems (NOV 2021), other than subcontracts for commercially available off-the-shelf items, if flow down is required in accordance with paragraph (c) of FAR clause 52.204-21.

(v) 52.204-23, Prohibition on Contracting for Hardware, Software, and Services Developed or Provided by Kaspersky Lab and Other Covered Entities (NOV 2021) (Section 1634 of Pub. L. 115-91).

(vi) 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment. (NOV 2021) (Section 889(a)(1)(A) of Pub. L. 115-232)

(vii) 52.219-8, Utilization of Small Business Concerns (OCT 2022) (15 U.S.C. 637(d)(2) and (3)), if the subcontract offers further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds the applicable threshold specified in FAR 19.702(a) on the date of subcontract award, the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(viii) 52.222-21, Prohibition of Segregated Facilities (APR 2015).

(ix) 52.222-26, Equal Opportunity (SEP 2016) (E.O. 11246).

(x) 52.222-35, Equal Opportunity for Veterans (JUN 2020) (38 U.S.C. 4212(a)).

(xi) 52.222-36, Equal Opportunity for Workers with Disabilities (JUN 2020) (29 U.S.C. 793).

(xii) 52.222-37, Employment Reports on Veterans (JUN 2020) (38 U.S.C. 4212).

(xiii) 52.222-40, Notification of Employee Rights Under the National Labor Relations Act (DEC 2010) (E.O. 13496), if flow down is required in accordance with paragraph (f) of FAR clause 52.222-40.

(xiv)(A) 52.222-50, Combating Trafficking in Persons (NOV 2021) (22 U.S.C. chapter 78 and E.O. 13627).

(B) Alternate I (MAR 2015) of 52.222-50 (22 U.S.C. chapter 78 and E.O. 13627).

(xv) 52.222-55, Minimum Wages for Contractor Workers under Executive Order 14026 (JAN 2022), if flowdown is required in accordance with paragraph (k) of FAR clause 52.222-55.

(xvi) 52.222-62, Paid Sick Leave Under Executive Order 13706 (JAN 2022) (E.O. 13706), if flow down is required in accordance with paragraph (m) of FAR clause 52.222-62.

(xvii)(A) 52.224-3, Privacy Training (JAN 2017) (5 U.S.C. 552a) if flow down is required in accordance with 52.224-3(f).

(B) Alternate I (JAN 2017) of 52.224-3, if flow down is required in accordance with 52.224-3(f) and the agency specifies that only its agency-provided training is acceptable).

(xviii) 52.225-26, Contractors Performing Private Security Functions Outside the United States (OCT 2016) (Section 862, as amended, of the National Defense Authorization Act for Fiscal Year 2008; 10 U.S.C. Subtitle A, Part V, Subpart G Note).

(xix) 52.232-40, Providing Accelerated Payments to Small Business Subcontractors (MAR 2023), if flow down is required in accordance with paragraph (c) of FAR clause 52.232-40.

(xx) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (NOV 2021) (46 U.S.C. 55305 and 10 U.S.C. 2631), if flow down is required in accordance with paragraph (d) of FAR clause 52.247-64).

(2) While not required, the Contractor may flow down to subcontracts for commercial products or commercial services a minimal number of additional clauses necessary to satisfy its contractual obligations.

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

(End of clause)

52.249-2 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (APR 2012)

(a) The Government may terminate performance of work under this contract in whole or, from time to time, in part if the Contracting Officer determines that a termination is in the Government's interest. The Contracting Officer shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date.

(b) After receipt of a Notice of Termination, and except as directed by the Contracting Officer, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:

(1) Stop work as specified in the notice.

(2) Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete the continued portion of the contract.

(3) Terminate all subcontracts to the extent they relate to the work terminated.

(4) Assign to the Government, as directed by the Contracting Officer, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the Government shall have the right to settle or to pay any termination settlement proposal arising out of those terminations.

(5) With approval or ratification to the extent required by the Contracting Officer, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts; the approval or ratification will be final for purposes of this clause.

(6) As directed by the Contracting Officer, transfer title and deliver to the Government (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated, and (ii) the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the Government.

(7) Complete performance of the work not terminated.

(8) Take any action that may be necessary, or that the Contracting Officer may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Government has or may acquire an interest.

(9) Use its best efforts to sell, as directed or authorized by the Contracting Officer, any property of the types referred to in subparagraph (b)(6) of this clause; provided, however, that the Contractor (i) is not required to extend credit to

any purchaser and (ii) may acquire the property under the conditions prescribed by, and at prices approved by, the Contracting Officer. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Government under this contract, credited to the price or cost of the work, or paid in any other manner directed by the Contracting Officer.

(c) The Contractor shall submit complete termination inventory schedules no later than 120 days from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 120-day period.

(d) After expiration of the plant clearance period as defined in Subpart 49.001 of the Federal Acquisition Regulation, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the Contracting Officer. The Contractor may request the Government to remove those items or enter into an agreement for their storage. Within 15 days, the Government will accept title to those items and remove them or enter into a storage agreement. The Contracting Officer may verify the list upon removal of the items, or if stored, within 45 days from submission of the list, and shall correct the list, as necessary, before final settlement.

(e) After termination, the Contractor shall submit a final termination settlement proposal to the Contracting Officer in the form and with the certification prescribed by the Contracting Officer. The Contractor shall submit the proposal promptly, but no later than 1 year from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 1-year period. However, if the Contracting Officer determines that the facts justify it, a termination settlement proposal may be received and acted on after 1 year or any extension. If the Contractor fails to submit the proposal within the time allowed, the Contracting Officer may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.

(f) Subject to paragraph (e) of this clause, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount to be paid or remaining to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (g) or paragraph (g) of this clause, exclusive of costs shown in subparagraph (g)(3) of this clause, may not exceed the total contract price as reduced by (1) the amount of payments previously made and (2) the contract price of work not terminated. The contract shall be modified, and the Contractor paid the agreed amount. Paragraph (g) of this clause shall not limit, restrict, or affect the amount that may be agreed upon to be paid under this paragraph.

(g) If the Contractor and the Contracting Officer fail to agree on the whole amount to be paid because of the termination of work, the Contracting Officer shall pay the Contractor the amounts determined by the Contracting Officer as follows, but without duplication of any amounts agreed on under paragraph (f) of this clause:

(1) The contract price for completed supplies or services accepted by the Government (or sold or acquired under subparagraph (b)(9) of this clause) not previously paid for, adjusted for any saving of freight and other charges.

(2) The total of--

(i) The costs incurred in the performance of the work terminated, including initial costs and preparatory expense allocable thereto, but excluding any costs attributable to supplies or services paid or to be paid under subparagraph (f)(1) of this clause;

(ii) The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subdivision (g)(2)(i) of this clause; and

(iii) A sum, as profit on subdivision (g)(2)(i) of this clause, determined by the Contracting Officer under 49.202 of the Federal Acquisition Regulation, in effect on the date of this contract, to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, the Contracting Officer shall allow no profit under this subdivision (iii) and shall reduce the settlement to reflect the indicated rate of loss.

(3) The reasonable costs of settlement of the work terminated, including--

(i) Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;

(ii) The termination and settlement of subcontracts (excluding the amounts of such settlements); and

(iii) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

(h) Except for normal spoilage, and except to the extent that the Government expressly assumed the risk of loss, the Contracting Officer shall exclude from the amounts payable to the Contractor under paragraph (g) of this clause, the fair value as determined by the Contracting Officer, for the loss of the Government property.

(i) The cost principles and procedures of Part 31 of the Federal Acquisition Regulation, in effect on the date of this contract, shall govern all costs claimed, agreed to, or determined under this clause.

(j) The Contractor shall have the right of appeal, under the Disputes clause, from any determination made by the Contracting Officer under paragraph (e), (g), or (l) of this clause, except that if the Contractor failed to submit the termination settlement proposal or request for equitable adjustment within the time provided in paragraph (e) or (l), respectively, and failed to request a time extension, there is no right of appeal.

(k) In arriving at the amount due the Contractor under this clause, there shall be deducted--

(1) All unliquidated advance or other payments to the Contractor under the terminated portion of this contract;

(2) Any claim which the Government has against the Contractor under this contract; and

(3) The agreed price for, or the proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the Government.

(l) If the termination is partial, the Contractor may file a proposal with the Contracting Officer for an equitable adjustment of the price(s) of the continued portion of the contract. The Contracting Officer shall make any equitable adjustment agreed upon. Any proposal by the Contractor for an equitable adjustment under this clause shall be requested within 90 days from the effective date of termination unless extended in writing by the Contracting Officer.

(m)(1) The Government may, under the terms and conditions it prescribes, make partial payments and payments against costs incurred by the Contractor for the terminated portion of the contract, if the Contracting Officer believes the total of these payments will not exceed the amount to which the Contractor will be entitled.

(2) If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the Government upon demand, together with interest computed at the rate established by the Secretary of the Treasury under 50 U.S.C. App. 1215(b)(2). Interest shall be computed for the period from the date the excess payment is received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor's termination settlement proposal because of retention or other disposition of termination inventory until 10 days after the date of the retention or disposition, or a later date determined by the Contracting Officer because of the circumstances.

(n) Unless otherwise provided in this contract or by statute, the Contractor shall maintain all records and documents relating to the terminated portion of this contract for 3 years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this contract. The Contractor shall make these records and documents available to the Government, at the Contractor's office, at all reasonable times, without any direct

charge. If approved by the Contracting Officer, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents.

(End of clause)

52.249-10 DEFAULT (FIXED-PRICE CONSTRUCTION) (APR 1984)

(a) If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will insure its completion within the time specified in this contract including any extension, or fails to complete the work within this time, the Government may, by written notice to the Contractor, terminate the right to proceed with the work (or the separable part of the work) that has been delayed. In this event, the Government may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the Government resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the Government in completing the work.

(b) The Contractor's right to proceed shall not be terminated nor the Contractor charged with damages under this clause, if—

(1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include—

(i) Acts of God or of the public enemy,

(ii) Acts of the Government in either its sovereign or contractual capacity,

(iii) Acts of another Contractor in the performance of a contract with the Government,

(iv) Fires,

(v) Floods,

(vi) Epidemics,

(vii) Quarantine restrictions,

(viii) Strikes,

(ix) Freight embargoes,

(x) Unusually severe weather, or

(xi) Delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and

(2) The Contractor, within 10 days from the beginning of any delay (unless extended by the Contracting Officer), notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall ascertain the facts and the extent of delay. If, in the judgment of the Contracting Officer, the findings of fact warrant such action, the time for completing the work shall be extended. The findings of the Contracting Officer shall be final and conclusive on the parties, but subject to appeal under the Disputes clause.

(c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Government.

(d) The rights and remedies of the Government in this clause are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

https://www.acquisition.gov/browse/index/far
https://www.acq.osd.mil/dpap/sitemap.html

(End of provision)

52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

http://acquisition.gov/far/index.html

(End of clause)

252.203-7004 DISPLAY OF HOTLINE POSTERS (JAN 2023)

(a) Definition. As used in this clause--

United States means the 50 States, the District of Columbia, and outlying areas.

(b) Display of hotline poster(s).

(1)(i) The Contractor shall display prominently the DoD fraud, waste, and abuse hotline poster prepared by the DoD Office of the Inspector General, in effect at time of contract award, in common work areas within business segments performing work under Department of Defense (DoD) contracts.

(ii) For contracts performed outside the United States, when security concerns can be appropriately demonstrated, the contracting officer may provide the contractor the option to publicize the program to contractor personnel in a manner other than public display of the poster, such as private employee written instructions and briefings.

(2) If the contract is funded, in whole or in part, by Department of Homeland Security (DHS) disaster relief funds and the work is to be performed in the United States, the DHS fraud hotline poster shall be displayed in addition to the DoD hotline poster. If a display of a DHS fraud hotline poster is required, the Contractor may obtain such poster from—

(i) DHS Office of Inspector General/MAIL STOP 0305, Attn: Office of Investigations – Hotline, 245 Murray Lane SW, Washington, DC 20528-0305; or

(ii) Via the internet at https://www.oig.dhs.gov/assets/Hotline/DHS_OIG_Hotline-optimized.jpg.

(c)(1) The DoD hotline poster may be obtained from: Defense Hotline, The Pentagon, Washington, D.C. 20301-1900, or is also available via the internet at https://www.dodig.mil/Resources/Posters-and-Brochures/.

(2) If a significant portion of the employee workforce does not speak English, then the poster is to be displayed in the foreign languages that a significant portion of the employees speak.

(3) Additionally, if the Contractor maintains a company website as a method of providing information to employees, the Contractor shall display an electronic version of the required poster at the website.

(d) Subcontracts. The Contractor shall include the substance of this clause, including this paragraph (d), in all subcontracts that exceed the threshold specified in Defense Federal Acquisition Regulation Supplement 203.1004(b)(2)(ii) on the date of subcontract award, except when the subcontract is for the acquisition of a commercial product or commercial service.

(End of clause)

252.219-7003 SMALL BUSINESS SUBCONTRACTING PLAN (DOD CONTRACTS) (DEC 2019)

This clause supplements the Federal Acquisition Regulation 52.219-9, Small Business Subcontracting Plan, clause of this contract.

(a) Definition. As used in this clause--

Summary Subcontract Report (SSR) Coordinator means the individual who is registered in the Electronic Subcontracting Reporting System (eSRS) at the Department of Defense level and is responsible for acknowledging receipt or rejecting SSRs submitted under an individual subcontracting plan in eSRS for the Department of Defense.

(b) Subcontracts awarded to qualified nonprofit agencies designated by the Committee for Purchase From People Who Are Blind or Severely Disabled (41 U.S.C. 8502-8504), may be counted toward the Contractor's small business subcontracting goal (section 8025 of Pub. L. 108-87)

(c) A mentor firm, under the Pilot Mentor-Protege Program established under section 831 of Public Law 101-510, as amended, may count toward its small disadvantaged business goal, subcontracts awarded to--

(1) Protege firms which are qualified organizations employing the severely disabled; and

(2) Former protege firms that meet the criteria in section 831(g)(4) of Public Law 101-510.

(d) The master plan is approved by the cognizant contract administration activity for the Contractor.

(e) In those subcontracting plans which specifically identify small businesses, the Contractor shall notify the Administrative Contracting Officer of any substitutions of firms that are not small business firms, for the small business firms specifically identified in the subcontracting plan. Notifications shall be in writing and shall occur within a reasonable period of time after award of the subcontract. Contractor-specified formats shall be acceptable.

(f)(1) For DoD, the Contractor shall submit reports in eSRS as follows:

(i) The Individual Subcontract Report (ISR) shall be submitted to the contracting officer at the procuring contracting office, even when contract administration has been delegated to the Defense Contract Management Agency.

(ii) Submit the consolidated SSR for an individual subcontracting plan to the "Department of Defense."

(2) For DoD, the authority to acknowledge receipt or reject reports in eSRS is as follows:

(i) The authority to acknowledge receipt or reject the ISR resides with the contracting officer who receives it, as described in paragraph (f)(1)(i) of this clause.

(ii) The authority to acknowledge receipt of or reject SSRs submitted under an individual subcontracting plan resides with the SSR Coordinator.

(g) Include the clause at Defense Federal Acquisition Regulation Supplement (DFARS) 252.219-7004, Small Business Subcontracting Plan (Test Program), in subcontracts with subcontractors that participate in the Test Program described in DFARS 219.702-70, if the subcontract is expected to exceed the applicable threshold specified in Federal Acquisition Regulation 19.702(a), and to have further subcontracting opportunities.

(End of clause)

252.236-7000 MODIFICATION PROPOSALS - PRICE BREAKDOWN. (DEC 1991)

(a) The Contractor shall furnish a price breakdown, itemized as required and within the time specified by the Contracting Officer, with any proposal for a contract modification.

(b) The price breakdown --

(1) Must include sufficient detail to permit an analysis of profit, and of all costs for --

(i) Material;

(ii) Labor;

(iii) Equipment;

(iv) Subcontracts; and

(v) Overhead; and

(2) Must cover all work involved in the modification, whether the work was deleted, added, or changed.

(c) The Contractor shall provide similar price breakdowns to support any amounts claimed for subcontracts.

(d) The Contractor's proposal shall include a justification for any time extension proposed.

252.236-7001 CONTRACT DRAWINGS AND SPECIFICATIONS (AUG 2000)

(a) The Government will provide to the Contractor, without charge, one set of contract drawings and specifications, except publications incorporated into the technical provisions by reference, in electronic or paper media as chosen by the Contracting Officer.

(b) The Contractor shall--

(1) Check all drawings furnished immediately upon receipt;

(2) Compare all drawings and verify the figures before laying out the work;

(3) Promptly notify the Contracting Officer of any discrepancies;

(4) Be responsible for any errors that might have been avoided by complying with this paragraph (b); and

(5) Reproduce and print contract drawings and specifications as needed.

(c) In general--

(1) Large-scale drawings shall govern small-scale drawings; and

(2) The Contractor shall follow figures marked on drawings in preference to scale measurements.

(d) Omissions from the drawings or specifications or the misdescription of details of work that are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.

(e) The work shall conform to the specifications and the contract drawings identified on the following index of drawings:

W912BU23B0003, Army Corps of Engineers, Philadelphia District, Philadelphia to Trenton, Maintenance Dredging. Specifications and Drawings (as noted on the index of drawings on cover sheet dated 11 April 2023 and included in this solicitation.

(End of clause)

252.236-7002 OBSTRUCTION OF NAVIGABLE WATERWAYS. (DEC 1991)

(a) The Contractor shall --

(1) Promptly recover and remove any material, plant, machinery, or appliance which the contractor loses, dumps, throws overboard, sinks, or misplaces, and which, in the opinion of the Contracting Officer, may be dangerous to or obstruct navigation;

(2) Give immediate notice, with description and locations of any such obstructions, to the Contracting Officer; and

(3) When required by the Contracting Officer, mark or buoy such obstructions until the same are removed.

(b) The Contracting Officer may --

(1) Remove the obstructions by contract or otherwise should the Contractor refuse, neglect, or delay compliance with paragraph (a) of this clause; and

(2) Deduct the cost of removal from any monies due or to become due to the Contractor; or

(3) Recover the cost of removal under the Contractor's bond.

(c) The Contractor's liability for the removal of a vessel wrecked or sunk without fault or negligence is limited to that provided in sections 15, 19, and 20 of the River and Harbor Act of March 3, 1899 (33 U.S.C. 410 et. seq.).

252.236-7004 PAYMENT FOR MOBILIZATION AND DEMOBILIZATION (DEC 1991)

(a) The Government will pay all costs for the mobilization and demobilization of all of the Contractor's plant and equipment at the contract lump sum price for this item.

(1) 60 percent of the lump sum price upon completion of the contractor's mobilization at the work site.

(2) The remaining 40 percent upon completion of demobilization.

(b) The Contracting Officer may require the Contractor to furnish cost data to justify this portion of the bid if the Contracting Officer believes that the percentages in paragraphs (a) (1) and (2) of this clause do not bear a reasonable relation to the cost of the work in this contract.

(1) Failure to justify such price to the satisfaction of the Contracting Officer will result in payment, as determined by the Contracting Officer, of --

(i) Actual mobilization costs at completion of mobilization;

(ii) Actual demobilization costs at completion of demobilization; and

(iii) The remainder of this item in the final payment under this contract.

(2) The Contracting Officer's determination of the actual costs in paragraph (b)(1) of this clause is not subject to appeal.

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SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 REFERENCES

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

U.S. ARMY CORPS OF ENGINEERS (USACE)

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

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

33 CFR 88	ANNEX V: Pilot Rules

1.2 SUBMITTALS

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

SD-01 Preconstruction Submittals

Superintendent Qualifications; G
Evidence Of Insurance
Notice To Mariners
Movement Of Navigation Aids
Placing Submerged Pipelines Across The Channel

SD-11 Closeout Submittals

Certified Payrolls

1.3 SUPERVISION

1.3.1 Superintendent Qualifications

Provide project superintendent with a minimum of 10 years experience in construction with at least 5 of those years as a superintendent on projects similar in size and complexity. The individual must be familiar with the requirements of EM 385-1-1 and have experience in the areas of hazard identification and safety compliance. The individual must be capable of interpreting a critical path schedule and construction drawings. The qualification requirements for the alternate superintendent are the same as for the project superintendent. Submit superintendent's qualifications prior to mobilization to the work site.

1.3.2 Minimum Communication Requirements

Have at least one qualified superintendent, or competent alternate, capable of reading, writing, and conversing fluently in the English language, on the job-site at all times during the performance of Contract work.In addition, if a Quality Control (QC) representative is required on the Contract, then that individual must also have fluent English communication skills.

1.3.3 Duties

The project superintendent is primarily responsible for managing subcontractors and coordinating day-to-day production and schedule adherence on the project. The superintendent is required to attend partnering meetings, and quality control meetings. The superintendent or qualified alternative must be on-site at all times during the performance of this contract until the work is completed and accepted.

1.3.4 Non-Compliance Actions

The Project Superintendent is subject to removal by the Contracting Officer for non-compliance with requirements specified in the contract and for failure to manage the project to ensure timely completion. Furthermore, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders is acceptable as the subject of claim for extension of time for excess costs or damages by the Contractor.

1.4 PRECONSTRUCTION CONFERENCE

Immediately after award, coordinate with the Contracting Officer a time and place to meet for the Preconstruction Conference. The conference must take place after award of the contract, but prior to commencement of any work at the site. The purpose of this conference is to discuss and develop a mutual understanding of the administrative requirements of the Contract including but not limited to: daily reporting, invoicing, value engineering, safety, base-access, outage requests, hot work permits, schedule requirements, quality control, schedule of prices or earned value report, shop drawings, submittals, cybersecurity, prosecution of the work, government acceptance, final inspections and contract close-out, and the processes for joint risk management between the Contractor and Government. Contractor must present and discuss their basic approach to scheduling the construction work and any required phasing.

1.4.1 Attendees

Contractor attendees must include the Project Manager, Superintendent, Site Safety and Health Officer (SSHO), Quality Control Manager and major subcontractors.

1.5 PHYSICAL DATA (APR 1984)

Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor. (FAR 52.236-4)

a. The indications of physical conditions on the contract drawings are the result of site investigations by surveys. Samples of materials to be

dredged for maintenance dredging were obtained by using vibracore and grab sampling.

b. Tide Data. The mean ranges of tides in the Delaware River are approximately 6.4 feet at Burlington, NJ and 6.0 feet at Pier 11 North in Philadelphia.

c. Weather Conditions. The site of the work is sheltered from storms. It is believed that work can be performed during all seasons of the year except during winter months when ice conditions may interfere with dredging operations. Complete weather records and reports may be obtained from the local U.S. Weather Bureau Office nearest to the work site. The Contractor shall satisfy himself as to the hazards likely to arise from weather conditions during the construction period.

d. Channel Traffic. Traffic in the work area consists of ocean going and coastwise vessels, tugs and barges, and pleasure craft. Passing vessels may interfere with dredging operations.

e. Conditions of Channel and Turning Basin. The channel and basin conditions shown on the drawings represent the results of surveys made on the dates indicated and can only be considered as indicating the general conditions at that time.

f. Obstruction of Channel. The Government will not undertake to keep the channel free from vessels or other obstructions, except to the extent of such regulations if any, as may be prescribed by the Secretary of the Army, in accordance with the provisions of Section 7 of the River and Harbor Act approved 8 August 1917. The Contractor will be required to conduct the work in such manner as to obstruct navigation as little as possible, and in case the Contractor's plant so obstructs the channel as to make difficult or endanger the passage of vessels, said plant shall be promptly moved on the approach of any vessel to such as extent as may be necessary to afford a practicable passage. The Contractor shall request the U.S. Coast Guard to issue a Notice to Mariners for each work assignment advising navigation interests that the Contractor's dredging plant will be operating in the area. The Contractor shall submit each such request to the U.S. Coast Guard, MSO/Group Philadelphia, 1 Washington Avenue, Philadelphia, PA 19147-4395. The Contractor shall furnish a copy of each request to the Contracting Officer not less than five days prior to the start of dredging. Each request shall contain the approximate time required for completion of dredging. Upon completion of dredging, the Contractor shall promptly remove his plant, including ranges, buoys, piles and other marks placed by him under the contract in navigable waters and on shore.

g. Navigation Aids. Do not relocate or move any aids to navigation that have been established by the U.S. Coast Guard. If it becomes necessary to have any aid to navigation moved in order to complete dredging operations under this contract, the Contractor shall notify the Fifth Coast Guard District (dpw) at least 45 days prior to the desired date for movement of the aid. To request a relocation, Contractors shall contact Waterways Management Section, Assistant Section Chief/NJ, DE, PA at (757)398-6371 or e-mail cgd5waterways@uscg.mil at least 45 days before the desired date for movement of the aid. When making a request by telephone, Contractors must speak to the designated points of contact. The leaving of voicemail messages will not be acceptable. The Fifth CG District (dpw) will coordinate all temporary relocations or discontinuances. A copy of each request for Movement of Navigation Aids (including records of telephone conversations) shall be submitted to the Contracting Officer.

h. Location. The location of the work is in the Delaware River between Philadelphia, PA and Trenton, NJ, near Newbold Island.

i. Laying of Submerged Pipelines and Obstruction of Channel. All discharge pipelines crossing the navigation channel shall be submerged. Should it become necessary in the performance of this contract to use a submerged pipeline, the Contractor shall notify the Contracting Officer in advance of the schedule for placement of the pipeline. If the submerged line is to be placed across a navigable channel, the Contractor shall submit a request for approval, at least 3 working days (Sundays and holidays excluded) prior to the desired closure date, to the U.S. Coast Guard, MSO/Group Philadelphia, 1 Washington Avenue Philadelphia, PA 19147. A copy of each request to the USCG for placing submerged pipelines across the channel shall be furnished to the Contracting Officer. This request shall contain the following information:

(1) Location (Channel Centerline Stationing) and depth (over the top ofthe pipeline) at which the submerged line will be placed;

(2) The desired length of time the channel is to be closed;

(3) The date and hour placement or removal will commence;

(4) The date and hour of anticipated completion; and

(5) The name and telephone number of the person to be contacted for information and response to any emergency condition.

The Coast Guard has indicated that the requirements of navigation may make it necessary to establish times other than those requested. Coordinate plans with the Coast Guard sufficiently in advance of the planned closing to prevent delay to the dredging operations and comply with the Coast Guard requirements. The minimum depth to the top of any submerged pipe in the Delaware River shall not be less than that shown as the required dredging depth.

j. Bridge and Utility Crossings:

(1) Bridges: The following bridges cross the project waterway. The vertical clearances stated are above mean high water.

Bridge	Type	Horizontal Clearance	Vertical Clearance	Miles above Mouth
Penn Central RR Co. Philadelphia, PA to Delair, NJ	Vert. Lift	500 ft.(down) 135 ft.(up)	49 ft.	104.6
Betsy Ross Bridge Philadelphia, PA to Pennsauken, NJ	Fixed Hwy.	620 ft.	135 ft.	104.8
Tacony-Palmyra Bridge Philadelphia, PA to Palmyra, NJ	Bascule Hwy.	240 ft.	53 ft.	107.2

Burlington-Bristol Bridge Burlington, NJ to Bristol, PA	Vert. Lift	500 ft.(down) 135 ft.(up)	62 ft.	117.8
PA - NJ Turnpike Bridge	Fixed Hwy.	620 ft.	135 ft.	121.2

(2) Utility Lines: The locations and elevations of all known utility lines crossing the river are presented in the following table:

Location	Description	Elevation
Upstream side of Penn Central Railroad Bridge	11 submarine cables (1 communication, 2 signal, 4 bridge operating, and 4 emergency)	48 ft below MLW across draw opening
300 ft upstream from Penn Central Railroad Bridge	(2) 12-inch submarine gas pipelines	65 ft below MLW
Tacony-Palmyra Bridge	(2) control cables (2) power cables and (1) telephone cable (all submarine)	natural bottom
0.5 miles downstream from Burlington-Bristol Bridge	aerial electric power lines	140 ft above MLW
Burlington Island to Bristol, PA	telephone cables	unknown

The Contractor shall take all necessary precautions to prevent damage to these utilities. The Contractor shall cause timely notice of the dredging to be given to the owners and, when in the opinion of the Contractor such action is necessary, he shall request the Government require said owner or owners to mark the pipelines or move the cables so as to avoid interference with the dredging operations. Any request made by the Contractor shall be within 30 days following his receipt of the Notice to Proceed.

Disclaimer: The above information may not be complete and it is the Contractor's responsibility to investigate all utility crossings.

k. Current Meter: The Contractor shall be aware of the NOAA current meter at Newbold (vicinity of Kinder Morgaan Facility). The meter is located on the south side of Newbold range approximately 200 ft. east of buoy "R78". Coordinates are 40 deg 08.0660' N, 074 deg 45.0059'W. The data cable to shore (1/2" diameter steel) runs along the bottom, NNW directly to the white NOAA tide house on the corner of the Kinder Morgan (Fairless) pier (40 deg. 08.234'N, 074 deg. 45.118'W).

l. Bridge to Bridge Radio Telephone Equipment. In order that radio telephone communication may be made with passing vessels, all dredges engaged in work under the contract shall be equipped with and operate

bridge-to-bridge radio telephone equipment. The radio telephone equipment shall operate on VHF Channel 13 (156.65 MHZ) with low power output having a communication range of approximately ten miles. The frequency has been approved by the Federal Communication Commission.

m. The most recent contract maintenance dredging by bucket within the DPT project was accomplished under Contract No. W912BU22C0062 by Corman-Kokosing Company.

n. Disposal Area: The Government-furnished disposal areas available for this contract are:

(1) Palmyra Cove Disposal Area, Palmyra, NJ.
(2) Money Island Disposal Area, Falls Township, PA.
(3) Biles Island Disposal Area, Falls Township, PA.

o. Survey Controls. Survey control description sheets are included in APPENDIX A30.

p. "Abstract of Bottom Samples" are included in APPENDIX B40.

q. "Sediment Core Logs" are included in APPENDIX B41.

r. Magnitude of the Contract Work. The estimated value of the contract is between $10,000,000 and $25,000,000.

1.6 LAYOUT OF WORK (DEC 1996)

The Contractor shall lay out its work from Government-established survey control points, and shall be responsible for all measurements in connection therewith. The Contractor shall furnish, at its own expense, such stakes, templates, platforms, equipment, range markers and labor as may be required in laying out any part of the work, from the the survey controls furnished by the Government and shall be responsible for all measurements in connection therewith. If any Government control is found disturbed or destroyed, this must be communicated to the Philadelphia District Surveys Branch through the COR before any control is re-established. The Contractor shall be responsible for executing the work to such lines and grades as may be established or indicated by the Contracting Officer. The Contractor shall promptly remove all stakes and markers at the completion and acceptance of work, as directed by the Contracting Officer. (CENAP)

1.7 CONTRACTOR SUPPLY AND USE OF ELECTRONIC SOFTWARE FOR PROCESSING DAVIS-BACON ACT CERTIFIED PAYROLLS

a. The contractor will use a commercially available electronic system to process and submit certified payrolls electronically to the Government. The Davis-Bacon Act establishes the requirements for preparing, processing, and providing certified labor payrolls.

b. The contractor shall be responsible for obtaining and providing access for all licenses and other services required to provide for receipt, processing, certifying, electronically transmitting to the Government, and storing weekly payrolls and other data required for the contractor to comply with Davis-Bacon Act and related statutes. When the contractor uses an electronic Davis-Bacon Act payroll service, it shall be used to prepare, process, and maintain the relevant payrolls and basic records for all work under the construction contract. The electronic payroll service shall be capable of preserving the payroll and related basic records for the

required three years after contract completion. The contractor shall obtain and provide electronic system access including electronic review to the Government, as required to comply with the Davis- Bacon Act and related statutes through the duration of the construction contract.

c. The contractor's provision and use of an electronic payroll processing system shall meet the following basic functional criteria:

(1) commercially available;

(2) compliant with appropriate Davis-Bacon Act payroll provisions in the FAR;

(3) able to accommodate the required number of employees and subcontractors that will be employed under the contract;

(4) capable of producing an Excel spreadsheet-compatible electronic output of weekly payroll records for export into an Excel spreadsheet to be imported into the contractor's mode of Resident Management System 3.0;

(5) demonstrated security of data and data entry rights;

(6) able to produce contractor-certified electronic versions of weekly payroll data;

(7) able to identify erroneous entries and track the date/time of all versions of the certified Davis-Bacon Act payrolls submitted to the government over the life of the contract; and

(8) capable of generating a durable record copy in a Compact Disc (CD) or Digital Versatile Disc (DVD) and Portable Document Format (PDF) file record of data from the system database at the end of the contract closeout. This durable record copy of data from the electronic payroll processing system shall be provided to the Government during contract closeout.

d. All contractor-incurred costs related to the contractor's provision and use of an electronic payroll processing service shall be included in the contractor's price for the overall work under the contract. The costs for Davis-Bacon Act compliance using electronic payroll processing services shall not be a separately bid or reimbursed item under this contract.(UAI 3 Jun 2019; Update 2 - 30 Nov 2021)

1.8 SIGNAL LIGHTS (FEB 1983)

The Contractor shall display signal lights and conduct his operations in accordance with the General Regulations of the Coast Guard governing lights and day signals to be displayed by towing vessels with tows on which no signals can be displayed, vessels working on wrecks, dredges, and vessels engaged in laying cables or pipe or in submarine or bank protection operations, lights to be displayed on dredge pipe lines, and day signals to be displayed by vessels of more than 65 feet in length moored or anchored in a fairway or channel, and the passing by other vessels of floating plant working navigable channels, as approved by the Commandant, U.S. Coast Guard with respect to vessels in inland waters (33 CFR 88), as applicable. (CENAP)

1.9 CONTINUITY OF WORK (APR 1965 OCE)

No payment will be made for work done in any area designated by the Contracting Officer until the full depth required under the contract is secured in the whole of such area, unless prevented by ledge rock, nor will payment be made for excavation in any area not adjacent to and in prolongation of areas where full depth has been secured except by decision of the Contracting Officer. Should any such nonadjacent area be excavated to full depth during the operations carried on under the contract, payment for all work therein may be deferred until the required depth has been made in the area intervening. The Contractor may be required to suspend dredging at any time when for any reason the gages or ranges cannot be seen or properly followed. (CENAP)

1.10 SHOALING (1965 APR OCE)

If before the contract is completed, shoaling occurs in any section previously accepted, including shoaling in the finished channel, because of the natural lowering of the side slopes, redredging at contract price, within the limits of available funds, may be done if agreeable to both the Contractor and the Contracting Officer. (CENAP)

1.11 INSPECTION (DEC 1996)

The presence of the inspector shall not relieve the Contractor of responsibility for the proper execution of the work in accordance with the specifications. The Contractor will be required:

a. To furnish, on the request of the Contracting Officer or any inspector, the use of such boats, boatmen, laborers, a part of the ordinary and usual equipment and crew of the dredging plant as may be reasonably necessary in inspecting and supervising the work.

b. To furnish, on the request of the Contracting Officer or any inspector, suitable transportation from all points on shore designated by the Contracting Officer to and from the various pieces of plant and to and from the disposal areas.

Should the Contractor refuse, neglect, or delay compliance with these requirements, the specific facilities may be furnished and maintained by the Contracting officer, and the cost thereof will be deducted from any amounts due or to become due the Contractor. (CENAP)

1.12 PERFORMANCE EVALUATION OF CONTRACTOR (MAR 2014)

a. As a minimum, the Contractor's performance will be evaluated upon final acceptance of the work for contracts less than one year in duration. Contracts in excess of one year will receive at a minimum, an annual interim evaluation in addition to the final evaluation. However, interim evaluation may be prepared at any time during contract performance when determined to be in the best interest of the Government. The evaluation will be entered into the Contractor Performance Assessment Reporting System (CPARS).

b. CPARS is a web-enabled application that supports the completion, distribution, and retrieval of construction contract performance evaluations. CPARS is for UNCLASSIFIED use only. An evaluation assesses Contractor performance and provides a record, both positive and negative, on a given contract. Each evaluation is based on objective facts and

supported by contract management data, such as contract performance elements that evaluate quality, timely performance, effectiveness of management, and compliance with contract terms, labor standards, and safety requirements. The Contractor will be rated either outstanding, above average, satisfactory, marginal, or unsatisfactory in the areas of Contractor Quality Control, Timely Performance, Effectiveness of Management, Compliance with Labor Standards, and Compliance with Safety Standards. The Contractor will be advised of any unsatisfactory rating, either in an individual element or in the overall rating, prior to completing the evaluation, and all Contractor comments will be made a part of the official record. Performance Evaluation Reports will be available to all DOD Contracting offices for their future use in determining Contractor responsibility, in compliance with ER 415-1-17.

c. Upon successful award of the contract, the Contractor will be notified by CPARS via email that access has been granted to a contract within the system. The email will contain instructions of how to log into the system. (CENAP)

1.13 ACCOMMODATIONS AND MEALS FOR GOVERNMENT INSPECTORS (1965 APR OCE)

a. The Contractor shall furnish regularly to Government inspectors on board the dredge a suitable separate area for an office. A separate trailer on the dredge may be supplied in lieu of a room. The trailer must be securely lashed to the dredge and enclosed by railings. The room or trailer shall be fully equipped and maintained to the satisfaction of the Contracting Officer; it shall be properly heated, ventilated, lighted and insulated from noise, and shall have a desk which can be locked, a chair for each inspector, and washing conveniences. The entire cost to the Contractor for furnishing, equipping and maintaining the foregoing accommodations shall be included in the cost of all bid items. If the Contractor fails to meet these requirements, the facilities referred to above will be secured by the Contracting Officer, and the cost thereof will be deducted from payments to the Contractor.

b. If the Contractor maintains on this work an establishment for the subsistence of his own employees, he shall, when requested, furnish to inspectors employed on the work, and to all Government agents who may visit the work on official business, meals of a quality satisfactory to the Contracting Officer. The meals furnished will be paid for by the Government at a rate of $5.00 per person for each meal. (CENAP)

1.14 REQUIREMENT TO NOTIFY COAST GUARD OF RELEASE OF OBJECTS INTO THE NAVIGABLE WATERS OF THE UNITED STATES

a. Requirement: As soon as a person has knowledge of any release from a vessel or facility into the navigable waters of the United States of any object that creates an obstruction prohibited under section 403 of this title, such person shall notify the Secretary and the Secretary of the Army, and the Contracting Officer, of such release.

b. Restriction on use of notification: Any notification provided by an individual in accordance with subsection (a) of this section may not be used against such individual in any criminal case, except a prosecution for perjury or for giving a false statement.
(Pub. L. 92-340, §15, as added Pub. L. 109-241, title VI, §602, July 11, 2006, 120 Stat. 553.)

1.15 INSURANCE REQUIREMENTS

Evidence of Insurance: Evidence of the following insurance shall be submitted to the Contracting Officer prior to commencement of work. Insurance shall be maintained throughout the period of performance:

a. General Liability Insurance (Comprehensive form of policy): Bodily Injury Liability - $500,000 per occurrence. In addition, the Contractor shall name the State of New Jersey and the City of Ocean City, as "Additional Insured" under their General Liability Insurance.

b. Automobile Liability Insurance (Comprehensive form of policy): Bodily Injury Liability - $200,000 per person and $500,000 per accident. Property Damage Liability - $20,000 per accident.

c. Workmen's Compensation and Employer's Liability Insurance: Compliance with applicable workmen's compensation and occupational disease statutes is required. Employer's liability coverage in the minimum amount of $100,000 is also required."

d. Applicable Marine Casualty and Marine Workmen's Compensation Insurance: As appropriate for this contract.

1.16 PARTNERING

To most effectively accomplish this Contract, the Contractor and Government must form a cohesive partnership with the common goal of drawing on the strength of each organization in an effort to achieve a successful project that includes joint risk management, without safety mishaps, conforming to the Contract, within budget and on schedule. The partnering team must consist of personnel from both the Government and Contractor including project level and corporate level leadership positions. Key Personnel from the supported command, end user, Contractor, key subcontractors and the Designer of Record are required to participate in the Partnering process.

The Contracting Officer will provide Information on the Partnering Process and a list of key and optional personnel who should attend the Partnering meeting.

1.16.1 Team-Led (Informal) Partnering

a. The Contracting Officer will coordinate the initial Team-Led (Informal) Partnering Session with key personnel of the project team, including Contractor and Government personnel. The Partnering Session will be co-led by the Government Construction Manager and Contractor's Project Manager.

b. The Initial Team-led Partnering session may be held concurrently with the Pre-Construction meeting. Partnering sessions will be held at a location mutually agreed to by the Contracting Officer and the Contractor, typically at a conference room on-base or at the Contractor's temporary trailer.

c. The Initial Team-Led Partnering Session will be conducted and facilitated using electronic media (a video and accompanying forms) provided by Contracting Officer.

d. The Partners will determine the frequency of the follow-on sessions.

e. Participants will bear their own costs for meals, lodging and transportation associated with Partnering.

1.17 ELECTRONIC MAIL (E-MAIL) ADDRESS

Establish and maintain electronic mail (e-mail) capability along with the capability to open various electronic attachments as text files, pdf files, and other similar formats. Within 10 days after contract award, provide the Contracting Officer a single (only one) e-mail address for electronic communications from the Contracting Officer related to this contract including, but not limited to contract documents, invoice information, request for proposals, and other correspondence. The Contracting Officer may also use email to notify the Contractor of base access conditions when emergency conditions warrant, such as hurricanes or terrorist threats. Multiple email addresses are not allowed.

It is the Contractor's responsibility to make timely distribution of all Contracting Officer initiated e-mail with its own organization including field office(s). Promptly notify the Contracting Officer, in writing, of any changes to this email address.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 MEASUREMENT AND PAYMENT

The work specified in this section will not be measured for payment and all costs in connection therewith shall be included in the costs of all the bid items.

-- End of Section --

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SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

1.1.1 Submittal Information

The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with contract requirements.

Units of weights and measures used on all submittals are to be the same as those used in the contract drawings.

1.1.2 Project Type

The Contractor's Quality Control (CQC) System Manager are to check and approve all items before submittal and stamp, sign, and date indicating action taken. Proposed deviations from the contract requirements are to be clearly identified. Include within submittals items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals.

1.1.3 Submission of Submittals

Schedule and provide submittals requiring Government approval before acquiring the material or equipment covered thereby. Pick up and dispose of samples not incorporated into the work in accordance with manufacturer's Safety Data Sheets (SDS) and in compliance with existing laws and regulations.

1.2 DEFINITIONS

1.2.1 Submittal Descriptions (SD)

Submittal requirements are specified in the technical sections. Examples and descriptions of submittals identified by the Submittal Description (SD) numbers and titles follow:

SD-01 Preconstruction Submittals

Submittals classified as "SD-01 Preconstruction Submittals" require approval prior to mobilization to the contract work site. All other submittals, classified as "SD-02" through "SD-11," require approval prior to commencing the particular task to which the submittal is associated.

> Preconstruction Submittals include schedules and a tabular list of locations, features, and other pertinent information regarding products, materials, equipment, or components to be used in the work.

Certificates Of Insurance

Surety Bonds

List Of Proposed Subcontractors

List Of Proposed Products

Baseline Network Analysis Schedule (NAS)

Submittal Register

Schedule Of Prices Or Earned Value Report

Accident Prevention Plan (APP)

Work Plan

Quality Control (QC) plan

Environmental Protection Plan (EPP)

SD-02 Shop Drawings

Drawings, diagrams and schedules specifically prepared to illustrate some portion of the work.

Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the Contractor for integrating the product or system into the project.

Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will be coordinated.

SD-05 Design Data

Design calculations, mix designs, analyses or other data pertaining to a part of work.

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified requirements. Unless specified in another section, testing must have been within three years of date of contract award for the project.

Report that includes findings of a test required to be performed on an actual portion of the work or prototype prepared for the project before shipment to job site.

Report that includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports

Daily logs and checklists

Final acceptance test and operational test procedure

SD-07 Certificates

Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that the product, system, or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

Document required of Contractor, or of a manufacturer, supplier, installer or Subcontractor through Contractor. The document purpose is to further promote the orderly progression of a portion of the work by documenting procedures, acceptability of methods, or personnel qualifications.

Confined space entry permits

Text of posted operating instructions

SD-11 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.

Submittals required for Guiding Principle Validation (GPV) or Third Party Certification (TPC).

Special requirements necessary to properly close out a construction contract. For example, Record Drawings and as-built drawings. Also, submittal requirements necessary to properly close out a major phase of construction on a multi-phase contract.

1.2.2 Approving Authority

Office or designated person authorized to approve the submittal.

1.2.3 Work

As used in this section, on-site and off-site construction required by contract documents, including labor necessary to produce submittals, construction, materials, products, equipment, and systems incorporated or to be incorporated in such construction. In exception, excludes work to produce SD-01 submittals.

1.3 SUBMITTALS

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

SD-01 Preconstruction Submittals

Submittal Register; G,COR

1.4 SUBMITTAL CLASSIFICATION

1.4.1 Government Approved (G)

Government approval is required for extensions of design, critical materials, variations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Government.

Within the terms of the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, submittals are considered to be "shop drawings."

1.4.2 For Information Only (FIO)

Submittals not requiring Government approval will be for information only. Within the terms of the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, they are not considered to be "shop drawings."

1.5 PREPARATION

1.5.1 Transmittal Form

Use the ENG Form 4025-R transmittal form for submitting both Government-approved and information-only submittals. Submit in accordance with the instructions on the reverse side of the form. This form is included in the RMS CM software that the Contractor is required to use for this contract. Properly complete this form by filling out all the heading blank spaces and identifying each item submitted. Exercise special care to ensure proper listing of the specification paragraph and sheet number of the contract drawings pertinent to the data submitted for each item.

1.5.2 Submittal Format

1.5.2.1 Format of SD-01 Preconstruction Submittals

When the submittal includes a document that is to be used in the project, or is to become part of the project record, other than as a submittal, do not apply the Contractor's approval stamp to the document itself, but to a separate sheet accompanying the document.

Provide data in the unit of measure used in the contract documents.

1.5.2.2 Format for SD-02 Shop Drawings

Provide shop drawings not less than 8 1/2 by 11 inches nor more than 30 by 42 inches, except for full-size patterns or templates. Prepare drawings to accurate size, with scale indicated, unless another form is required. Ensure drawings are suitable for reproduction and of a quality to produce clear, distinct lines and letters, with dark lines on a white background.

a. Include the nameplate data, size, and capacity on drawings. Also include applicable federal, military, industry, and technical society publication references.

b. Dimension drawings, except diagrams and schematic drawings. Prepare drawings demonstrating interface with other trades to scale. Use the same unit of measure for shop drawings as indicated on the contract drawings. Identify materials and products for work shown.

Submit an electronic copy of drawings in PDF format.

1.5.2.2.1 Drawing Identification

Include on each drawing the drawing title, number, date, and revision numbers and dates, in addition to information required in paragraph IDENTIFYING SUBMITTALS.

Number drawings in a logical sequence. Each drawing is to bear the number of the submittal in a uniform location next to the title block. Place the Government contract number in the margin, immediately below the title block, for each drawing.

Reserve a blank space, no smaller than 3 inches x 4 inches on the right-hand side of each sheet for the Government disposition stamp.

1.5.2.3 Format of SD-03 Product Data

Present product data submittals for each section. Include a table of contents, listing the page and catalog item numbers for product data.

Indicate, by prominent notation, each product that is being submitted; indicate the specification section number and paragraph number to which it pertains.

1.5.2.3.1 Product Information

Supplement product data with material prepared for the project to satisfy the submittal requirements where product data does not exist. Identify this material as developed specifically for the project, with information and format as required for submission of SD-07 Certificates.

Provide product data in units used in the Contract documents. Where product data are included in preprinted catalogs with another unit, submit the dimensions in contract document units, on a separate sheet.

1.5.2.3.2 Standards

Where equipment or materials are specified to conform to industry or technical-society reference standards of such organizations as the American National Standards Institute (ANSI), ASTM International (ASTM), National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), or Association of Edison Illuminating Companies (AEIC), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing, and approved by the Contracting Officer. State on the certificate that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

1.5.2.3.3 Data Submission

Collect required data submittals for each specific material, product, unit of work, or system into a single submittal that is marked for choices, options, and portions applicable to the submittal. Mark each copy of the product data identically. Partial submittals will not be accepted.

Submit the manufacturer's instructions before installation.

1.5.2.4 Format of SD-04 Samples

1.5.2.4.1 Sample Characteristics

Furnish samples in the following sizes, unless otherwise specified or unless the manufacturer has prepackaged samples of approximately the same size as specified:

a. Sample of Equipment or Device: Full size.

b. Sample of Materials Less Than 2 by 3 inches: Built up to 8 1/2 by 11 inches.

c. Sample of Materials Exceeding 8 1/2 by 11 inches: Cut down to 8 1/2 by 11 inches and adequate to indicate color, texture, and material variations.

d. Sample of Linear Devices or Materials: 10 inch length or length to be supplied, if less than 10 inches. Examples of linear devices or materials are conduit and handrails.

e. Sample Volume of Nonsolid Materials: Pint. Examples of nonsolid materials are sand and paint.

f. Color Selection Samples: 2 by 4 inches. Where samples are specified for selection of color, finish, pattern, or texture, submit the full set of available choices for the material or product specified. Sizes and quantities of samples are to represent their respective standard unit.

g. Sample Panel: 4 by 4 feet.

h. Sample Installation: 100 square feet.

1.5.2.4.2 Sample Incorporation

Reusable Samples: Incorporate returned samples into work only if so specified or indicated. Incorporated samples are to be in undamaged condition at the time of use.

Recording of Sample Installation: Note and preserve the notation of any area constituting a sample installation, but remove the notation at the final clean-up of the project.

1.5.2.4.3 Comparison Sample

Samples Showing Range of Variation: Where variations in color, finish, pattern, or texture are unavoidable due to nature of the materials, submit sets of samples of not less than three units showing extremes and middle of range. Mark each unit to describe its relation to the range of the variation.

When color, texture, or pattern is specified by naming a particular manufacturer and style, include one sample of that manufacturer and style, for comparison.

1.5.2.5 Format of SD-05 Design Data

Provide design data and certificates on 8 1/2 by 11 inch paper.

1.5.2.6 Format of SD-06 Test Reports

By prominent notation, indicate each report in the submittal. Indicate the specification number and paragraph number to which each report pertains.

1.5.2.7 Format of SD-07 Certificates

Provide design data and certificates on 8 1/2 by 11 inch paper.

1.5.2.8 Format of SD-08 Manufacturer's Instructions

Present manufacturer's instructions submittals for each section. Include the manufacturer's name, trade name, place of manufacture, and catalog model or number on product data. Also include applicable federal, military, industry, and technical-society publication references. If supplemental information is needed to clarify the manufacturer's data, submit it as specified for SD-07 Certificates.

Submit the manufacturer's instructions before installation.

1.5.2.8.1 Standards

Where equipment or materials are specified to conform to industry or technical-society reference standards of such organizations as the American National Standards Institute (ANSI), ASTM International (ASTM), National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), or Association of Edison Illuminating Companies (AEIC), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing, and approved by the Contracting Officer. State on the certificate that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

1.5.2.9 Format of SD-09 Manufacturer's Field Reports

By prominent notation, indicate each report in the submittal. Indicate the specification number and paragraph number to which each report pertains.

1.5.2.10 Format of SD-11 Closeout Submittals

When the submittal includes a document that is to be used in the project or is to become part of the project record, other than as a submittal, do not apply the Contractor's approval stamp to the document itself, but to a separate sheet accompanying the document.

Provide data in the unit of measure used in the contract documents.

1.5.3 Source Drawings for Shop Drawings

1.5.3.1 Source Drawings

The entire set of source drawing files (DWG) will not be provided to the Contractor. Request the specific Drawing Number for the preparation of shop drawings. Only those drawings requested to prepare shop drawings will be provided. These drawings are provided only after award.

1.5.3.2 Terms and Conditions

Data contained on these electronic files must not be used for any purpose other than as a convenience in the preparation of construction data for the referenced project. Any other use or reuse is at the sole risk of the Contractor and without liability or legal exposure to the Government. The Contractor must make no claim, and waives to the fullest extent permitted by law any claim or cause of action of any nature against the Government, its agents, or its subconsultants that may arise out of or in connection with the use of these electronic files. The Contractor must, to the fullest extent permitted by law, indemnify and hold the Government harmless against all damages, liabilities, or costs, including reasonable attorney's fees and defense costs, arising out of or resulting from the use of these electronic files.

These electronic source drawing files are not construction documents. Differences may exist between the source drawing files and the corresponding construction documents. The Government makes no representation regarding the accuracy or completeness of the electronic source drawing files, nor does it make representation to the compatibility of these files with the Contractor hardware or software. The Contractor is responsible for determining if any conflict exists. In the event that a conflict arises between the signed and sealed construction documents prepared by the Government and the furnished source drawing files, the signed and sealed construction documents govern. Use of these source drawing files does not relieve the Contractor of the duty to fully comply with the contract documents, including and without limitation the need to check, confirm and coordinate the work of all contractors for the project. If the Contractor uses, duplicates or modifies these electronic source drawing files for use in producing construction data related to this contract, remove all previous indication of ownership (seals, logos, signatures, initials and dates).

1.5.4 Electronic File Format

Provide submittals in electronic format, with the exception of material samples required for SD-04 Samples items. In addition to the electronic submittal, provide hard copies of the submittals in the quantities as specified in the paragraphs below. Compile the submittal file as a single, complete document, to include the Transmittal Form described within. Name the electronic submittal file specifically according to its contents, and coordinate the file naming convention with the Contracting Officer. Electronic files must be of sufficient quality that all information is legible. Use PDF as the electronic format, unless otherwise specified or directed by the Contracting Officer. Generate PDF files from original documents with bookmarks so that the text included in the PDF file is searchable and can be copied. If documents are scanned, optical character resolution (OCR) routines are required. Index and bookmark files exceeding 30 pages to allow efficient navigation of the file. When required, the electronic file must include a valid electronic signature or a scan of a signature. Maintain hard copies of approved submittals at the field locations (field office, site facilities, dredge, etc.) for use by Contractor and Government personnel. Submittal tracking and transmittal documents (Eng Form 4025) will continue to utilize RMS as specified in Section 01 45 05 RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE(RMS CM).

E-mail electronic submittal documents smaller than 10MB to an e-mail address as directed by the Contracting Officer. Provide electronic documents over 10 MB on an optical disc or through an electronic file

sharing system such as the AMRDEC SAFE Web Application located at the following website: https://safe.amrdec.army.mil/safe/.

1.6 QUANTITY OF SUBMITTALS

1.6.1 Number of SD-01 Preconstruction Submittal Copies

Unless otherwise specified, submit two sets of administrative submittals.

1.6.2 Number of SD-02 Shop Drawing Copies

Submit two copies of submittals to the COR of shop drawings requiring review and approval by a QC organization.

1.6.3 Number of SD-03 Product Data Copies

Submit in compliance with quantity requirements specified for shop drawings.

1.6.4 Number of SD-04 Samples

a. Submit two samples, or two sets of samples showing the range of variation, of each required item. One approved sample or set of samples will be retained by the approving authority and one will be returned to the Contractor.

b. Submit one sample panel or provide one sample installation where directed. Include components listed in the technical section or as directed.

c. Submit one sample installation, where directed.

d. Submit one sample of nonsolid materials.

1.6.5 Number of SD-05 Design Data Copies

Submit in compliance with quantity requirements specified for shop drawings.

1.6.6 Number of SD-06 Test Report Copies

Submit in compliance with quantity and quality requirements specified for shop drawings, other than field test results that will be submitted with QC reports.

1.6.7 Number of SD-07 Certificate Copies

Submit in compliance with quantity requirements specified for shop drawings.

1.6.8 Number of SD-08 Manufacturer's Instructions Copies

Submit in compliance with quantity requirements specified for shop drawings.

1.6.9 Number of SD-09 Manufacturer's Field Report Copies

Submit in compliance with quantity and quality requirements specified for shop drawings other than field test results that will be submitted with QC reports.

1.6.10 Number of SD-11 Closeout Submittals Copies

Unless otherwise specified, submit two sets of administrative submittals.

1.7 FOR INFORMATION ONLY (FIO) SUBMITTALS

Submittals without a "G" designation must be certified by the QC manager and submitted to the Contracting Officer for information-only. Provide information-only submittals to the Contracting Officer a minimum of 14 calendar days prior to the Preparatory Meeting for the associated Definable Feature of Work (DFOW). Approval of the Contracting Officer is not required on information only submittals. The Contracting Officer will mark "receipt acknowledged" on submittals for information and will return only the transmittal cover sheet to the Contractor. Normally, submittals for information only will not be returned. However, the Government reserves the right to return unsatisfactory submittals and require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

1.8 PROJECT SUBMITTAL REGISTER

A sample Project Submittal Register showing items of equipment and materials for when submittals are required by the specifications is provided at the end of this section.

1.8.1 Submittal Management

Prepare and maintain a submittal register, as the work progresses. Do not change data that is output in columns (c), (d), (e), and (f) as delivered by Government; retain data that is output in columns (a), (g), (h), and (i) as approved. As an attachment, provide a submittal register showing items of equipment and materials for which submittals are required by the specifications. This list may not be all-inclusive and additional submittals may be required. Maintain a submittal register for the project as specified herein and in accordance with Section 01 45 05 RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE(RMS CM). The Government will provide the initial submittal register with the following fields completed, to the extent that will be required by the Government during subsequent usage.

Column (c): Lists specification section in which submittal is required.

Column (d): Lists each submittal description (SD Number. and type, e.g., SD-02 Shop Drawings) required in each specification section.

Column (e): Lists one principal paragraph in each specification section where a material or product is specified. This listing is only to facilitate locating submitted requirements. Do not consider entries in column (e) as limiting the project requirements.

Thereafter, the Contractor is to track all submittals by maintaining a

complete list, including completion of all data columns and all dates on which submittals are received by and returned by the Government.

1.8.2 Preconstruction Use of Submittal Register

Submit the submittal register. Include the QC plan and the project schedule. Verify that all submittals required for the project are listed and add missing submittals. Coordinate and complete the following fields on the register submitted with the QC plan and the project schedule:

Column (g) Contractor Submit Date: Scheduled date for the approving authority to receive submittals.

Column (h) Contractor Approval Date: Date that Contractor needs approval of submittal.

1.8.3 Contractor Use of Submittal Register

Update the following fields with each submittal throughout the contract.

Column (b) Transmittal Number: List of consecutive, Contractor-assigned numbers.

Column (j) Action Code (k): Date of action used to record Contractor's review when forwarding submittals to QC.

Column (l) Date submittal transmitted.

Column (q) Date approval was received.

1.8.4 Approving Authority Use of Submittal Register

Update the following fields:

Column (b) Transmittal Number: List of consecutive, Contractor-assigned numbers.

Column (l) Date submittal was received.

Column (m) through (p) Dates of review actions.

Column (q) Date of return to Contractor.

1.8.5 Action Codes

1.8.5.1 Contractor Action Codes

DESIGN BID BUILD SUBMITTALS			
Submittal Classifications shown in UFGS Sections	Submittal Classification	Corresponding SpecsIntact Submittal Register Code which is populated in the SI Submittal Register. Software Limitations: (The software shows one character delineation in the SpecsIntact Submittal Register)	RMS - The following Submittal Classifications are populated in RMS when the SpecsIntact Submittal Data File is pulled into RMS)
G	Submittal requires Government Approval	G	GA
BLANK	Submittal is For Information Only (FIO)	BLANK	FIO
S	Submittal is for documentation of Sustainable requirements	S	S/FIO

1.8.6 Delivery of Copies

Submit an updated electronic copy of the submittal register to the Contracting Officer with each invoice request. Provide an updated Submittal Register monthly regardless of whether an invoice is submitted.

1.9 VARIATIONS

Variations from contract requirements require Contracting Officer approval pursuant to contract Clause FAR 52.236-21 Specifications and Drawings for Construction, and will be considered where advantageous to the Government.

1.9.1 Considering Variations

Discussion of variations with the Contracting Officer before submission will help ensure that functional and quality requirements are met and minimize rejections and resubmittals. For variations that include design changes or some material or product substitutions, the Government may require an evaluation and analysis by a licensed professional engineer hired by the contractor.

Specifically point out variations from contract requirements in a transmittal letter. Failure to point out variations may cause the

Government to require rejection and removal of such work at no additional cost to the Government.

1.9.2 Proposing Variations

Check the column "variation" of ENG Form 4025 for submittals that include variations proposed by the Contractor. Set forth in writing the reason for any variations and note such variations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted variations.

1.9.3 Warranting that Variations are Compatible

When delivering a variation for approval, the Contractor warrants that this contract has been reviewed to establish that the variation, if incorporated, will be compatible with other elements of work.

1.9.4 Review Schedule Extension

In addition to the normal submittal review period, a period of 14 calendar days will be allowed for the Government to consider submittals with variations.

1.10 SCHEDULING

Schedule and submit concurrently product data and shop drawings covering component items forming a system or items that are interrelated. Submit pertinent certifications at the same time. No delay damages or time extensions will be allowed for time lost in late submittals. Government review will be completed within 14 calendar days after the date of receipt of submission by the Government.

a. Coordinate scheduling, sequencing, preparing, and processing of submittals with performance of work so that work will not be delayed by submittal processing. The Contractor is responsible for additional time required for Government reviews resulting from required resubmittals. The review period for each resubmittal is the same as for the initial submittal.

b. Submittals required by the contract documents are listed on the submittal register. If a submittal is listed in the submittal register but does not pertain to the contract work, the Contractor is to include the submittal in the register and annotate it "N/A" with a brief explanation. Approval by the Contracting Officer does not relieve the Contractor of supplying submittals required by the contract documents but that have been omitted from the register or marked "N/A."

c. Resubmit the submittal register and annotate it monthly with actual submission and approval dates. When all items on the register have been fully approved, no further resubmittal is required.

d. Period of review for each resubmittal is the same as for initial submittal.

1.11 GOVERNMENT APPROVING AUTHORITY

When the approving authority is the Contracting Officer, the Government will:

a. Note the date on which the submittal was received.

b. Review submittals for approval within the scheduling period specified and only for conformance with project design concepts and compliance with contract documents.

c. Identify returned submittals with one of the actions defined in paragraph REVIEW NOTATIONS and with comments and markings appropriate for the action indicated.

Upon completion of review of submittals requiring Government approval, stamp and date submittals. Email will be sent from the Government to the Contractor with the Review Notation, as specified below. Hard copies of submittals will not be returned.

1.11.1 Review Notations

Submittals will be returned to the Contractor with the following notations:

a. Submittals marked "approved" or "accepted" authorize proceeding with the work covered.

b. Submittals marked "approved as noted" or "approved, except as noted, resubmittal not required," authorize proceeding with the work covered provided that the Contractor takes no exception to the corrections.

c. Submittals marked "not approved," "disapproved," or "revise and resubmit" indicate incomplete submittal or noncompliance with the contract requirements or design concept. Resubmit with appropriate changes. Do not proceed with work for this item until the resubmittal is approved.

d. Submittals marked "not reviewed" indicate that the submittal has been previously reviewed and approved, is not required, does not have evidence of being reviewed and approved by Contractor, or is not complete. A submittal marked "not reviewed" will be returned with an explanation of the reason it is not reviewed. Resubmit submittals returned for lack of review by Contractor or for being incomplete, with appropriate action, coordination, or change.

e. Submittals marked "receipt acknowledged" indicate that submittals have been received by the Government. This applies only to "information-only submittals" as previously defined.

1.12 DISAPPROVED SUBMITTALS

a. Make corrections required by the Contracting Officer. If the Contractor considers any correction or notation on the returned submittals to constitute a change to the contract drawings or specifications, give notice to the Contracting Officer as required under the FAR clause titled CHANGES. The Contractor is responsible for the dimensions and design of connection details and the construction of work. Failure to point out variations may cause the Government to require rejection and removal of such work at the Contractor's expense.

b. If changes are necessary to submittals, make such revisions and resubmit in accordance with the procedures above. No item of work requiring a submittal change is to be accomplished until the changed

submittals are approved.

c. The Contractor shall pay an administrative fee to the Government in the amount of $500 for each Contractor resubmittal required in excess of the initial submittal and one resubmittal for required corrections. The Contracting Officer will deduct any assessed administrative fees from the progress payments due the Contractor.

1.13 APPROVED SUBMITTALS

a. The Contracting Officer's approval of submittals is not to be construed as a complete check, and indicates only thatthe general method of construction, materials, detailing, and other information are satisfactory.

b. Approval or acceptance by the Government for a submittal does not relieve the Contractor of the responsibility for meeting the contract requirements or for any error that may exist, because under the Quality Control (QC) requirements of this contract, the Contractor is responsible for ensuring information contained with in each submittal accurately conforms with the requirements of the contract documents.

c. After submittals have been approved or accepted by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.14 APPROVED SAMPLES

a. Approval of a sample is only for the characteristics or use named in such approval and is not be construed to change or modify any contract requirements. Before submitting samples, provide assurance that the materials or equipment will be available in quantities required in the project. No change or substitution will be permitted after a sample has been approved.

b. Match the approved samples for materials and equipment incorporated in the work. If requested, approved samples, including those that may be damaged in testing, will be returned to the Contractor, at its expense, upon completion of the contract. Unapproved samples will also be returned to the Contractor at its expense, if so requested.

c. Failure of any materials to pass the specified tests will be sufficient cause for refusal to consider, under this contract, any further samples of the same brand or make as that material. The Government reserves the right to disapprove any material or equipment that has previously proved unsatisfactory in service.

d. Samples of various materials or equipment delivered on the site or in place may be taken by the Contracting Officer for testing. Samples failing to meet contract requirements will automatically void previous approvals. Replace such materials or equipment to meet contract requirements.

1.15 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

1.16 CERTIFICATION OF SUBMITTAL DATA

Certify the submittal data as follows on Form ENG 4025: "I certify that the above submitted items had been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.

_____NAME OF CONTRACTOR _____ SIGNATURE OF CONTRACTOR

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for the work specified in this section and all costs in connection therewith shall be included in the costs of all the bid items.

-- End of Section --

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Maintenance Dredging, Phila to Trenton

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAG# RAPH	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY				MAILED TO CONTR/	
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	DATE RCD FRM APPR AUTH	REMARKS
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 30 00	SD-01 Preconstruction Submittals															
			Superintendent Qualifications	1.3.1	G													
			Evidence Of Insurance	1.15	FIO													
			Notice To Mariners	1.5	FIO													
			Movement Of Navigation Aids	1.5	FIO													
			Placing Submerged Pipelines	1.5	FIO													
			Across The Channel															
			SD-11 Closeout Submittals															
			Certified Payrolls	1.7	FIO													
		01 33 00	SD-01 Preconstruction Submittals															
			Submittal Register	1.8	G COR													
		01 35 26	SD-01 Preconstruction Submittals															
			Names and Qualifications	1.7.1	G DO													
			Dive Operations Plan	1.16	G DO													
			Accident Prevention Plan (APP)	1.7	G DO													
			Accident Prevention Plan (APP)	1.7	G DO													
			Checklist															
			Public Health Emergency Plan	1.7.2.9	FIO													
			Fall Protection and Prevention	1.7.2.6	G DO													
			(Fp&P) Plan															
			Rescue and Evacuation Plan	1.7.2.7	G DO													
			SD-06 Test Reports															
			Monthly Exposure Reports	1.4	FIO													
			Notifications and Reports	1.12	FIO													
			Accident Reports	1.12.2	G DO													
			LHE Inspection Reports	1.12.3	FIO													

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							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 35 26	SD-07 Certificates															
			SSHO Daily Inspection checklist	1.6.2.1	FIO													
			Crane Operators/Riggers	1.6.1.6	G DO													
			Standard Lift Plan	1.7.2.2	G DO													
			Critical Lift Plan	1.7.2.3	G DO													
			Naval Architecture Analysis	1.7.2.4	G DO													
			Activity Hazard Analysis (AHA)	1.8	FIO													
			Confined Space Entry Permit	1.9.1	FIO													
			Hot Work Permit	1.9.1	FIO													
			Certificate of Compliance	1.12.4	FIO													
			Third Party Certification of		FIO													
			Floating Cranes and															
			Barge-Mounted Mobile Cranes															
			License Certificates	1.14	FIO													
			Radiography Operation Planning	1.14.1	G													
			Work Sheet															
			Portable Gauge Operations	1.14.1	G													
			Planning Worksheet															
			Machinery & Mechanized		FIO													
			Equipment Certification Form															
			Floating Plant Inspection		G DO													
		01 35 50	SD-07 Certificates															
			Safe Practices Manual	1.5.1	G DO													
			Diving Operations Plan	1.5.2	G DO													
			Activity Hazard Analysis (AHA)	1.5.3	G DO													
			Emergency Management Plan	1.5.4	G DO													

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(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 35 50	Decompression Plan	1.5.5	G DO													
			Dive Personnel Qualifications	1.5.6	G DO													
			Equipment/Air Quality	1.5.7	G DO													
			Certifications															
			Daily Logs	1.7.2	G DO													
		01 45 00	SD-01 Preconstruction Submittals															
			Contractor Quality Control (CQC)	3.2	G DO													
			Plan															
			SD-06 Test Reports															
			Verification Statement (Daily	3.8.2	FIO													
			Reports)															
		01 57 19	SD-01 Preconstruction Submittals															
			Preconstruction Visual Survey	1.5.1	FIO													
			Employee Training Records	1.5.3	G COR													
			Environmental Protection Plan	1.6	G COR													
			Environmental Protection Plan	1.6	G COR													
			Spill Prevention Control And	3.10.2	G DO													
			Countermeasure (SPCC) Plan															
			SD-07 Certificates															
			Employee Training Records	1.5.3	G COR													
			SD-11 Closeout Submittals															
			Assembled Employee Training	1.5.3	G DO													
			Records															
		35 20 23	SD-01 Preconstruction Submittals															
			Disposal Area Plan	3.3.2	G COR													
			Fall Protection Inspection Report	3.3.4	G COR													

SUBMITTAL REGISTER

CONTRACT NO.

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							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		35 20 23	Discharge Pipe Support	3.3.3	G COR													
			Vessel and Equipment List	1.9	G COR													
			SD-02 Shop Drawings															
			Sluice Walkway Plan	3.3.4	G DO													
			SD-05 Design Data															
			Design Data	3.3.4	G DO													
			Sluice Walkway	3.3.4	G DO													
			SD-06 Test Reports															
			Daily Report of Operations	3.9	G COR													
			Daily Log of Surveys Performed	1.7	G COR													
			Daily Dredgehead Positioning	1.8	G COR													
			Records															
			Fuel Usage	1.11	FIO													
			Disposal Area Effluent	3.4.4	G COR													
			Measurements															
			Fall Protection Inspection Report	3.3.4	G COR													
			SD-07 Certificates															
			Timber for Flashboards and	2.1	G COR													
			Sluice Box Walkways															
			Aggregate Material	2.2	G COR													
			Certified Weight Scale Tickets	3.11.3	FIO													
		35 20 23.13	SD-07 Certificates															
			Letter of National Dredging		G DO													
			Quality Management Program															
			Certification															

SECTION 01 35 26

GOVERNMENTAL SAFETY REQUIREMENTS

PART 1 GENERAL

1.1 REFERENCES

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

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B30.3	(2020) Tower Cranes
ASME B30.5	(2021) Mobile and Locomotive Cranes
ASME B30.7	(2021) Winches
ASME B30.8	(2020) Floating Cranes and Floating Derricks
ASME B30.9	(2018) Slings
ASME B30.20	(2018) Below-the-Hook Lifting Devices
ASME B30.22	(2016) Articulating Boom Cranes
ASME B30.23	(2016) Personnel Lifting Systems Safety Standard for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Slings
ASME B30.26	(2015; R 2020) Rigging Hardware

AMERICAN SOCIETY OF SAFETY PROFESSIONALS (ASSP)

ASSP A10.22	(2007; R 2017) Safety Requirements for Rope-Guided and Non-Guided Workers' Hoists
ASSP A10.34	(2021) Protection of the Public on or Adjacent to Construction Sites
ASSP A10.44	(2020) Control of Energy Sources (Lockout/Tagout) for Construction and Demolition Operations
ASSP Z244.1	(2016) The Control of Hazardous Energy Lockout, Tagout and Alternative Methods
ASSP Z359.0	(2018) Definitions and Nomenclature Used for Fall Protection and Fall Arrest
ASSP Z359.1	(2020) The Fall Protection Code
ASSP Z359.2	(2017) Minimum Requirements for a Comprehensive Managed Fall Protection Program

ASSP Z359.3	(2019) Safety Requirements for Lanyards and Positioning Lanyards
ASSP Z359.4	(2013) Safety Requirements for Assisted-Rescue and Self-Rescue Systems, Subsystems and Components
ASSP Z359.6	(2016) Specifications and Design Requirements for Active Fall Protection Systems
ASSP Z359.7	(2019) Qualification and Verification Testing of Fall Protection Products
ASSP Z359.11	(2014) Safety Requirements for Full Body Harnesses
ASSP Z359.12	(2019) Connecting Components for Personal Fall Arrest Systems
ASSP Z359.13	(2013) Personal Energy Absorbers and Energy Absorbing Lanyards
ASSP Z359.14	(2014) Safety Requirements for Self-Retracting Devices for Personal Fall Arrest and Rescue Systems
ASSP Z359.15	(2014) Safety Requirements for Single Anchor Lifelines and Fall Arresters for Personal Fall Arrest Systems
ASSP Z359.16	(2016) Safety Requirements for Climbing Ladder Fall Arrest Systems
ASSP Z359.18	(2017) Safety Requirements for Anchorage Connectors for Active Fall Protection Systems

ASTM INTERNATIONAL (ASTM)

ASTM F855	(2019) Standard Specifications for Temporary Protective Grounds to Be Used on De-energized Electric Power Lines and Equipment

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 1048	(2016) Guide for Protective Grounding of Power Lines
IEEE C2	(2017; Errata 1-2 2017; INT 1 2017) National Electrical Safety Code

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10	(2022; ERTA 1 2021) Standard for Portable Fire Extinguishers

NFPA 51B	(2019; TIA 20-1) Standard for Fire Prevention During Welding, Cutting, and Other Hot Work
NFPA 70	(2020; ERTA 20-1 2020; ERTA 20-2 2020; ERTA 20-3 2020; TIA 20-1; TIA 20-2; TIA 20-3; TIA 20-4; TIA 20-5; TIA 20-6; TIA 20-7; TIA 20-8; TIA 20-9; TIA 20-10; TIA 20-11; TIA 20-12; TIA 20-13; TIA 20-14; TIA 20-15; TIA 20-16; ERTA 20-4 2022) National Electrical Code
NFPA 70E	(2021) Standard for Electrical Safety in the Workplace
NFPA 241	(2022) Standard for Safeguarding Construction, Alteration, and Demolition Operations

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA)

TIA-222	(2018H; Add 1 2019) Structural Standard for Antenna Supporting Structures and Antennas and Small Wind Turbine Support Structures
TIA-1019	(2012; R 2016) Standard for Installation, Alteration and Maintenance of Antenna Supporting Structures and Antennas

U.S. ARMY CORPS OF ENGINEERS (USACE)

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

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

10 CFR 20	Standards for Protection Against Radiation
29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1910.146	Permit-required Confined Spaces
29 CFR 1910.147	The Control of Hazardous Energy (Lock Out/Tag Out)
29 CFR 1910.333	Selection and Use of Work Practices
29 CFR 1915	Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
29 CFR 1915.89	Control of Hazardous Energy (Lockout/Tags-Plus)
29 CFR 1926	Safety and Health Regulations for Construction
29 CFR 1926.16	Rules of Construction

29 CFR 1926.450	Scaffolds
29 CFR 1926.500	Fall Protection
29 CFR 1926.552	Material Hoists, Personal Hoists, and Elevators
29 CFR 1926.553	Base-Mounted Drum Hoists
29 CFR 1926.1400	Cranes and Derricks in Construction
49 CFR 173	Shippers - General Requirements for Shipments and Packagings
CPL 02-01-056	(2014) Inspection Procedures for Accessing Communication Towers by Hoist
CPL 2.100	(1995) Application of the Permit-Required Confined Spaces (PRCS) Standards, 29 CFR 1910.146

1.2 DEFINITIONS

1.2.1 Competent Person (CP)

The CP is a person designated in writing, who, through training, knowledge and experience, is capable of identifying, evaluating, and addressing existing and predictable hazards in the working environment or working conditions that are dangerous to personnel, and who has authorization to take prompt corrective measures with regards to such hazards.

1.2.2 Competent Person, Confined Space

The CP, Confined Space, is a person meeting the competent person requirements as defined EM 385-1-1 Appendix Q, with thorough knowledge of OSHA’s Confined Space Standard, 29 CFR 1910.146, and designated in writing to be responsible for the immediate supervision, implementation and monitoring of the confined space program, who through training, knowledge and experience in confined space entry is capable of identifying, evaluating and addressing existing and potential confined space hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.3 Competent Person, Cranes and Rigging

The CP, Cranes and Rigging, as defined in EM 385-1-1 Appendix Q, is a person meeting the competent person requirements, who has been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the Crane and Rigging Program, who through training, knowledge and experience in crane and rigging is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.4 Competent Person, Excavation/Trenching

A CP, Excavation/Trenching, is a person meeting the competent person requirements as defined in EM 385-1-1 Appendix Q and 29 CFR 1926, who has been designated in writing to be responsible for the immediate supervision,

implementation and monitoring of the excavation/trenching program, who through training, knowledge and experience in excavation/trenching is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.5 Competent Person, Fall Protection

The CP, Fall Protection, is a person meeting the competent person requirements as defined in EM 385-1-1 Appendix Q and in accordance with ASSP Z359.0, who has been designated in writing by the employer to be responsible for immediate supervising, implementing and monitoring of the fall protection program, who through training, knowledge and experience in fall protection and rescue systems and equipment, is capable of identifying, evaluating and addressing existing and potential fall hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.6 Competent Person, Scaffolding

The CP, Scaffolding is a person meeting the competent person requirements in EM 385-1-1 Appendix Q, and designated in writing by the employer to be responsible for immediate supervising, implementing and monitoring of the scaffolding program. The CP for Scaffolding has enough training, knowledge and experience in scaffolding to correctly identify, evaluate and address existing and potential hazards and also has the authority to take prompt corrective measures with regard to these hazards. CP qualifications must be documented including experience on the specific scaffolding systems/types being used, assessment of the base material that the scaffold will be erected upon, load calculations for materials and personnel, and erection and dismantling. The CP for scaffolding must have a documented minimum of 8-hours of scaffold training to include training on the specific type of scaffold being used (e.g. mast-climbing, adjustable, tubular frame), in accordance with EM 385-1-1 Section 22.B.02.

1.2.7 Competent Person (CP) Trainer

A competent person trainer as defined in EM 385-1-1 Appendix Q, who is qualified in the training material presented, and who possesses a working knowledge of applicable technical regulations, standards, equipment and systems related to the subject matter on which they are training Competent Persons. A competent person trainer must be familiar with the typical hazards and the equipment used in the industry they are instructing. The training provided by the competent person trainer must be appropriate to that specific industry. The competent person trainer must evaluate the knowledge and skills of the competent persons as part of the training process.

1.2.8 High Risk Activities

High Risk Activities are activities that involve work at heights, crane and rigging, excavations and trenching, scaffolding, electrical work, and confined space entry.

1.2.9 High Visibility Accident

A High Visibility Accident is any mishap which may generate publicity or high visibility.

1.2.10 Load Handling Equipment (LHE)

LHE is a term used to describe cranes, hoists and all other hoisting equipment (hoisting equipment means equipment, including crane, derricks, hoists and power operated equipment used with rigging to raise, lower or horizontally move a load).

1.2.11 Medical Treatment

Medical Treatment is treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even when provided by a physician or registered personnel.

1.2.12 Near Miss

A Near Miss is a mishap resulting in no personal injury and zero property damage, but given a shift in time or position, damage or injury may have occurred (e.g., a worker falls off a scaffold and is not injured; a crane swings around to move the load and narrowly misses a parked vehicle).

1.2.13 Operating Envelope

The Operating Envelope is the area surrounding any crane or load handling equipment. Inside this "envelope" is the crane, the operator, riggers and crane walkers, other personnel involved in the operation, rigging gear between the hook, the load, the crane's supporting structure (i.e. ground or rail), the load's rigging path, the lift and rigging procedure.

1.2.14 Qualified Person (QP)

The QP is a person designated in writing, who, by possession of a recognized degree, certificate, or professional standing, or extensive knowledge, training, and experience, has successfully demonstrated their ability to solve or resolve problems related to the subject matter, the work, or the project.

1.2.15 Qualified Person, Fall Protection (QP for FP)

A QP for FP is a person meeting the definition requirements of EM 385-1-1 Appendix Q, and ASSP Z359.2 standard, having a recognized degree or professional certificate and with extensive knowledge, training and experience in the fall protection and rescue field who is capable of designing, analyzing, and evaluating and specifying fall protection and rescue systems.

1.2.16 Recordable Injuries or Illnesses

Recordable Injuries or Illnesses are any work-related injury or illness that results in:

a. Death, regardless of the time between the injury and death, or the length of the illness;

b. Days away from work (any time lost after day of injury/illness onset);

c. Restricted work;

d. Transfer to another job;

e. Medical treatment beyond first aid;

f. Loss of consciousness; or

g. A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (a) through (f) above

1.2.17 Government Property and Equipment

Interpret "USACE" property and equipment specified in USACE EM 385-1-1 as Government property and equipment.

1.2.18 Load Handling Equipment (LHE) Accident or Load Handling Equipment Mishap

A LHE accident occurs when any one or more of the eight elements in the operating envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in personnel injury or death; material or equipment damage; dropped load; derailment; two-blocking; overload; or collision, including unplanned contact between the load, crane, or other objects. A dropped load, derailment, two-blocking, overload and collision are considered accidents, even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped boom, dropped load, or roll over). Document an LHE mishap using the Crane High Hazard working group mishap reporting form.

1.3 SUBMITTALS

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

SD-01 Preconstruction Submittals

Names and Qualifications; G,DO
Dive Operations Plan; G,DO
Accident Prevention Plan (APP); G,DO
Accident Prevention Plan (APP) Checklist; G,DO
Public Health Emergency Plan
Fall Protection and Prevention (Fp&P) Plan; G,DO
Rescue and Evacuation Plan; G,DO

SD-06 Test Reports

Monthly Exposure Reports
Notifications and Reports
Accident Reports; G,DO
LHE Inspection Reports

SD-07 Certificates

SSHO Daily Inspection checklist
Crane Operators/Riggers; G,DO
Standard Lift Plan; G,DO
Critical Lift Plan ; G,DO
Naval Architecture Analysis; G,DO
Activity Hazard Analysis (AHA)
Confined Space Entry Permit
Hot Work Permit
Certificate of Compliance
Third Party Certification of Floating Cranes and Barge-Mounted Mobile Cranes

License Certificates
Radiography Operation Planning Work Sheet; G[, [_____]]
Portable Gauge Operations Planning Worksheet; G[, [_____]]

Machinery & Mechanized Equipment Certification Form

Floating Plant Inspection; G,DO

Submit a copy of the annual inspection of all plants not subject to Coast Guard inspection, prior to start of work.

1.4 MONTHLY EXPOSURE REPORTS

Provide a Monthly Exposure Report and attach to the monthly billing request. This report is a compilation of employee-hours worked each month for all site workers, both Prime and subcontractor. Failure to submit the report may result in retention of up to 10 percent of the voucher.

1.5 REGULATORY REQUIREMENTS

In addition to the detailed requirements included in the provisions of this Contract, comply with the most recent edition of USACE EM 385-1-1, and the following federal, state, and local laws, ordinances, criteria, rules and regulations. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements govern.

1.6 SITE QUALIFICATIONS, DUTIES, AND MEETINGS

1.6.1 Personnel Qualifications

1.6.1.1 Site Safety and Health Officer (SSHO)

Provide an SSHO that meets the requirements of EM 385-1-1 Section 1. The SSHO must ensure that the requirements of 29 CFR 1926.16 are met for the project. Provide a Safety oversight team that includes a minimum of one person at each project site to function as the Site Safety and Health Officer (SSHO). The SSHO or an equally-qualified Alternate SSHO must be at the work site at all times to implement and administer the Contractor's safety program and Government-accepted Accident Prevention Plan. The SSHO and Alternate SSHO must have the required training, experience, and qualifications in accordance with EM 385-1-1 Section 01.A.17, and all associated sub-paragraphs.

If the SSHO is off-site for a period longer than 24 hours, an

equally-qualified alternate SSHO must be provided and must fulfill the same roles and responsibilities as the primary SSHO. When the SSHO is temporarily (up to 24 hours) off-site, a Designated Representative (DR), as identified in the AHA may be used in lieu of an Alternate SSHO, and must be on the project site at all times when work is being performed. Note that the DR is a collateral duty safety position, with safety duties in addition to their full time occupation.

1.6.1.1.1 Additional Site Safety and Health Officer (SSHO) Requirements and Duties

The SSHO may not serve as the Contractor Quality Control System Manager (CQCSM). The SSHO also may not serve as the Superintendent. The SSHO is a full time responsibility and shall have no other collateral duties.

1.6.1.2 Competent Person Qualifications

Provide Competent Persons in accordance with EM 385-1-1, Appendix Q and herein. Competent Persons for high risk activities include confined space, cranes and rigging, excavation/trenching, fall protection, and electrical work. The CP for these activities must be designated in writing, and meet the requirements for the specific activity (i.e. competent person, fall protection).

The Competent Person identified in the Contractor's Safety and Health Program and accepted Accident Prevention Plan, must be on-site at all times when the work that presents the hazards associated with their professional expertise is being performed. Provide the credentials of the Competent Persons(s) to the Contracting Officer for information in consultation with the Safety Office.

1.6.1.2.1 Competent Person for Confined Space Entry

Provide a Confined Space (CP) Competent Person who meets the requirements of EM 385-1-1, Appendix Q, and herein. The CP for Confined Space Entry must supervise the entry into each confined space in accordance with EM 385-1-1, Section 34.

1.6.1.2.2 Competent Person for Scaffolding

Provide a Competent Person for Scaffolding who meets the requirements of EM 385-1-1, Section 22.B.02 and herein.

1.6.1.2.3 Competent Person for Fall Protection

Provide a Competent Person for Fall Protection who meets the requirements of EM 385-1-1, Section 21.C.04, 21.B.03, and herein.

1.6.1.3 Qualified Trainer Requirements

Individuals qualified to instruct the 40 hour contract safety awareness course, or portions thereof, must meet the definition of a Competent Person Trainer, and, at a minimum, possess a working knowledge of the following subject areas: EM 385-1-1, Electrical Standards, Lockout/Tagout, Fall Protection, Confined Space Entry for Construction; Excavation, Trenching and Soil Mechanics, and Scaffolds in accordance with 29 CFR 1926.450, Subpart L.

Instructors are required to:

a. Prepare class presentations that cover construction-related safety requirements.

b. Ensure that all attendees attend all sessions by using a class roster signed daily by each attendee. Maintain copies of the roster for at least five years. This is a certification class and must be attended 100 percent. In cases of emergency where an attendee cannot make it to a session, the attendee can make it up in another class session for the same subject.

c. Update training course materials whenever an update of the EM 385-1-1 becomes available.

d. Provide a written exam of at least 50 questions. Students are required to answer 80 percent correctly to pass.

e. Request, review and incorporate student feedback into a continuous course improvement program.

1.6.1.4 Requirements for all Contractor Jobsite Personnel Holding H-1B or H-2B Visas:

All Contractor jobsite workers holding an H-1B or H-2B visa must complete a minimum 16 hours of classroom training on the requirements of the latest version of EM 385-1-1 prior to their first day on the jobsite to include but not limited to the following topics: Sanitation; Medical and First Aid Requirements; Temporary Facilities; Personal Protective Equipment; Electrical; Hand and Power Tools; Material Handling and Storage; Motor Vehicles; Fall Protection; Work Platforms and Scaffoldings; Demolition; Safe Access, Ladders, Floor & Wall Openings, Stairs and Railing Systems; Excavations and Trenching; and Confined Spaces, prior to reporting to the jobsite.

Submit a list of workers who have completed the training to the Contracting Officer prior to them reporting to the jobsite. Update the list as additional workers are added. Maintain the updated list at the jobsite for review by the Government's designated authority. Include the name and qualifications of qualified trainer(s) that provided the training. Personnel who have taken the 40 Hour Construction Safety Hazard Awareness Training Course for Contractors or similar course that includes emphasis on EM 385-1-1 compliance, are not required to take the 16 hours of classroom training on the requirements of the latest version of the EM 385-1-1. The 16 hours classroom training may be provided by the Guam Contractors Association (GCA), Trades Academy, or other qualified trainers as outlined in paragraph QUALIFIED TRAINER REQUIREMENTS.

1.6.1.5 Dredging Contract Requirements

1.6.1.5.1 Dredging Safety Personnel Requirements

a. Provide a minimum of one full time SSHO assigned on the dredge for the primary working shift and a minimum of one SSHO or Collateral Duty SSHO or Collateral Duty Safety Officer for each additional working shift and at each additional dredge plant. (i.e. 2 dredge plants with 2 working shifts require 4 individuals.)

b. Provide a minimum of one SSHO or Collateral Duty SSHO or Collateral Duty Safety Officer at each upland disposal area and for each working

shift. (i.e. 2 upland disposal areas with 2 working shifts require 4 individuals.)

1.6.1.5.2 SSHO Requirements for Dredging

a. In addition to requirements stated elsewhere in this specification, an individual serving as a SSHO must be present at the project site, located so that they have full mobility and reasonable access to all major work operations, for at least one shift in each 24 hour period when work is being performed. The SSHO must be available during their shift for immediate verbal consultation and notification, either by phone or radio. The SSHO must be able to travel to all areas within project site within 45 minutes using equipment maintained on-site.

b. The SSHO is a full-time, dedicated position, except as noted above, who must report to a senior project (or corporate) official.

c. The SSHO must inspect all work areas and operations during initial set-up and at least monthly observe and provide personal oversight on each shift during dredging operations for projects with many work sites, more often for those with less work sites.

d. If the SSHO is off-site for a period longer than 24 hours, another qualified SSHO must be provided and fulfill the same roles and responsibilities as the SSHO during their absence.

1.6.1.5.3 Collateral Duty Safety Officer (CDSO) Requirements for Dredging

a. A CDSO is an individual who is assigned collateral duty safety responsibilities in addition to their full-time occupation, and who supports and supplements the SSHO efforts in managing, implementing and enforcing the Contractor's Safety and Health Program. The assigned CDSO must be an individual(s) with work oversight responsibilities, such as master, mate, fill foreman, or superintendent. A CDSO must not be an employee responsible for continuous mechanical or equipment operations, such as an equipment operator.

b. A CDSO performs safety program tasks as assigned by the SSHO and must report safety findings to the SSHO. The SSHO must document results of safety findings and provide information for inclusion in the CQC reports to the Contracting Officer.

1.6.1.5.4 Safety Personnel Training Requirements for Dredging

A SSHO and a CDSO for dredging Contracts must take either a formal classroom or online OSHA 30-hour Construction Safety Course, or an equivalent 30 hours of formal classroom or online safety and health training covering the subjects of the OSHA 30-hour Course in accordance with EM 385-1-1 Appendix A, paragraph 3.d.(3), applicable to dredging work, and given by qualified instructors. In exception to EM 385-1-1, Section 01.A.17, comply with the following:

a. The SSHO must maintain competency through having taken 8 hours of formal classroom or online safety and health related coursework every year. Hours spent as an instructor in such courses will be considered the same as attending them, but each course only gets credit once (for example, instructing a 1-hour asbestos awareness course five times in a year provides one hour credit for training).

b. The SSHO and a CDSO must have a minimum of three years of experience within the past five years in one of the following:

(1) Supervising/managing dredging activities

(2) Supervising/managing marine construction activities

(3) Supervising/managing land-based construction activities

(4) Work managing safety programs or processes

(5) Conducting hazard analyses and developing controls in activities or environments with similar hazards

1.6.1.6 Crane Operators/Riggers

Provide Operators, Signal Persons, and Riggers meeting the requirements in EM 385-1-1, Section 15.B for Riggers and Section 16.B for Crane Operators and Signal Persons. In addition, for mobile cranes with Original Equipment Manufacturer (OEM) rated capacities of 50,000 pounds or greater, designate crane operators qualified by a source that qualifies crane operators (i.e., union, a Government agency, or an organization that tests and qualifies crane operators). Provide proof of current qualification.

1.6.2 Personnel Duties

1.6.2.1 Duties of the Site Safety and Health Officer (SSHO)

The SSHO must:

a. Conduct daily occupational safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Attach safety inspection logs to the Contractors' daily production report. A form that meets or exceeds the attached SSHO Daily Inspection checklist expectations, shall be used.

b. Conduct mishap investigations and complete required accident reports. Report mishaps and near misses.

c. Use and maintain OSHA's Form 300 to log work-related injuries and illnesses occurring on the project site for Prime Contractors and subcontractors, and make available to the Contracting Officer upon request. Post and maintain the Form 300A on the site Safety Bulletin Board.

d. Maintain applicable safety reference material on the job site.

e. Attend the pre-construction conference, pre-work meetings including preparatory meetings, and periodic in-progress meetings.

f. Review the APP and AHAs for compliance with EM 385-1-1, and approve, sign, implement and enforce them.

g. Establish a Safety and Occupational Health (SOH) Deficiency Tracking System that lists and monitors outstanding deficiencies until resolution.

h. Ensure subcontractor compliance with safety and health requirements.

i. Maintain a list of hazardous chemicals on site and their material Safety Data Sheets (SDS).

j. Maintain a weekly list of high hazard activities involving energy, equipment, excavation, entry into confined space, and elevation, and be prepared to discuss details during QC Meetings.

k. Provide and keep a record of site safety orientation and indoctrination for Contractor employees, subcontractor employees, and site visitors.

Superintendent, CQCSM, and SSHO are subject to dismissal if the above or any other required duties are not being effectively carried out. If either the Superintendent, CQCSM, or SSHO are dismissed, project work will be stopped and will not be allowed to resume until a suitable replacement is approved and the above duties are again being effectively carried out.

1.6.3 Meetings

1.6.3.1 Preconstruction Conference

a. Contractor representatives who have a responsibility or significant role in accident prevention on the project must attend the preconstruction conference. This includes the project superintendent, Site Safety and Occupational Health Officer, Contractor Quality Control System Manager, or any other assigned safety and health professionals who participated in the development of the APP (including the Activity Hazard Analyses (AHAs) and special plans, program and procedures associated with it).

b. Discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the Contract. This list of proposed AHAs will be reviewed and an agreement will be reached between the Contractor and the Contracting Officer as to which phases will require an analysis. In addition, establish a schedule for the preparation, submittal, and Government review of AHAs to preclude project delays.

c. Deficiencies in the submitted APP, identified during the Contracting Officer's review, must be corrected, and the APP re-submitted for review prior to the start of construction. Work is not permitted to begin until an APP is established that is acceptable to the Contracting Officer.

1.6.3.2 Safety Meetings

Conduct safety meetings to review past activities, plan for new or changed operations, review pertinent aspects of appropriate AHA (by trade), establish safe working procedures for anticipated hazards, and provide pertinent Safety and Occupational Health (SOH) training and motivation. Conduct meetings at least once a month for all supervisors at the project location. The SSHO, supervisors, foremen, or CDSOs must conduct meetings at least once a week for the trade workers. Document meeting minutes to include the date, persons in attendance, subjects discussed, and names of individual(s) who conducted the meeting. Maintain documentation on-site and furnish copies to the Contracting Officer on request. Notify the Contracting Officer of all scheduled meetings 7 calendar days in advance.

1.7 ACCIDENT PREVENTION PLAN (APP)

A qualified person must prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of EM 385-1-1, Appendix A, and as supplemented herein. Cover all paragraph and subparagraph elements in EM 385-1-1, Appendix A. Complete and submit with the APP the ACCIDENT PREVENTION PLAN (APP) CHECKLIST, which is attached to the end of this section. The APP must be job-specific and address any unusual or unique aspects of the project or activity for which it is written. The APP must interface with the Contractor's overall safety and health program referenced in the APP in the applicable APP element, and made site-specific. Describe the methods to evaluate past safety performance of potential subcontractors in the selection process. Also, describe innovative methods used to ensure and monitor safe work practices of subcontractors. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the Contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP must be signed by an officer of the firm (Prime Contractor senior person), the individual preparing the APP, the on-site superintendent, the designated SSHO, the Contractor Quality Control System Manager, and any designated Certified Safety Professional (CSP) or Certified Health Physicist (CIH). The SSHO must provide and maintain the APP and a log of signatures by each subcontractor foreman, attesting that they have read and understand the APP, and make the APP and log available on-site to the Contracting Officer. If English is not the foreman's primary language, the Prime Contractor must provide an interpreter.

Submit the APP to the Contracting Officer not less than 10 calendar days prior to the date of the preconstruction conference for acceptance. Submit APP in electronic format (CD ROM/PDF) and hard copy. Work cannot proceed without an accepted APP. Once reviewed and accepted by the Contracting Officer, the APP and attachments will be enforced as part of the Contract. Disregarding the provisions of this Contract or the accepted APP is cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified. Copies of the accepted plan shall be maintained at the Contractor's construction field office and any applicable remote sites (dredge, etc.), and at the job site. Continuously review and amend the APP, as necessary, throughout the life of the Contract. Changes to the accepted APP must be made with the knowledge and concurrence of the Contracting Officer, project superintendent, SSHO and CQCSM. Incorporate unusual or high-hazard activities not identified in the original APP as they are discovered. Should any severe hazard exposure (i.e. imminent danger) become evident, stop work in the area, secure the area, and develop a plan to remove the exposure and control the hazard. Notify the Contracting Officer within 24 hours of discovery. Eliminate and remove the hazard. In the interim, take all necessary action to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public (as defined by ASSP A10.34), and the environment.

1.7.1 Names and Qualifications

Provide plans in accordance with the requirements outlined in Appendix A of EM 385-1-1, including the following:

a. Names and qualifications (resumes including education, training, experience and certifications) of site safety and health personnel designated to perform work on this project to include the designated Site Safety and Health Officer (SSHO), alternate SSHO, Designated Representatives, and other competent and qualified personnel to be used. Specify the duties of each position.

b. Qualifications of competent and of qualified persons. As a minimum, designate and submit qualifications of competent persons for each of the following major areas: excavation; scaffolding; fall protection; hazardous energy; confined space; health hazard recognition, evaluation and control of chemical, physical and biological agents; and personal protective equipment and clothing to include selection, use and maintenance.

1.7.2 Plans

Provide plans in the APP in accordance with the requirements outlined in Appendix A of EM 385-1-1, including the following:

1.7.2.1 Confined Space Entry Plan

Develop a confined or enclosed space entry plan in accordance with EM 385-1-1, applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, OSHA Directive CPL 2.100, and any other federal, state and local regulatory requirements identified in this Contract. Identify the qualified person's name and qualifications, training, and experience. Delineate the qualified person's authority to direct work stoppage in the event of hazardous conditions. Include procedure for rescue by Contractor personnel and the coordination with emergency responders. (If there is no confined space work, include a statement that no confined space work exists and none will be created.)

1.7.2.2 Standard Lift Plan (SLP)

Plan lifts to avoid situations where the operator cannot maintain safe control of the lift. Prepare a written SLP in accordance with EM 385-1-1, Section 16.A.03, using Form 16-2 for every lift or series of lifts (if duty cycle or routine lifts are being performed). The SLP must be developed, reviewed and accepted by all personnel involved in the lift in conjunction with the associated AHA. Signature on the AHA constitutes acceptance of the plan. Maintain the SLP on the LHE for the current lift(s) being made. Maintain historical SLPs for a minimum of three months.

1.7.2.3 Critical Lift Plan - Crane or Load Handling Equipment

Provide a Critical Lift Plan as required by EM 385-1-1, Section 16.H.01, using Form 16-3. In addition, Critical Lift Plans are required for the following:

a. Lifts over 50 percent of the capacity of barge mounted mobile crane's hoist.

b. When working around energized power lines where the work will get closer than the minimum clearance distance in EM 385-1-1 Table 16-1.

c. For lifts with anticipated binding conditions.

d. When erecting cranes.

1.7.2.3.1 Critical Lift Plan Planning and Schedule

Critical lifts require detailed planning and additional or unusual safety precautions. Develop and submit a critical lift plan to the Contracting Officer 30 calendar days prior to critical lift. Comply with load testing requirements in accordance with EM 385-1-1, Section 16.F.03.

1.7.2.3.2 Lifts of Personnel

In addition to the requirements of EM 385-1-1, Section 16.H.02, for lifts of personnel, demonstrate compliance with the requirements of 29 CFR 1926.1400 and EM 385-1-1, Section 16.T.

1.7.2.4 Barge Mounted Mobile Crane Lift Plan

Provide a Naval Architecture Analysis and include an LHE Manufacturer's Floating Service Load Chart in accordance with EM 385-1-1, Section 16.L.03.

1.7.2.5 Multi-Purpose Machines, Material Handling Equipment, and Construction Equipment Lift Plan

Multi-purpose machines, material handling equipment, and construction equipment used to lift loads that are suspended by rigging gear, require proof of authorization from the machine OEM that the machine is capable of making lifts of loads suspended by rigging equipment. Written approval from a qualified registered professional engineer, after a safety analysis is performed, is allowed in lieu of the OEM's approval. Demonstrate that the operator is properly trained and that the equipment is properly configured to make such lifts and is equipped with a load chart.

1.7.2.6 Fall Protection and Prevention (FP&P) Plan

The plan must be in accordance with the requirements of EM 385-1-1, Section 21.D and ASSP Z359.2, be site specific, and address all fall hazards in the work place and during different phases of construction. Address how to protect and prevent workers from falling to lower levels when they are exposed to fall hazards above 6 feet. A competent person or qualified person for fall protection must prepare and sign the plan documentation. Include fall protection and prevention systems, equipment and methods employed for every phase of work, roles and responsibilities, assisted rescue, self-rescue and evacuation procedures, training requirements, and monitoring methods. Review and revise, as necessary, the Fall Protection and Prevention Plan documentation as conditions change, but at a minimum every six months, for lengthy projects, reflecting any changes during the course of construction due to changes in personnel, equipment, systems or work habits. Keep and maintain the accepted Fall Protection and Prevention Plan documentation at the job site for the duration of the project. Include the Fall Protection and Prevention Plan documentation in the Accident Prevention Plan (APP).

1.7.2.7 Rescue and Evacuation Plan

Provide a Rescue and Evacuation Plan in accordance with EM 385-1-1 Section 21.N and ASSP Z359.2, and include in the FP&P Plan and as part of the APP. Include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance;

and transportation routes to a medical facility.

1.7.2.8 Hazardous Energy Control Program (HECP)

Develop a HECP in accordance with EM 385-1-1 Section 12, 29 CFR 1910.147, 29 CFR 1910.333, 29 CFR 1915.89, ASSP Z244.1, and ASSP A10.44. Submit this HECP as part of the Accident Prevention Plan (APP). Conduct a preparatory meeting and inspection with all effected personnel to coordinate all HECP activities. Document this meeting and inspection in accordance with EM 385-1-1, Section 12.A.02. Ensure that each employee is familiar with and complies with these procedures.

1.7.2.9 Public Health Emergency Plan

In the event of a public health emergency, provide a Public Health Emergency Protection Plan in accordance with OSHA, CDC, and state guidelines. The most restrictive requirement shall take precedence. The plan shall include workforce education and training, PPE requirements and protocol for wearing PPE, job-related protocols (distancing whenever possible, modifying activities to reduce potential exposure, etc.), actions taken for personnel exhibiting symptoms of public health emergency, and actions taken by the Contractor for employees who fail to follow requirements.

1.8 ACTIVITY HAZARD ANALYSIS (AHA)

Before beginning each activity, task or Definable Feature of Work (DFOW) involving a type of work presenting hazards not experienced in previous project operations, or where a new work crew or subcontractor is to perform the work, the Contractor(s) performing that work activity must prepare an AHA. AHAs must be developed by the Prime Contractor, subcontractor, or supplier performing the work, and provided for Prime Contractor review and approval before submitting to the Contracting Officer. AHAs must be signed by the SSHO, Superintendent, CQCSM, and the subcontractor Foreman performing the work. Format the AHA in accordance with EM 385-1-1, Section 1 or as directed by the Contracting Officer. Submit the AHA for review at least 15 working days prior to the start of each activity task, or DFOW. The Government reserves the right to require the Contractor to revise and resubmit the AHA if it fails to effectively identify the work sequences, specific anticipated hazards, site conditions, equipment, materials, personnel and the control measures to be implemented.

AHAs must identify competent persons required for phases involving high risk activities, including confined entry, crane and rigging, excavations, trenching, electrical work, fall protection, and scaffolding.

1.8.1 AHA Management

Review the AHA list periodically (at least monthly) at the Contractor supervisory safety meeting, and update as necessary when procedures, scheduling, or hazards change. Use the AHA during daily inspections by the SSHO to ensure the implementation and effectiveness of the required safety and health controls for that work activity.

1.8.2 AHA Signature Log

Each employee performing work as part of an activity, task or DFOW must review the AHA for that work and sign a signature log specifically maintained for that AHA prior to starting work on that activity. The SSHO

must maintain a signature log on site for every AHA. Provide employees whose primary language is other than English, with an interpreter to ensure a clear understanding of the AHA and its contents.

1.9 DISPLAY OF SAFETY INFORMATION

1.9.1 Safety Bulletin Board

Prior to commencement of work, erect a safety bulletin board at the job site. Where size, duration, or logistics of project do not facilitate a bulletin board, an alternative method, acceptable to the Contracting Officer, that is accessible and includes all mandatory information for employee and visitor review, may be deemed as meeting the requirement for a bulletin board. Include and maintain information on safety bulletin board as required by EM 385-1-1, Section 01.A.07. Additional items required to be posted include:

a. Confined space entry permit.

b. Hot work permit.

1.9.2 Safety and Occupational Health (SOH) Deficiency Tracking System

Establish a SOH deficiency tracking system that lists and monitors the status of SOH deficiencies in chronological order. Use the tracking system to evaluate the effectiveness of the APP. A monthly evaluation of the data must be discussed in the QC or SOH meeting with everyone on the project. The list must be posted on the project bulletin board and updated daily, and provide the following information:

a. Date deficiency identified;

b. Description of deficiency;

c. Name of person responsible for correcting deficiency;

d. Projected resolution date;

e. Date actually resolved.

1.10 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in paragraph REFERENCES. Maintain applicable equipment manufacturer's manuals.

1.11 EMERGENCY MEDICAL TREATMENT

Contractors must arrange for their own emergency medical treatment in accordance with EM 385-1-1. Government has no responsibility to provide emergency medical treatment.

1.12 NOTIFICATIONS and REPORTS

1.12.1 Mishap Notification

Notify the Contracting Officer as soon as practical, but no more than twenty-four hours, after any mishaps, including recordable accidents, incidents, and near misses, as defined in EM 385-1-1 Appendix Q, any

report of injury, illness, or any property damage. For LHE or rigging mishaps, notify the Contracting Officer as soon as practical but not more than four hours after mishap. The Contractor is responsible for obtaining appropriate medical and emergency assistance and for notifying fire, law enforcement, and regulatory agencies. Immediate reporting is required for electrical mishaps, to include Arc Flash; shock; uncontrolled release of hazardous energy (includes electrical and non-electrical); load handling equipment or rigging; fall from height (any level other than same surface); and underwater diving. These mishaps must be investigated in depth to identify all causes and to recommend hazard control measures.

Within notification include Contractor name; Contractt title; type of Contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (for example, type of construction equipment used and PPE used). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted. Assist and cooperate fully with the Government's investigation(s) of any mishap.

1.12.2 Accident Reports

a. Conduct an accident investigation for recordable injuries and illnesses, property damage, and near misses as defined in EM 385-1-1, to establish the root cause(s) of the accident. Complete the applicable USACE Accident Report Form 3394, and provide the report to the Contracting Officer within 5 calendar days of the accident. The Contracting Officer will provide copies of any required or special forms.

b. Near Misses: Report all "Near Misses" to the GDA, using local mishap reporting procedures, within 24 hrs. The Contracting Officer will provide the Contractor the required forms. Near miss reports are considered positive and proactive Contractor safety management actions.

c. Conduct an accident investigation for any load handling equipment accident (including rigging accidents) to establish the root cause(s) of the accident. Complete the LHE Accident Report (Crane and Rigging Accident Report) form and provide the report to the Contracting Officer within 30 calendar days of the accident. Do not proceed with crane operations until cause is determined and corrective actions have been implemented to the satisfaction of the Contracting Officer. The Contracting Officer will provide a blank copy of the accident report form.

1.12.3 LHE Inspection Reports

Submit LHE inspection reports required in accordance with EM 385-1-1 and as specified herein with Daily Reports of Inspections.

1.12.4 Certificate of Compliance and Pre-lift Plan/Checklist for LHE and Rigging

Provide a FORM 16-1 Certificate of Compliance for LHE entering an activity under this Contract and in accordance with EM 385-1-1. Post certifications on the crane. FORM CENAP 16-1 is attached to the end of this section.

Develop a Standard Lift Plan (SLP) in accordance with EM 385-1-1, Section

16.H.03 using Form 16-2 Standard Pre-Lift Crane Plan/Checklist for each lift planned. Submit SLP to the Contracting Officer for approval within 15 calendar days in advance of planned lift.

1.13 HOT WORK

1.13.1 Permit and Personnel Requirements

Submit and obtain a written permit prior to performing "Hot Work" (i.e. welding or cutting) or operating other flame-producing/spark producing devices, from the Contractor's designated permit authorizing individual. Use DA Form 5383-R Hot-Work Permit, attached to this section, unless otherwise directed. Provide at least two 20 pound 4A:20 BC rated extinguishers for normal "Hot Work". The extinguishers must be current inspection tagged, and contain an approved safety pin and tamper resistant seal. It is also mandatory to have a designated FIRE WATCH for any "Hot Work" done at this activity. The Fire Watch must be trained in accordance with NFPA 51B and remain on-site for a minimum of one hour after completion of the task or as specified on the hot work permit.

When starting work in the facility, require personnel to familiarize themselves with the location of the nearest fire alarm boxes and place in memory the emergency local Fire Department phone number. REPORT ANY FIRE, NO MATTER HOW SMALL, TO THE LOCAL FIRE DEPARTMENT IMMEDIATELY.

1.13.2 Work Around Flammable Materials

Obtain permit approval from a NFPA Certified Marine Chemist, or Certified Industrial Hygienist for "HOT WORK" within or around flammable materials (such as fuel systems or welding/cutting on fuel pipes) or confined spaces (such as sewer wet wells, manholes, or vaults) that have the potential for flammable or explosive atmospheres.

Whenever these materials, except beryllium and chromium (VI), are encountered in indoor operations, local mechanical exhaust ventilation systems that are sufficient to reduce and maintain personal exposures to within acceptable limits must be used and maintained in accordance with manufacturer's instruction and supplemented by exceptions noted in EM 385-1-1, Section 06.H

1.14 RADIATION SAFETY REQUIREMENTS

Submit License Certificates, employee training records, and Leak Test Reports for radiation materials and equipment to the Contracting Officer for all specialized and licensed material and equipment proposed for use on the construction project (excludes portable machine sources of ionizing radiation including moisture density and X-Ray Fluorescence (XRF)). Maintain on-site records whenever licensed radiological materials or ionizing equipment are on Government property.

Protect workers from radiation exposure in accordance with 10 CFR 20, ensuring any personnel exposures are maintained As Low As Reasonably Achievable.

1.14.1 Radiography Operation Planning Work Sheet

Submit a Gamma and X-Ray Radiography Operation Planning Work Sheet to Contracting Officer 14 days prior to commencement of operations involving radioactive materials or radiation generating devices. For portable

machine sources of ionizing radiation, including moisture density and XRF, use and submit the Portable Gauge Operations Planning Worksheet instead. The Contracting Officer and COT will review the submitted worksheet and provide questions and comments.

Contractors must use primary dosimeters process by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory.

1.14.2 Site Access and Security

Coordinate site access and security requirements with the Contracting Officer and COT for all radiological materials and equipment containing ionizing radiation that are proposed for use. The authorized representative will meet the Contractor at a designated location, ensure safety of the materials being transported, and will escort the Contractor to the job site and return upon completion of the work.

Provide a copy of all calibration records, and utilization records to the COT for radiological operations performed on the site.

1.14.3 Loss or Release and Unplanned Personnel Exposure

Loss or release of radioactive materials, and unplanned personnel exposures must be reported immediately to the Contracting Officer.

1.14.4 Site Demarcation and Barricade

Properly demark and barricade an area surrounding radiological operations to preclude personnel entrance, in accordance with EM 385-1-1, Nuclear Regulatory Commission, and Applicable State regulations and license requirements, and in accordance with requirements established in the accepted Radiography Operation Planning Work Sheet.

Do not close or obstruct streets, walks, and other facilities occupied and used by the Government without written permission from the Contracting Officer.

1.14.5 Security of Material and Equipment

Properly secure the radiological material and ionizing radiation equipment at all times, including keeping the devices in a properly marked and locked container, and secondarily locking the container to a secure point in the Contractor's vehicle or other approved storage location during transportation and while not in use. While in use, maintain a continuous visual observation on the radiological material and ionizing radiation equipment. In instances where radiography is scheduled near or adjacent to buildings or areas having limited access or one-way doors, make no assumptions as to building occupancy. Where necessary, the Contracting Officer will direct the Contractor to conduct an actual building entry, search, and alert. Where removal of personnel from such a building cannot be accomplished and it is otherwise safe to proceed with the radiography, position a fully instructed employee inside the building or area to prevent exiting while external radiographic operations are in process.

1.14.6 Transportation of Material

Comply with 49 CFR 173 for Transportation of Regulated Amounts of Radioactive Material. Notify Local Fire authorities and the Contracting Officer of any Radioactive Material use.

1.14.7 Schedule for Exposure or Unshielding

Actual exposure of the radiographic film or unshielding the source must not be initiated until after 5 p.m. on weekdays.

1.14.8 Transmitter Requirements

Adhere to the base policy concerning the use of transmitters, such as radios and cell phones. Obey Emissions control (EMCON) restrictions.

1.15 CONFINED SPACE ENTRY REQUIREMENTS

Confined space entry must comply with Section 34 of EM 385-1-1, OSHA 29 CFR 1926, OSHA 29 CFR 1910, OSHA 29 CFR 1910.146, and OSHA Directive CPL 2.100. Any potential for a hazard in the confined space requires a permit system to be used.

1.15.1 Entry Procedures

Prohibit entry into a confined space by personnel for any purpose, including hot work, until the qualified person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and that all potential hazards are controlled or eliminated and documented. Comply with EM 385-1-1, Section 34 for entry procedures. Hazards pertaining to the space must be reviewed with each employee during review of the AHA.

1.15.2 Forced Air Ventilation

Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must be maintained to ensure exposure to any hazardous atmosphere is kept below its action level.

1.15.3 Sewer Wet Wells

Sewer wet wells require continuous atmosphere monitoring with audible alarm for toxic gas detection.

1.15.4 Rescue Procedures and Coordination with Local Emergency Responders

Develop and implement an on-site rescue and recovery plan and procedures. The rescue plan must not rely on local emergency responders for rescue from a confined space.

1.16 DIVE SAFETY REQUIREMENTS

Develop a Dive Operations Plan, AHA, emergency management plan, and personnel list that includes qualifications, for each separate diving operation. See Section 01 35 50 DIVING SERVICES for dive safety requirements. Submit these documents to the District Dive Coordinator (DDC) via the Contracting Officer or Government Designated Authority (GDA), for review and approval at least 15 working days prior to commencement of diving operations. These documents must be at the diving location at all times. Provide each of these documents as a part of the project file.

1.17 SEVERE STORM PLAN

In the event of a severe storm warning, the Contractor must comply with the

applicable Storm Plan and:

a. Secure outside equipment and materials and place materials that could be damaged in protected areas.

b. Check surrounding area, including roof, for loose material, equipment, debris, and other objects that could be blown away or against existing facilities.

c. Ensure that temporary erosion controls are adequate.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 CONSTRUCTION AND OTHER WORK

Comply with EM 385-1-1, NFPA 70, NFPA 70E, NFPA 241, the APP, the AHA, Federal and State OSHA regulations, and other related submittals and activity fire and safety regulations. The most stringent standard prevails.

PPE is governed in all areas by the nature of the work the employee is performing. Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks. Safety glasses must be worn or carried/available on each person. Mandatory PPE includes:

a. Hard Hat

b. Long Pants

c. Appropriate Safety Shoes

d. Appropriate Class Reflective Vests

e. Appropriate Safety Eyewear

3.1.1 Worksite Communication

Employees working alone in a remote location or away from other workers must be provided an effective means of emergency communications (i.e., cellular phone, two-way radios, land-line telephones or other acceptable means). The selected communication must be readily available (easily within the immediate reach) of the employee and must be tested prior to the start of work to verify that it effectively operates in the area/environment. Develop an employee check-in/check-out communication procedure to ensure employee safety.

3.1.2 Hazardous Material Exclusions

Notwithstanding any other hazardous material used in this Contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material and devices used in accordance with EM 385-1-1 such as nuclear density meters for compaction testing and laboratory equipment with radioactive

sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocyanates, lead-based paint, and hexavalent chromium, are prohibited. The Contracting Officer, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded materials. Low mercury lamps used within fluorescent lighting fixtures are allowed as an exception without further Contracting Officer approval. Notify the Contracting Officer prior to excepted items of radioactive material and devices being brought on site.

3.1.3 Unforeseen Hazardous Material

Contract documents identify materials such as PCB, lead paint, and friable and non-friable asbestos and other OSHA regulated chemicals (i.e. 29 CFR Part 1910.1000). If material(s) that may be hazardous to human health upon disturbance are encountered during construction operations, stop that portion of work and notify the Contracting Officer immediately. Within 14 calendar days the Government will determine if the material is hazardous. If material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification pursuant to FAR 52.243-4 Changes and FAR 52.236-2 Differing Site Conditions.

3.2 UTILITY OUTAGE REQUIREMENTS

Apply for utility outages at least 14 days in advance. At a minimum, the written request must include the location of the outage, utilities being affected, duration of outage, any necessary sketches, and a description of the means to fulfill energy isolation requirements in accordance with EM 385-1-1, Section 11.A.02 (Isolation). Some examples of energy isolation devices and procedures are highlighted in EM 385-1-1, Section 12.D. In accordance with EM 385-1-1, Section 12.A.01, where outages involve Government or Utility personnel, coordinate with the Government on all activities involving the control of hazardous energy.

These activities include, but are not limited to, a review of HECP and HEC procedures, as well as applicable Activity Hazard Analyses (AHAs). In accordance with EM 385-1-1, Section 11.A.02 and NFPA 70E, work on energized electrical circuits must not be performed without prior Government authorization. Government permission is considered through the permit process and submission of a detailed AHA. Energized work permits are considered only when de-energizing introduces additional or increased hazard or when de-energizing is infeasible.

3.3 OUTAGE COORDINATION MEETING

After the utility outage request is approved and prior to beginning work on the utility system requiring shut-down, conduct a pre-outage coordination meeting in accordance with EM 385-1-1, Section 12.A. This meeting must include the Prime Contractor, the Prime and subcontractors performing the work, the Contracting Officer, and the Public Utilities representative. All parties must fully coordinate HEC activities with one another. During the coordination meeting, all parties must discuss and coordinate on the scope of work, HEC procedures (specifically, the lock-out/tag-out procedures for worker and utility protection), the AHA, assurance of trade personnel qualifications, identification of competent persons, and compliance with HECP training in accordance with EM 385-1-1, Section 12.C. Clarify when personal protective equipment is required during switching operations, inspection, and verification.

3.4 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

Provide and operate a Hazardous Energy Control Program (HECP) in accordance with EM 385-1-1 Section 12, 29 CFR 1910.333, 29 CFR 1915.89, ASSP A10.44, NFPA 70E, and paragraph HAZARDOUS ENERGY CONTROL PROGRAM (HECP).

3.4.1 Safety Preparatory Inspection Coordination Meeting with the Government or Utility

For electrical distribution equipment that is to be operated by Government or Utility personnel, the Prime Contractor and the subcontractor performing the work must attend the safety preparatory inspection coordination meeting, which will also be attended by the Contracting Officer's Representative, and required by EM 385-1-1, Section 12.A.02. The meeting will occur immediately preceding the start of work and following the completion of the outage coordination meeting. Both the safety preparatory inspection coordination meeting and the outage coordination meeting must occur prior to conducting the outage and commencing with lockout/tagout procedures.

3.4.2 Lockout/Tagout Isolation

Where the Government or Utility performs equipment isolation and lockout/tagout, the Contractor must place their own locks and tags on each energy-isolating device and proceed in accordance with the HECP. Before any work begins, both the Contractor and the Government or Utility must perform energy isolation verification testing while wearing required PPE detailed in the Contractor's AHA and required by EM 385-1-1, Sections 05.I and 11.B. Install personal protective grounds, with tags, to eliminate the potential for induced voltage in accordance with EM 385-1-1, Section 12.E.06.

3.4.3 Lockout/Tagout Removal

Upon completion of work, conduct lockout/tagout removal procedure in accordance with the HECP. In accordance with EM 385-1-1, Section 12.E.08, each lock and tag must be removed from each energy isolating device by the authorized individual or systems operator who applied the device. Provide formal notification to the Government (by completing the Government form if provided by Contracting Officer's Representative), confirming that steps of de-energization and lockout/tagout removal procedure have been conducted and certified through inspection and verification. Government or Utility locks and tags used to support the Contractor's work will not be removed until the authorized Government employee receives the formal notification.

3.5 FALL PROTECTION PROGRAM

Establish a fall protection program, for the protection of all employees exposed to fall hazards. Within the program include company policy, identify roles and responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and evacuation procedures in accordance with ASSP Z359.2 and EM 385-1-1, Sections 21.A and 21.D.

3.5.1 Training

Institute a fall protection training program. As part of the Fall

Protection Program, provide training for each employee who might be exposed to fall hazards and using personal fall protection equipment. Provide training by a competent person for fall protection in accordance with EM 385-1-1, Section 21.C. Document training and practical application of the competent person in accordance with EM 385-1-1, Section 21.C.04 and ASSP Z359.2 in the AHA.

3.5.2 Fall Protection Equipment and Systems

Enforce use of personal fall protection equipment and systems designated (to include fall arrest, restraint, and positioning) for each specific work activity in the Site Specific Fall Protection and Prevention Plan and AHA at all times when an employee is exposed to a fall hazard. Protect employees from fall hazards as specified in EM 385-1-1, Section 21.

Provide personal fall protection equipment, systems, subsystems, and components that comply with EM 385-1-1 Section 21.I, 29 CFR 1926.500 Subpart M,ASSP Z359.0, ASSP Z359.1, ASSP Z359.2, ASSP Z359.3, ASSP Z359.4, ASSP Z359.6, ASSP Z359.7, ASSP Z359.11, ASSP Z359.12, ASSP Z359.13, ASSP Z359.14, ASSP Z359.15, ASSP Z359.16 and ASSP Z359.18.

3.5.2.1 Additional Personal Fall Protection Measures

In addition to the required fall protection systems, other protective measures such as safety skiffs, personal floatation devices, and life rings, are required when working above or next to water in accordance with EM 385-1-1, Sections 21.O through 21.O.06. Personal fall protection systems and equipment are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall protection systems are required when operating other equipment such as scissor lifts. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, travel, or while performing work.

3.5.2.2 Personal Fall Protection Equipment

Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device. The use of body belts is not acceptable. Harnesses must have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Snap hooks and carabineers must be self-closing and self-locking, capable of being opened only by at least two consecutive deliberate actions and have a minimum gate strength of 3,600 lbs in all directions. Use webbing, straps, and ropes made of synthetic fiber. The maximum free fall distance when using fall arrest equipment must not exceed 6 feet, unless the proper energy absorbing lanyard is used. Always take into consideration the total fall distance and any swinging of the worker (pendulum-like motion), that can occur during a fall, when attaching a person to a fall arrest system. Equip all full body harnesses with Suspension Trauma Preventers such as stirrups, relief steps, or similar in order to provide short-term relief from the effects of orthostatic intolerance in accordance with EM 385-1-1, Section 21.I.06.

3.5.3 Fall Protection for Roofing Work

Implement fall protection controls based on the type of roof being constructed and work being performed. Evaluate the roof area to be accessed for its structural integrity including weight-bearing capabilities

for the projected loading.

a. Low Sloped Roofs:

(1) For work within 6 feet from unprotected edge of a roof having a slope less than or equal to 4:12 (vertical to horizontal), protect personnel from falling by the use of conventional fall protection systems (personal fall arrest/restraint systems, guardrails, or safety nets) in accordance with EM 385-1-1, Section 21 and 29 CFR 1926.500. A safety monitoring system is not adequate fall protection and is not authorized.

(2) For work greater than 6 feet from the unprotected roof edge, addition to the use of conventional fall protection systems the use of a warning line system is also permitted, in accordance with 29 CFR 1926.500 and EM 385-1-1, Section 21.L.

b. Steep-Sloped Roofs: Work on a roof having a slope greater than 4:12 (vertical to horizontal) requires a personal fall arrest system, guardrails with toe-boards, or safety nets.

3.5.4 Horizontal Lifelines (HLL)

Provide HLL in accordance with EM 385-1-1, Section 21.I.08.d.2. Commercially manufactured horizontal lifelines (HLL) must be designed, installed, certified and used, under the supervision of a qualified person, for fall protection as part of a complete fall arrest system which maintains a safety factor of 2 (29 CFR 1926.500). The competent person for fall protection may (if deemed appropriate by the qualified person) supervise the assembly, disassembly, use and inspection of the HLL system under the direction of the qualified person. Locally manufactured HLLs are not acceptable unless they are custom designed for limited or site specific applications by a Registered Professional Engineer who is qualified in designing HLL systems.

3.5.5 Guardrails and Safety Nets

Design, install and use guardrails and safety nets in accordance with EM 385-1-1, Section 21.F.01 and 29 CFR 1926 Subpart M.

3.5.6 Rescue and Evacuation Plan and Procedures

When personal fall arrest systems are used, ensure that the mishap victim can self-rescue or can be rescued promptly should a fall occur. Prepare a Rescue and Evacuation Plan and include a detailed discussion of the following: methods of rescue; methods of self-rescue or assisted-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility. Include the Rescue and Evacuation Plan within the Activity Hazard Analysis (AHA) for the phase of work, in the Fall Protection and Prevention (FP&P) Plan, and the Accident Prevention Plan (APP). The plan must be in accordance with the requirements of EM 385-1-1, ASSP Z359.2, and ASSP Z359.4.

3.6 WORK PLATFORMS

3.6.1 Scaffolding

Provide employees with a safe means of access to the work area on the

scaffold. Climbing of any scaffold braces or supports not specifically designed for access is prohibited. Comply with the following requirements:

a. Scaffold platforms greater than 20 feet in height must be accessed by use of a scaffold stair system.

b. Ladders commonly provided by scaffold system manufacturers are prohibited for accessing scaffold platforms greater than 20 feet maximum in height.

c. An adequate gate is required.

d. Employees performing scaffold erection and dismantling must be qualified.

e. Scaffold must be capable of supporting at least four times the maximum intended load, and provide appropriate fall protection as delineated in the accepted fall protection and prevention plan.

f. Stationary scaffolds must be attached to structural building components to safeguard against tipping forward or backward.

g. Special care must be given to ensure scaffold systems are not overloaded.

h. Side brackets used to extend scaffold platforms on self-supported scaffold systems for the storage of material are prohibited. The first tie-in must be at the height equal to 4 times the width of the smallest dimension of the scaffold base.

i. Scaffolding other than suspended types must bear on base plates upon wood mudsills (2 in x 10 in x 8 in minimum) or other adequate firm foundation.

j. Scaffold or work platform erectors must have fall protection during the erection and dismantling of scaffolding or work platforms that are more than 6 feet.

k. Delineate fall protection requirements when working above 6 feet or above dangerous operations in the Fall Protection and Prevention (FP&P) Plan and Activity Hazard Analysis (AHA) for the phase of work.

3.6.2 Elevated Aerial Work Platforms (AWPs)

Workers must be anchored to the basket or bucket in accordance with manufacturer's specifications and instructions (anchoring to the boom may only be used when allowed by the manufacturer and permitted by the CP). Lanyards used must be sufficiently short to prohibit worker from climbing out of basket. The climbing of rails is prohibited. Lanyards with built-in shock absorbers are acceptable. Self-retracting devices are not acceptable. Tying off to an adjacent pole or structure is not permitted unless a safe device for 100 percent tie-off is used for the transfer.

Use of AWPs must be operated, inspected, and maintained as specified in the operating manual for the equipment and delineated in the AHA. Operators of AWPs must be designated as qualified operators by the Prime Contractor. Maintain proof of qualifications on site for review and include in the AHA.

3.7 EQUIPMENT

3.7.1 Material Handling Equipment (MHE)

a. Material handling equipment such as forklifts must not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions. Material handling equipment fitted with personnel work platform attachments are prohibited from traveling or positioning while personnel are working on the platform.

b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions. Material Handling Equipment Operators must be trained in accordance with OSHA 29 CFR 1910, Subpart N.

c. Operators of forklifts or power industrial trucks must be licensed in accordance with OSHA.

3.7.2 Load Handling Equipment (LHE)

The following requirements apply. In exception, these requirements do not apply to commercial truck mounted and articulating boom cranes used solely to deliver material and supplies (not prefabricated components, structural steel, or components of a systems-engineered metal building) where the lift consists of moving materials and supplies from a truck or trailer to the ground; to cranes installed on mechanics trucks that are used solely in the repair of shore-based equipment; to crane that enter the activity but are not used for lifting; nor to other machines not used to lift loads suspended by rigging equipment. However, LHE accidents occurring during such operations must be reported.

a. Equip cranes and derricks as specified in EM 385-1-1, Section 16.

b. Notify the Contracting Officer 15 working days in advance of any LHE entering the activity, in accordance with EM 385-1-1, Section 16.A.02, so that necessary quality assurance spot checks can be coordinated. Contractor's operator must remain with the crane during the spot check. Rigging gear must be in accordance with OSHA and ASME B30.9 Standards.

c. Comply with the LHE manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Perform erection under the supervision of a designated person (as defined in ASME B30.5). Perform all testing in accordance with the manufacturer's recommended procedures.

d. Comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes, ASME B30.3 for construction tower cranes, ASME B30.8 for floating cranes and floating derricks, ASME B30.9 for slings, ASME B30.20 for below the hook lifting devices and ASME B30.26 for rigging hardware.

e. When operating in the vicinity of overhead transmission lines, operators and riggers must be alert to this special hazard and follow the requirements of EM 385-1-1 Section 11, and ASME B30.5 or ASME B30.22 as applicable.

f. Do not use crane suspended personnel work platforms (baskets) unless

the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Do not lift personnel with a line hoist or friction crane. Additionally, submit a specific AHA for this work to the Contracting Officer. Ensure the activity and AHA are thoroughly reviewed by all involved personnel.

g. Inspect, maintain, and recharge portable fire extinguishers as specified in NFPA 10, Standard for Portable Fire Extinguishers.

h. All employees must keep clear of loads about to be lifted and of suspended loads, except for employees required to handle the load.

i. Use cribbing when performing lifts on outriggers.

j. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.

k. A physical barricade must be positioned to prevent personnel access where accessible areas of the LHE's rotating superstructure poses a risk of striking, pinching or crushing personnel.

l. Maintain inspection records in accordance by EM 385-1-1, Section 16.D, including shift, monthly, and annual inspections, the signature of the person performing the inspection, and the serial number or other identifier of the LHE that was inspected. Records must be available for review by the Contracting Officer.

m. Maintain written reports of operational and load testing in accordance with EM 385-1-1, Section 16.F, listing the load test procedures used along with any repairs or alterations performed on the LHE. Reports must be available for review by the Contracting Officer.

n. Certify that all LHE operators have been trained in proper use of all safety devices (e.g. anti-two block devices).

o. Take steps to ensure that wind speed does not contribute to loss of control of the load during lifting operations. At wind speeds greater than 20 mph, the operator, rigger and lift supervisor must cease all crane operations, evaluate conditions and determine if the lift may proceed. Base the determination to proceed or not on wind calculations per the manufacturer and a reduction in LHE rated capacity if applicable. Include this maximum wind speed determination as part of the activity hazard analysis plan for that operation.

q. Follow FAA guidelines when required based on project location.

3.7.3 Machinery and Mechanized Equipment

a. Proof of qualifications for operator must be kept on the project site for review.

b. Manufacture specifications or owner's manual for the equipment must be on-site and reviewed for additional safety precautions or requirements that are sometimes not identified by OSHA or USACE EM 385-1-1. Incorporate such additional safety precautions or requirements into the AHAs.

3.7.4 Base Mounted Drum Hoists

a. Operation of base mounted drum hoists must be in accordance with EM 385-1-1 and ASSP A10.22.

b. Rigging gear must be in accordance with applicable ASME/OSHA standards.

c. When used on telecommunication towers, base mounted drum hoists must be in accordance with TIA-1019, TIA-222, ASME B30.7, 29 CFR 1926.552, and 29 CFR 1926.553.

d. When used to hoist personnel, the AHA must include a written standard operating procedure. Operators must have a physical examination in accordance with EM 385-1-1 Section 16.B.05 and trained, at a minimum, in accordance with EM 385-1-1 Section 16.U and 16.T. The base mounted drum hoist must also comply with OSHA Instruction CPL 02-01-056 and ASME B30.23.

e. Material and personnel must not be hoisted simultaneously.

f. Personnel cage must be marked with the capacity (in number of persons) and load limit in pounds.

g. Construction equipment must not be used for hoisting material or personnel or with trolley/tag lines. Construction equipment may be used for towing and assisting with anchoring guy lines.

3.7.5 Use of Explosives

Explosives must not be used or brought to the project site.

3.8 EXCAVATIONS

Soil classification must be performed by a competent person in accordance with 29 CFR 1926 and EM 385-1-1.

3.8.1 Utility Locations

Provide a third party, independent, private utility locating company to positively identify underground utilities in the work area in addition to any station locating service and coordinated with the station utility department.

3.8.2 Utility Location Verification

Physically verify underground utility locations, including utility depth, by hand digging using wood or fiberglass handled tools when any adjacent construction work is expected to come within 3 feet of the underground system.

3.8.3 Utilities Within and Under Concrete, Bituminous Asphalt, and Other Impervious Surfaces

Utilities located within and under concrete slabs or pier structures, bridges, parking areas, and the like, are extremely difficult to identify. Whenever Contract work involves chipping, saw cutting, or core drilling through concrete, bituminous asphalt or other impervious surfaces, the existing utility location must be coordinated with station utility departments in addition to location and depth verification by a third

party, independent, private locating company. The third party, independent, private locating company must locate utility depth by use of Ground Penetrating Radar (GPR), X-ray, bore scope, or ultrasound prior to the start of demolition and construction. Outages to isolate utility systems must be used in circumstances where utilities are unable to be positively identified. The use of historical drawings does not alleviate the Contractor from meeting this requirement.

3.9 ELECTRICAL

Perform electrical work in accordance with EM 385-1-1, Sections 11 and 12.

3.9.1 Conduct of Electrical Work

As delineated in EM 385-1-1, electrical work is to be conducted in a de-energized state unless there is no alternative method for accomplishing the work. In those cases obtain an energized work permit from the Contracting Officer. The energized work permit application must be accompanied by the AHA and a summary of why the equipment/circuit needs to be worked energized. Underground electrical spaces must be certified safe for entry before entering to conduct work. Cables that will be cut must be positively identified and de-energized prior to performing each cut. Attach temporary grounds in accordance with ASTM F855 and IEEE 1048. Perform all high voltage cable cutting remotely using hydraulic cutting tool. When racking in or live switching of circuit breakers, no additional person other than the switch operator is allowed in the space during the actual operation. Plan so that work near energized parts is minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method.

When working in energized substations, only qualified electrical workers are permitted to enter. When work requires work near energized circuits as defined by NFPA 70, high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety shoes, insulating gloves and electrical arc flash protection for personnel as required by NFPA 70E. Insulating blankets, hearing protection, and switching suits may also be required, depending on the specific job and as delineated in the Contractor's AHA. Ensure that each employee is familiar with and complies with these procedures and 29 CFR 1910.147.

3.9.2 Qualifications

Electrical work must be performed by QP with verifiable credentials who are familiar with applicable code requirements. Verifiable credentials consist of State, National and Local Certifications or Licenses that a Master or Journeyman Electrician may hold, depending on work being performed, and must be identified in the appropriate AHA. Journeyman/Apprentice ratio must be in accordance with State, Local requirements applicable to where work is being performed.

3.9.3 Arc Flash

Conduct a hazard analysis/arc flash hazard analysis whenever work on or near energized parts greater than 50 volts is necessary, in accordance with NFPA 70E.

All personnel entering the identified arc flash protection boundary must be QPs and properly trained in NFPA 70E requirements and procedures. Unless permitted by NFPA 70E, no Unqualified Person is permitted to approach

nearer than the Limited Approach Boundary of energized conductors and circuit parts. Training must be administered by an electrically qualified source and documented.

3.9.4 Grounding

Ground electrical circuits, equipment and enclosures in accordance with NFPA 70 and IEEE C2 to provide a permanent, continuous and effective path to ground unless otherwise noted by EM 385-1-1.

Check grounding circuits to ensure that the circuit between the ground and a grounded power conductor has a resistance low enough to permit sufficient current flow to allow the fuse or circuit breaker to interrupt the current.

3.9.5 Testing

Temporary electrical distribution systems and devices must be inspected, tested and found acceptable for Ground-Fault Circuit Interrupter (GFCI) protection, polarity, ground continuity, and ground resistance before initial use, before use after modification and at least monthly. Monthly inspections and tests must be maintained for each temporary electrical distribution system, and signed by the electrical CP or QP.

3.10 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for the work specified in this section and all costs in connection therewith shall be included in the cost of all the bid items.

-- End of Section --

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USACE PRIME CONTRACTOR
Monthly Record of Work-Related Injuries/Illnesses & Exposure

US Army Corps of Engineers

Month _____
Year _____

In accordance with the provisions of EM 385-1-1, Section 01 Program Management, Paragraph 01.D Accident Reporting and Recording, sub-paragraphs 01.D.05, you (the Prime Contractor) shall provide a monthly record of all exposure and accident experience incidental to the work (this includes exposure and accident experience of the Prime Contractor and its sub-contractor(s). As a minimum , these records shall include exposure work hours and a record of occupational injuries and illnesses that include the data elements listed below. Definitional criteria for each data element is found in 29 CFR Part 1904. If the maintenance of OSHA 300 Logs are required by OSHA, most of this information can be obtained from those logs. If data on log provided below is revised after it is submitted to USACE, Contractor shall provide a revised report to the GDA. You must complete the USACE ENG Form 3394, Report of Accident Investigation Report for all recordable accidents. If you're not sure whether a case is recordable, call your local Safety and Occupational Health Office for help.

USACE Command _____
Contractor Name _____
Contract Number _____
Project Title _____
City _____ **State** _____
USACE Office Overseeing Work:

Identify the person							Describe The Case		Classify the case												
(A)		(B1)	(B2)	(B3)	(C)	(D)	(E)	(F)	Using these categories, check ONLY the most serious result for each case:				Enter the number of days the injured or ill worker was:		Check the "injury" column or choose one type of illness:						
															(M)						
Company Name	Prime or Sub (P or S)	Age	Gender	Date Employee Began Work on Job Covered by Contract	Job Title (e.g., Welder)	Date of injury or onset of illness (mo./day)	Where the event occurred (e.g. Loading dock north end)	Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill (e.g. Second degree burns on right forearm from acetylene torch)	Death	Days away from work	Remained at work: Job transfer or restriction	Remained at work: Other record-able cases	On job transfer or restriction (days)	Away from work (days)	Injury	Skin Disorder	Respiratory Condition	Poisoning	Hearing Loss	All other Illnesses
									(G)	(H)	(I)	(J)	(K)	(L)	(1)	(2)	(3)	(4)	(5)	(6)
									0	0	0	0	0	0	0	0	0	0	0	0

For Government Use Only

TYPE OF WORK ACTIVITY (Choose One):			
Construction		Environmental Remed.	
Opn & Main.		Superfund	
Eng. Services		FUDS	
Dredging		IRP	
Rsch. & Dev.		FUSRAP	
Emerg. Opns.		Ordinance/Expl. Cleanup	
Other		Environmental Other	

Type of Contract (Choose One):	
Civil Works	
Military Programs	
Other	

Exposure Hours	
Month	
Year to Date	

Certification of Record	
Name of Person Submit. Record	
Signature	
Date	

Page ___ of ___

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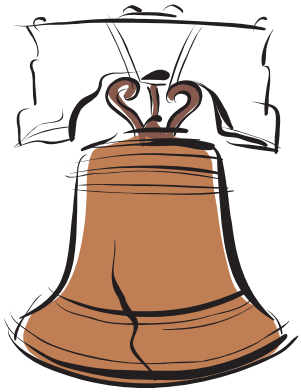

Philadelphia District

Safety and Occupational Health

Accident Prevention Plan (APP) Checklist

(EM 385-1-1, Appendix A, 30 November 2014)

Contractor SHALL complete this checklist and submit it with their APP.
An APP will not be reviewed without the checklist.

Form A-02
U.S. Army Corps of Engineers
Accident Prevention Plan Checklist

Date of Inspection

Location (Plant or Facility)	Contract Number
Contractor Name	Project Name
Inspector Name (Print)	Inspector Signature

This checklist serves as a guide only, it does not replace or eliminate the need to comply with the requirements set forth in Engineering Manual 385-1-1, Safety and Health Requirements Manual, dated 30 November 2014. The references included in this checklist correspond to the applicable sections of EM 385-1-1.

Item Description	Pg.#	Yes	No	N/A	Remarks (Any NO or N/A Item)
1. Signature sheet					
a. Includes the name, signature, and title of the Plan Preparer (Qualified person, i.e. corporate safety staff person, QC)		☐	☐	☐	
b. Includes the name, signature, and title of the Plan Approver (e.g. owner, company president, regional vice president) (HTRW activities require approval of a Certified Industrial Hygienist, a Certified Safety Professional may approve the plan for operations involving UST removal where contaminants are known to be petroleum, oils, or lubricant).		☐	☐	☐	
c. Includes the name(s), signature(s), and titles(s) for the Plan Concurrence (provide concurrence of the other applicable corporate and project personnel (contractor) (e.g. Chief of Operations, Corporate Chief of Safety, Corporate Industrial Hygienist, project manager or superintendent, project safety professional, project QC).		☐	☐	☐	
2. Background information					
a. Includes the Contractor Name.		☐	☐	☐	
b. Includes the Contract Number.		☐	☐	☐	
c. Includes the Project Name.		☐	☐	☐	
d. Includes the Brief Project Description.		☐	☐	☐	
e. Includes the Location of the Project (map).		☐	☐	☐	
f. Includes the Contractor Accident Experience (Copy of OSHA 300 forms or equivalent)		☐	☐	☐	
g. Includes the Listing of Phases of Work and Hazardous Activities Requiring an Activity Hazard Analyses (AHA).		☐	☐	☐	
3. Statement of Safety and Health Policy. Includes a copy of the corporate safety policy. (In addition to the corporate policy statement, a copy of the corporate safety program may provide a portion of the information required by the accident prevention.		☐	☐	☐	
4. Responsibilities and Lines of Authorities					
a. Includes the identification and job responsibilities of personnel responsible for safety – at both corporate and project level - including their resumes.		☐	☐	☐	

Form A-02
U.S. Army Corps of Engineers
Accident Prevention Plan Checklist (cont'd)

Date of Inspection

Item Description	Pg.#	Yes	No	N/A	Remarks (Any NO or N/A Item)
b. Includes the lines of authority.		☐	☐	☐	
5. Training					
a. Includes the list of subjects to be discussed with employees at safety indoctrination.		☐	☐	☐	
b. Includes the list of mandatory training and certifications applicable to this project (e.g., explosive actuated tools, confined space entry, crane operator, diver, vehicle operator, HAZWOPER training and certification, PPE) and any requirements for periodic retraining/recertification.		☐	☐	☐	
c. Includes the identity requirements for emergency response training.		☐	☐	☐	
d. Includes the outline requirements (who attends, when given, who will conduct, etc.) for supervisory and employee safety.		☐	☐	☐	
6. Safety and Health Inspections					
a. Includes the name(s) of individual(s) responsible for conducting safety inspections. (e.g., PM, safety professional, QC, supervisors, employees)		☐	☐	☐	
b. Includes proof of inspector's training/qualifications.		☐	☐	☐	
c. Indicates when inspections will be conducted.		☐	☐	☐	
d. Furnished sample forms upon which inspections will be recorded.		☐	☐	☐	
e. Indicates deficiency tracking system and follow-up procedures.		☐	☐	☐	
f. Includes the names of competent and/or qualified person(s) and proof of competency/qualification to meet specific OSHA competent/qualified person(s) requirements.		☐	☐	☐	
g. Includes any external inspections/certifications which may be required. (e.g., US Coast Guard)		☐	☐	☐	
7. Safety and Health Expectations, Incentive Programs, and Compliance					
a. Includes the company's written safety program goals, objectives, and accident experience goals.		☐	☐	☐	
b. Includes a brief description of the company's safety incentive programs (if any).		☐	☐	☐	
c. Includes the policies and procedures regarding noncompliance with safety requirements (to include disciplinary actions for violation of safety requirements).		☐	☐	☐	
d. Includes the written company procedures for holding managers and supervisors accountable for safety.		☐	☐	☐	
8. Mishap Reporting					
a. The plan identifies how, when, and who shall complete the Exposure data (man-hours worked).		☐	☐	☐	
b. The plan identified how, when, and who shall complete mishap investigations, reports, and logs.		☐	☐	☐	
c. The plan identifies how, when, and who shall make immediate notification of major mishaps.		☐	☐	☐	

Form A-02
U.S. Army Corps of Engineers
Accident Prevention Plan Checklist (cont'd)

Date of Inspection

Based on a risk assessment of contracted activities and on mandatory OSHA compliance programs, the Contractor shall address all applicable occupational risks and compliance plans. Using the EM 385-1-1 as a guide, plans may include but not be limited to:

Item Description	Pg.#	Yes	No	N/A	Remarks (Any NO or N/A item)
9. Plans (Programs, Procedures) required by the Safety Manual					
a. Fatigue Management Plan (01.A.20)		☐	☐	☐	
b. Emergency response plans:		☐	☐	☐	
(1) Procedures & Test (01.E.01)		☐	☐	☐	
(2) Spill Plan (01.E.01, 06.A.02)		☐	☐	☐	
(3) Fire Fighting Plan (01.E.01; 19.A)		☐	☐	☐	
(4) Posting of Emergency Telephone Number (01.E.05)		☐	☐	☐	
(5) Man overboard/abandon ship (19.A.04)		☐	☐	☐	
(6) Medical Support. Outline on-site medical support and off-site medical arrangements including rescue and medical duties for those employees who are to perform them, and the name(s) of on-site Contractor personnel trained in first aid and CPR. A minimum of two employees shall be certified in CPR and first aid per shift/site (Section 03.A; 03.D)		☐	☐	☐	
c. Plan for prevention of alcohol and drug abuse (01.C.02)		☐	☐	☐	
d. Site Sanitation Plan (Section 02.B)		☐	☐	☐	
e. Medical Support Plan (03.A.01; 03.A.06; 03.D)		☐	☐	☐	
f. Bloodborne Pathogen Plan (03.A.05)		☐	☐	☐	
g. Exposure Control Plan (03.A.05)		☐	☐	☐	
h. Site Layout Plan (04.A)		☐	☐	☐	
i. Access/Haul road Plan (04.B)		☐	☐	☐	
j. Hearing Conservation Program (05.C)		☐	☐	☐	
k. Respiratory Protection Plan (05.G)		☐	☐	☐	
l. Health Hazard Control Programs (06.A)		☐	☐	☐	
m. Process Safety Management Plan (06.B.04)		☐	☐	☐	
n. Lead Abatement Plan (06.C & Specs)		☐	☐	☐	
o. Asbestos Abatement Plan (06.C & Specs)		☐	☐	☐	
p. Radiation Safety Program (06.F)		☐	☐	☐	
q. Abrasive Blasting Plan (06.1)		☐	☐	☐	
r. Heat/Cold Stress Monitoring Plan (06.J)		☐	☐	☐	
s. Indoor Air Quality Management Plan (06.L)		☐	☐	☐	
t. Mold Remediation Plan (06.L.04)		☐	☐	☐	
u. Chromium (VI) Exposure Evaluation (06.M)		☐	☐	☐	
v. Crystalline Silica Assessment (06.M)		☐	☐	☐	

Form A-02
U.S. Army Corps of Engineers
Accident Prevention Plan Checklist (cont'd)

Date of Inspection

Based on a risk assessment of contracted activities and on mandatory OSHA compliance programs, the Contractor shall address all applicable occupational risks and compliance plans. Using the EM 385-1-1 as a guide, plans may include but not be limited to:

Item Description	Pg.#	Yes	No	N/A	Remarks (Any NO or N/A Item)
9. Plans (Programs, Procedures) continued.					
w. Lighting Evaluation (07.A)		☐	☐	☐	
x. Lighting Plan for Night Operations (07.A.09)		☐	☐	☐	
y. Traffic Control Plan (08.C.05)		☐	☐	☐	
Z. Fire Prevention Plan (09.A.01)		☐	☐	☐	
aa. Wild Land Fire Management Plan (09.L)		☐	☐	☐	
bb. Arc Flash Hazard Analysis (11.B)		☐	☐	☐	
cc. Assured Equipment Grounding Control Program (AEGCP) (11.D.05, App D)		☐	☐	☐	
dd. Hazardous Energy Control Plan (12.A.01)		☐	☐	☐	
ee. Standard Pre-Lift Plan (LHE) (16.A.03, 16.L.15)		☐	☐	☐	
ff. Critical Lift Plan – LHE (16.H)		☐	☐	☐	
gg. Naval Architectural Analysis (16.L)		☐	☐	☐	
hh. Contingency Plan for Severe Weather (19.A.03)		☐	☐	☐	
ii. Man Overboard/Abandon Ship (19.A.03)		☐	☐	☐	
jj. Float Plan (19.F.04)		☐	☐	☐	
kk. Fall Protection Program (21.D)		☐	☐	☐	
ll. Demolition/Renovation Plan (to include engineering survey) (23.A.02)		☐	☐	☐	
mm. Rope Access Program (24.H.02)		☐	☐	☐	
nn. Excavation/Trenching Plan (25.A.01)		☐	☐	☐	
oo. Underground construction fire prevention and protection Plan (26.D.01)		☐	☐	☐	
pp. Compressed Air Plan (26.I.01)		☐	☐	☐	
qq. Formwork and Shoring Erection and Removal Plan (26.D.01)		☐	☐	☐	
rr. PreCast Concrete Plan (27.D)		☐	☐	☐	
ss. Lift slab plans (27.E)		☐	☐	☐	
tt. Masonry Bracing Plan (27.F.01)		☐	☐	☐	
uu. Steel Erection Plan (28.B)		☐	☐	☐	
vv. Explosives Safety Site Plan (ESSP) (29.A)		☐	☐	☐	
ww. Blasting Plan (29.A; 26.J)		☐	☐	☐	
xx. Underwater Dive Operations Plan (30.A.14, 16)		☐	☐	☐	
yy. Tree Felling/Maintenance Program (31.A)		☐	☐	☐	
zz. Aircraft/Airfield Construction Safety & Phasing Plan (32.A.02)		☐	☐	☐	
aaa. Site Safety and Health Plan (HTRW) (33.B)		☐	☐	☐	
bbb. Confined Space Entry Program (34.A.06, 07)		☐	☐	☐	
10. Risk Management Processes. Detailed project-specific hazards shall be identified and controls provided via Activity Hazard		☐	☐	☐	

Other Remarks:

Site Safety and Health Officer (SSHO) Daily Inspection U.S. Army Corps of Engineers, Philadelphia District				Date of Inspection:
Contractor:	Contract No. or Activity:			
Project Name:	Inspected by (print name): Signature:			
Checklist Items	**Yes**	**No**	**N/A**	**Remarks (Any No or N/A items)**
Activity Hazard Analysis (AHA)				
1. Do workers/crews have in their possession a current AHA that reflects current site conditions?				
2. Has each employee performing work reviewed the AHA and signed a signature log prior to the start of work?				
3. Has the competent person required for an activity as specified by OSHA and EM 385-1-1 been identified on the AHA and their proof of competency/qualifications available for review?				
4. Has the AHA been reviewed by the SSHO and the daily activity has been inspected to assure work is being performed consistent with the AHA? Does the AHA identify the work sequences, specific anticipated hazards, site conditions, equipment, materials, personnel and the control measures to be implemented? Are workers properly wearing required PPE?				
Indoctrination and Training				
5. Have all workers on site been provided SOH indoctrination prior to the start of work as well as continuous SOH training to enable them to perform their work in a safe manner? Is indoctrination training available for review? How many workers received their indoctrination today?				
6. Has a daily or weekly safety meeting been conducted with all workers on site? Attach minutes.				
7. Has a safety meeting been conducted with all supervisors on site at least once a month? Attach minutes.				
Fencing and Warning Signs				
8. Is the project fencing erected, in good repair, and secured daily? Are warning signs of the presence of construction hazards and requiring unauthorized persons to keep out posted on fencing at least every 150 ft?				
Fire Prevention				
9. Has a hot work permit been issued when performing activities which generate or have the potential to generate, heat, sparks, or open flames, such as abrasive blasting, burning, brazing, cutting, grinding, power-actuated tools, hot riveting, soldering, thawing activities, welding, or any similar operation capable of initiating fires or explosions?				
10. Has each hot work area been inspected at least per day (in addition to the initial inspection) while the hot work permit is in effect to ensure that it is a fire safe area?				
11. Is the cylinder-regulated-hose-torch equipped with both a reverse-flow check valve and a flash arrestor, in each hose at the torch (unless otherwise indicated by the manufacture)?				
12. Are cylinders containing oxygen or oxidizing gases separated from cylinders containing fuel gases by at least 20 ft or by a fire resistive partition having at least a 1 hour rating? Have welding cables and hoses been inspected?				
13. Are welding and cutting cables, hoses, and other equipment clear of passageways, ladders, and stairways?				
14. Are fire extinguishers distributed in accordance with NFPA 10 and readily accessible?				
Electrical				
15. Are live parts of wiring or equipment guarded to protect all persons from harm?				
16. Are extension cords inspected daily by the user?				
17. Are extension cords a minimum 14 AWG, hard or extra hard usage, and not connected to other extension cords?				
18. Are outlets (permanent or temporary wiring, including portable generators) equipped with a GFCI or a portable GFCI? If equipped with a portable GFCI is it as near as practical to the receptacle outlet?				
19. Are lockout/tagout procedures being followed? Are the daily inspections being conducted to insure that all the program procedures are being followed and documented? Identify competent person-				

Housekeeping	Yes	No	N/A	Remarks (Any No or N/A items)
20. Are work areas and means of access safe and orderly? Are work areas free of trip and fall hazards?				
21. Is the construction site kept free from the accumulation of combustible materials? Is waste material and rubbish placed in containers and promptly disposed?				
Vehicles, Machinery, and Equipment				
22. Has every person operating machinery and mechanized equipment been properly trained, qualified, and designated by the employer in writing to operate such equipment? Is documentation available?				
23. Are all tools, belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains, or other reciprocating, rotating, or moving parts guarded? Are all hot surfaces guarded or insulated to prevent injury or fire?				
24. Has equipment not otherwise inspected by the State been inspected by a qualified mechanic and found in safe operating condition? Is documentation available?				
25. Has all machinery and equipment (when in use) been inspected daily by the employers competent person prior to use and is in safe operating conditions? Are copies of inspections and tests available for review?				
Fall Protection				
26. Are workers protected from falling to a lower level by guardrails, work platforms, temporary floors, safety nets, engineered fall protection systems, personal fall arrest systems, or equivalent?				
27. Has the designated competent person for fall protection inspected the site prior to workers exposure to falls?				
28. Is the competent person for fall protection on site? Identify competent person-				
29. Has training been provided for each employee who might be exposed to fall hazards? Is documentation available for review?				
Scaffolding				
30. Have workers involved in erecting, disassembling, moving, operating, and using scaffolding been trained? Is training documentation available for review?				
31. Is the competent person for scaffolding on site? Identify competent person-				
32. Has the competent person for scaffolding inspected the scaffolding prior to each shift? Has the competent person tagged the scaffolding safe for use?				
Excavation/Trenching				
33. Has the competent person for excavation/trenching inspected the excavation?				
34. Is the competent person for excavation/trenching on site? Identify competent person-				
35. Has the air in the excavation been tested at least prior to each shift in excavations greater than 4ft, or when oxygen deficiency or gaseous conditions are known or suspected? Is a log kept?				
Confined Space				
36. Has all employees entering PRCS or NPRCS been trained? Is documentation available for review?				
37. Is the competent person for confined space on site? Identify competent person-				
38. Has the competent person for confined space inspected the space?				
Have you inspected the worksite and addressed all hazards found? ***(This form does not address all OSHA and EM 385-1-1 requirements.)***				

List features of work being performed today:

Description of deficiency	Person responsible for correcting	Projected resolution date	Date actually resolved

FORM CENAP 16-1

CRANE CERTIFICATE OF COMPLIANCE

This certificate shall be signed by an official of the company that provides cranes for any application under this contract. Post a completed certificate on each crane brought onto DOD property.

CONTRACTING OFFICER'S POINT OF CONTACT (Government Representative)	PHONE
PRIME CONTRACTOR/PHONE	CONTRACT NUMBER
CRANE SUPPLIER/PHONE (if different from prime contractor)	CRANE NUMBER (i.e., ID number)
CRANE MANUFACTURER/TYPE/CAPACITY	
CRANE OPERATOR'S NAME(S)	

I certify that

1. The above noted crane and associated rigging gear conform to applicable OSHA regulations (host country regulations for DOD activities in foreign countries) and applicable ASME B30 standards. The following OSHA regulations and ASME standards, and EM 385-1-1 apply:
_____
2. The operators noted above have been trained and are qualified for the operation of the above noted crane.
3. The operators noted above have been trained on all safety devices and trained not to bypass safety devices during lifting operations.
4. The operators, riggers and company officials are aware of the actions required in the event of an accident as specified in the contract.

COMPANY OFFICIAL SIGNATURE	DATE
COMPANY OFFICIAL NAME/TITLE	

POST ON CRANE
(IN CAB OR VEHICLE)

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HOT-WORK PERMIT

For use of this form, see AR 420-90; the proponent agency is ACSIM

1. LOCATION	2. DATE	3. PERMIT NO.
4. TYPE OF WORK	5. START TIME	6. FINISH TIME
7.a. NAME OF PERSON RESPONSIBLE FOR HOT-WORK AT JOB SITE *(Contractor/Government Employee)*	7.b. SIGNATURE	

PRECAUTIONS BEFORE OPERATIONS

CHECKLIST	CHECK ONE	
	YES	NO
8. Did Fire Department Inspector inspect site?		
9. Are there procedures for Fire Department emergency notification? *(Emergency No.)*		
10. Are combustibles in area noted?		
11. Should combustibles be covered? *(If yes, note in remarks)*		
12. Are proper extinguishers on hand?		
13. Is wet-down necessary? *(If yes, note in remarks)*		
14. Is smoking permissible at work sites?		
15. Is continuous fire watch required?		
16. Is Fire Department standby required?		
17. Are other precautions required? *(If yes, note in remarks)*		

18.a. FIRE DEPARTMENT INSPECTOR'S SIGNATURE	18.b. DATE

PRECAUTIONS AFTER OPERATIONS

CHECKLIST	CHECK ONE	
	YES	NO
19.a. Was Fire Department notified after hot-work operation was completed?		
19.b. Time:		
20.a. Did Fire Department inspector inspect work site?		
20.b. Time:		
21. Are after work conditions safe? *(If no, note in remarks)*		
22. Are heat producing devices safe if left at work site?		

23.a. FIRE DEPARTMENT INSPECTOR'S SIGNATURE	23.b. DATE

24. REMARKS

NOTE: PERMIT VALID ON DAY OF OPERATION AT ONE LOCATION ONLY

DA FORM 5383-R, SEP 92 EDITION OF JAN 85 IS OBSOLETE USAPPC V1.00

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SECTION 01 35 50

DIVING SERVICES

PART 1 GENERAL

1.1 SCOPE OF SECTION

The work specified in this section includes the development and enforcement of a diving services plan.

NOTE: Though diving services are not required as part of the general scope of work for this project, it is Philadelphia District policy to include a section covering commercial diving operations for all construction projects that are conducted on, or near, the water. The reasoning for this is the fact that unforeseen circumstances (such as lost equipment recovery, unknown sunken object investigation/removal, emergency floating plant repairs, etc.) may require the need for commercial diving services. In the event the need for this type of operation occurs, including a commercial diving section in the contract specifications helps to ensure that the Contractor is aware of the requirements for conducting commercial diving operations on USACE Philadelphia District projects.

1.2 GENERAL REQUIREMENTS

a. All diving performed under this contract shall be in strict accordance with the rules and regulations prescribed by EM 385-1-1 - Section 30; ER 385-1-31; 0910-LP-115-1921; 29 CFR 1910 - Subpart T; 29 CFR 1915; and the Association of Diving Contractors International (ADCI) Consensus Standards.

b. A Contracting Officer's Representative, will be designated by the Contracting Officer at the Post Award Conference, to act for the Contracting Officer for all submittals, directions and/or acceptance(s) required under the specifications. There will also be an individual designated as the Philadelphia District Designated Dive Coordinator (DDC). Do not schedule or engage in diving operations without the acceptance of the Contracting Officer and the DDC. Contact the DDC, Derek Burleigh, at 570-615-7052 (office) or 215-964-8647 (mobile), to obtain a list of emergency contact information for the Philadelphia District Dive Safety Program, prior to conducting dive operations.

1.2.1 Underwater Work

Provide necessary services and equipment to perform underwater inspections and repair tasks. All diving operations shall be considered incidental to the work specified elsewhere in these specifications. No separate payment for diving work will be made.

1.2.2 Types of Diving Operations

The Surface Supplied Air (SSA) mode of diving shall be used for all underwater work.

1.3 REFERENCES

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

designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety -- Safety and Health Requirements Manual
ER 385-1-31	(2009; R2016) The Control of Hazardous Energy

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

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1915	Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment

U.S. NAVAL SEA SYSTEMS COMMAND (NAVSEA)

0910-LP-115-1921	(2016; R2018) U.S. Navy Diving Manual, Revision 7, Change A

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The acceptance of submittals shall not be construed as a complete check, but will indicate only that the submittal generally complies with regulatory requirements. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-07 Certificates

Safe Practices Manual; G,DO
Diving Operations Plan; G,DO
Activity Hazard Analysis (AHA); G,DO
Emergency Management Plan; G,DO
Decompression Plan; G, DO
Dive Personnel Qualifications; G,DO
Equipment/Air Quality Certifications; G,DO

Submit the above as a complete dive submittal package.

Daily Logs; G,DO

1.5 DIVE SUBMITTAL PACKAGE

The DDC may request submittals in addition to those listed when deemed necessary to adequately describe the work covered in the particular work order. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) representative and shall be stamped, signed, and dated by the CQC representative certifying that the submittal complies with the contract requirements. Proposed deviations from the contract requirements shall be clearly identified.

1.5.1 Safe Practices Manual

Develop and maintain a safe practices manual. The manual shall contain all of the information required by 29 CFR 1910, encompass the Contractor's entire diving program, and shall include the items listed in EM 385-1-1, Section 30, Paragraph 30.A.15. Complete and submit with the manual the Safe Practices Manual Review Checklist, which is attached to the end of this section. The manual shall be available at all times at the dive location to each dive team member and the Government Dive Safety Inspector (DSI).

1.5.2 Diving Operations Plan

Develop a site specific diving operations plan for each separate diving operation. At a minimum, the plan shall contain the information required by EM 385-1-1, Section 30, Paragraph 30.A.16. For medical requirements, see EM 385-1-1, Section 30, Paragraph 30.A.09. Complete and submit with the plan the Dive Operations Plan Review Checklist, which is attached to the end of this section. Submit the plan for review and acceptance, prior to commencement of diving operations. The accepted plan shall be at the diving location at all times and be made available to the Government DSI upon request.

1.5.3 Activity Hazard Analysis (AHA)

Prepare a job-specific AHA that addresses the risk to personnel and property for each phase of work, addresses the hazards for each activity performed, and presents the procedures and safeguards necessary to eliminate the hazards or reduce the risk to an acceptable level. The suggested format for the analysis is contained in Figure 1-2 of EM 385-1-1. Attach to the AHA a copy of clearances to be issued that deal with identified hazards. At a minimum, comply with EM 385-1-1, Section 30, Paragraph 30.A.17. Complete and submit with the analysis the Activity Hazards Analysis Review Checklist, which is attached to the end of this section. Submit the AHA for review and acceptance prior to the commencement of diving operations. The accepted AHA shall be at the diving location at all times and be made available to the Government DSI upon request.

1.5.4 Emergency Management Plan

Prepare a site-specific Emergency Management Plan for each dive operation, which includes information and procedures developed to deal with accidents after they occur. At a minimum the plan shall contain the information required by EM 385-1-1, Section 30, Paragraph 30.A.18. Complete and submit with the plan the Emergency Management Plan Review Checklist, which is attached to the end of this section. Submit the plan for review and acceptance prior to the commencement of diving operations. The accepted plan shall be at the diving location at all times and be made available to the Government DSI upon request.

1.5.5 Decompression Plan

If the use of Saturation, Surface Decompression with Oxygen (Sur-D-O2) or in-water decompression is planned, prepare a project specific Decompression Plan for each dive operation, which includes information, procedures and decompression methodology. At a minimum the plan shall contain the information required by EM 385-1-1, Section 30, Paragraph 30.E. Submit the

plan for review and acceptance prior to the commencement of diving operations. The plan shall be at the diving location at all times and be made available to the Government DSI upon request.

1.5.6 Dive Personnel Qualifications

Submit evidence that each dive team member has the training and experience consistent with the performance requirements for diving operations that may be necessary for work under this contract. Verification of dive team qualifications and experience includes divers, diving supervisor, and tenders. Dive team members must demonstrate similar dive work experience as required by the contract; examples include but are not limited to Sur-D-O2, NITROX (enriched air), mixed gas, deep, saturation, penetration, HazMat and/or contaminated water diving. At a minimum the qualifications shall contain the information required by EM 385-1-1, Section 30, Paragraphs 30.A.05 to 30.A.09. The Contractor conducting dive operations shall have no dive related serious, willful, or repeat State or Federal OSHA safety citations within the 12 months preceding the commencement of dive operations. Submit evidence that each dive team member has current certification in cardiopulmonary resuscitation (CPR), first aid and diver specific Oxygen Provider. Complete and submit the Dive Personnel Qualifications form, which is attached to the end of this section. A lack of experience or qualifications to perform the tasks stated in the scope of work will be cause for rejection or cessation of operations.

1.5.7 Equipment/Air Quality Certifications

Provide certifications and testing results for all equipment and air sources to be used in dive operations that include the information required by EM 385-1-1, Section 30, Paragraph 30.F. Certifications and test results shall be available at all times at the dive location to each dive team member and the Government Dive Safety Inspector (DSI).

1.6 REGULATORY REQUIREMENTS

The Government may elect to implement and enforce more stringent diving requirements than those stated herein, but under no circumstances shall the operational requirements be less than those specified.

1.6.1 Policy

Conduct all diving operations in a prudent manner that will provide for maximum efficiency and minimize the potential for personal injury, loss of life, occupational illness and/or property damage. Do not utilize divers if the objective can be more safely and efficiently accomplished by another means, e.g., using remote controlled television systems in lieu of divers.

1.6.2 Diving Inspection and Monitoring

The DDC or designated representative will inspect or monitor all diving operations. Diving shall not be permitted unless a DSI is present on-site, unless the DDC has granted permission for off-site monitoring. Off-site monitoring will only be granted after an initial on-site inspection to verify compliance with EM 385-1-1, Section 30. Dive operation monitoring consists of occasional telephone contact with the Contractor's on-site dive supervisor and occasional site inspections. Failure to adhere to these requirements will be considered a serious violation of this contract and cause for an immediate stop-work order issued by the Contracting Officer.

1.7 DIVE PLAN, SCHEDULE AND REPORTING

The Dive Operations Plan and Schedule shall detail dive locations and shall be flexible enough to accommodate conflicts with site operations. If the dive plan is altered in mission, depth, personnel, or equipment, contact the DDC for review and acceptance of the alteration prior to actual operation. Conduct all briefings and pre-dive checks in accordance with EM 385-1-1, Section 30, Paragraph 30.A.

1.7.1 Scheduling Individual Dives

a. Notify the DDC and CO in writing a minimum of 7 calendar days in advance of each scheduled dive. Failure to give the full 7 days notice may result in delays to the work if an on-site DSI is not available. The Government is not liable for delays if the Contractor fails to give the required written notice.

b. In the event it becomes necessary to cancel or reschedule a dive, notify the Government during normal business hours at least 2 work days prior to the first day of the scheduled dive. Failure to provide such notification will make the Contractor liable for daily rate for the DSI from the date of the cancellation until the dive commences. The Contractor will not be charged for more than 7 days delay for each dive cancellation, however, each time a dive is cancelled or rescheduled, it is treated as a new dive for purposes of scheduling DSI's and determining delay costs. When computing delay costs, a partial day is considered a full day. Delay costs will be permanently deducted from the Contractor's pay at the minimum rate of $1,000.00 per day.

1.7.2 Daily Logs

Submit each day, fully completed copies of the previous day's Diving Log Sheets and other work sheets prepared in conjunction with the Diving Log Sheets. For each diver and dive, the dive log information shall be in compliance with EM 385-1-1, Section 30, Paragraph 30.A.24.

1.8 RESOLUTION OF CONFLICT

EM 385-1-1 and, if applicable, a supplemental waiver or Memorandum of Agreement (MOA) shall be the controlling authority(s) for implementation of all contract diving policy.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 EMERGENCY MEDICAL TREATMENT

Arrange with local authorities for emergency dive medical response, treatment and evacuation to medical facility and nearest hyperbaric chamber. Provide map with route directions to nearest hospital and hyperbaric chamber in dive plan Emergency Management Plan required by EM 385-1-1.

3.2 DIVE TEAM COMPOSITION AND DIVE EQUIPMENT

Meet the requirements of EM 385-1-1, Appendix G for minimum team staffing, unless a waiver is approved by the DDC. Any use of breathing gas with

oxygen content more than 21 percent is considered mixed gas diving. At a minimum, provide a 6-man crew for all mixed gas diving. In addition to the dive team personnel addressed in the above references, provide required certified chamber crew personnel as diving operations dictate. If a crane is used, provide a certified crane operator who is not a dive-team member, and is exclusively dedicated to crane operations. Use SSA diving equipment with 2-way voice communication, by divers and standby divers. An independent reserve air system (30 cubic foot/3000 PSI bailout bottle or larger) for each diver is required. At a minimum, all high pressure and low pressure air supply compressors supplying breathing air, tanks, helmets and other related equipment must comply with the requirements of EM 385-1-1, 29 CFR 1910 Subpart T, 0910-LP-115-1921 and all other prevailing regulations. All dive team members must meet the requirements listed in this section.

3.3 CONTRACTOR-PROVIDED SPECIAL UNDERWATER EQUIPMENT

Furnish all appropriate tools, equipment, and materials needed to accomplish the tasks as stated in this contract.

3.4 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for the work specified in this section and all costs in connection therewith shall be included in the cost of all the bid items.

-- End of Section --

Safe Practices Manual Review Checklist

PROJECT NAME		**SPM Submittal #**	
Contract No.		**SPM Submittal Date**	

Dive Contractor Name	
Dive Contractor Address	
Dive Contractor Phone #	
Prime Contractor Name	
Prime Contractor Address	
Prime Contractor Phone #	

USACE Reviewer		**Review Date**	

If the checklist is not filled in completely by the Contractor USACE may reject the Contractor's dive package submittal and/or the review process may be delayed.

Safe Practices Manual - Minimum Requirements:

Item #	EM 385-1-1 Section 30.A.15	DESCRIPTON	Page #	USACE Review
1	a	Dive safety procedures and checklists		
2	b	Assignments and responsibilities of dive team members		
3	c	Equipment Certifications, procedures, and inspection checklists		
4	d	Emergency procedures for fire, equipment failure, adverse weather conditions, and medical illness or injury specific for the following		
5	d, 1	(1) Entrapped or fouled diver including umbilical (suction and entanglement /debris)		
6	d, 2	(2) Actions upon loss of vital support equipment		
7	d, 3	(3) Actions upon loss of gas supply		
8	d, 4	(4) Action upon loss of communication		
9	d, 5	(5) Lost diver plan		
10	d, 6	(6) Injured diver plan		
11	d, 7	(7) Actions upon discovery of fire		
12	d, 8	(8) Diver blow up/over rapid ascent to surface		
13	d, 9	(9) Diver loss of consciousness		
14	d, 10	(10) Injury/illness of member of the surface crew with diver in the water		
15	e	Procedures for internal safety inspections (frequency, checklists, etc.)		
16	f	A complete copy of OSHA, 29 CFR 1910, Subpart T, and a statement of employer's policy for ensuring compliance with the standard		
17	g	Appropriate U.S. Navy Tables, minimum includes		
18	g, 1	(1) No Decompression Limits and Repetitive Group Designation for No-Decompression Air Dives		
19	g, 2	(2) Residual Nitrogen Timetables for Repetitive Air Dives		
20	g, 3	(3) Standard Air Decompression Table		
21	h	Sample of diving log sheets to be used		
22	i	Sample of repetitive dive worksheets or equivalent (dive profile method) to be used		
23	j	Outline of the fitness for duty (including medical) requirements for dive team members		
24	k	Outline of administrative and recordkeeping procedures		

Comments:

Approved
Possible Action Needed Before Approval Can Be Given
Action Needed - Not Approved

Last Updated on 01/08/2019 by Stephen England - NAP ADC

Dive Operations Plan Review Checklist

Project Name:		Dive Operations Plan Submittal #	
Contract No.		Dive Operations Plan Submittal Date	
Dive Contractor Name			
Dive Contractor Address			
Dive Contractor Phone #			
Prime Contractor Name			
Prime Contractor Address			
Prime Contractor Phone #			

USACE Reviewer:		Review Date	

If the checklist is not filled in by the Contractor USACE may reject the Contractor's dive package submittal and/or the review process may be delayed.

DIVE OPERATIONS PLAN - Minimum Requirements:

Item #	EM 385-1-1 Sect. 30.A.16	DESCRIPTON	Page #	USACE Review	Comments
1	a	Date of dive plan submission			
2	b	Name and contact information for diving supervisor preparing plan			
3	c	Names and duties of on-site dive team members, including dive supervisors			
4	d	List of diving equipment to be used			
5	e	Type of diving platform to be used			
6	f	Detailed description of the mission; Identify how/ if work will be divided into separate tasks or phases			
7	g	Date(s), Time(s), Duration, and Location of operation			
8	h	Diving mode used (SCUBA, SSA, Snorkeling) including description of backup air supply, as required			
9	I	Nature of work to be performed by divers, including tools used and materials to be handled or installed			
10	j	Anticipated surface and underwater conditions,(visibility, temperature, currents, etc.) Thermal protection as approriate			
11	k	Maximum single dive bottom time for planned depth of dive for each diver. Altitude adjustments to dive tables will be calculated for dives at altitudes of 1000 ft or more above sea level.			
12	l	Identification of topside assistance/support to dive team (i.e. crane operator, lock operator, etc.)			
13	m	Means of direct communication between dive site and the project office, lockmaster/USACE project manager, and contracting officer (if applicable)			
14	n	Name of Contractor (and diving subcontractor if applicable), Contract number, and names and contact information for key personnel.			
15	30.B.06 item c	Critical Lift Plan (if applicable)			
16	30.A.14 item c	Is contaminated water/sediment present? If so are the requirments of the noted section included in the DOP			
17	EM 385-1-1 Section 30.A.16 Note	The dive plan will include the following statement: "If for any reason the dive plan is altered in mission, depth, personnel, or equipment, the DDC will be contacted in order to review and accept the alteration prior to the actual operation."			

Comments:

Approved
Possible Action Needed Before Approval Can Be Given
Action Needed - Not Approved

Last Updated on 01/08/2019 by Stephen England - NAP ADC

Activity Hazards Analysis Review Checklist

PROJECT NAME		Activitity Hazards Analysis Submittal #	
Contract No.		Activity Hazards Analysis Submittal Date	
Dive Contractor Name			
Dive Contractor Address			
Dive Contractor Phone #			
Prime Contractor Name			
Prime Contractor Address			
Prime Contractor Phone #			

USACE Reviewer		Review Date	

If the checklist is not filled in completely by the Contractor USACE may reject the Contractor's dive package submittal and/or the review process may be delayed.

ACTIVITY HAZARDS ANALYSIS - Minimum Requirements:

Item #	EM 385-1-1 Sect. 30.A.17	DESCRIPTON	Contractor Check	USACE Review	Comments
1	30.A.17	Activity Hazard Analysis (AHA). An AHA represents the dive team's best effort to anticipate and mitigate or prevent the adverse effects of equipment failure, extreme weather and environmental conditions, or other hazardous/unexpected situations.			
2	a	AHAs shall address risk to personnel, property and to impacts to the overal USACE mission. When required, a new AHA shall be conducted to reflect changes in site conditions, operational changes, etc.			
3	b	Each AHA will be job specific and addresses each phase of work, to include hazards associated with flying after diving			
4	c	For USACE dive teams, a Risk Assessment Code (RAC) shall be applied to all underwater diving activities, with residual risk being approved by the appropriate level of command.			
5	d	Hazardous Energy Control (HEC) procedures in accordance with Section 12 of this manual and procedures for dealing with differential pressures will be included if appropriate.			
6	d,1	If HEC procedures are required for the diving operation, the diving supervisor will visually check all lockout/tagout and other control procedures/devices to assure they are in place and redundant where possible prior to the commencement of the diving operation.			
7	d,2	A copy of any clearances/permits to be issued to deal with identified hazards will be attached to the AHA.			
8	e	Some dives may be sufficiently complex to warrant several separate analyses.			
9	f	The AHA will be covered in detail at the pre-dive conference.			
10	NAP Req. #1	If contaminated water/sediment is present the hazard must be addressed according to Section 30.A.14 Item C			

Comments:

Approved
Possible Action Needed Before Approval Can Be Given
Action Needed - Not Approved

Last Updated on 01/08/2019 by Stephen England - NAP ADC

Emergency Management Plan Review Checklist

PROJECT NAME		Emergency Management Plan Submittal #	
Contract No.		Emergency Management Plan Submittal Date	
Dive Contractor Name			
Dive Contractor Address			
Dive Contractor Phone #			
Prime Contractor Name			
Prime Contractor Address			
Prime Contractor Phone #			

USACE Reviewer		Review Date	

If the checklist is not filled in by the Contractor USACE may reject the Contractor's dive package submittal and/or the review process may be delayed.

Emergency Management Plan - Minimum Requirements:

Item #	EM 385-1-1 Sect. 30.A.18	DESCRIPTON	Page #	USACE Review	Comments
1	a	Location and phone number of nearest operational recompression chamber if not located at the dive site and the Divers Alert Network (DAN) phone number (919-684-9111)			
2	b	Location, directions to and phone number(s) of nearest hospital(s) or available physicians capable of treating dive injuries			
3	c	Location and phone number of nearest USCG Rescue Coordination Center, where appropriate			
4	d	Description of an emergency victim transport plan including phone numbers of appropriate emergency transport services;			
5	e	Procedures and phone numbers or other means of communications to activate emergency services at the facility where the work is being performed;			
6	f	Diver rescue procedures conducted by the dive team, including responsibilities of team members, best location(s) where injured divers may be removed from the water, and best location(s) for performing first aid/stabilization prior to emergency medical assistance arrival.			

Comments:

Approved
Possible Action Needed Before Approval Can Be Given
Action Needed - Not Approved

Last Updated on 01/08/2019 by Stephen England - NAP ADC

PROJECT NAME:		Diver Certifications Submittal #	
Contract No.		Diver Certifications Submittal Date	
Dive Contractor Name			
Dive Contractor Address			
Dive Contractor Phone #			
Prime Contractor Name			
Prime Contractor Address			
Prime Contractor Phone #			

USACE Reviewer:		Review Date	

If the checklist is not filled in by the Contractor USACE may reject the Contractor's dive package submittal and/or the review process may be delayed.

DIVE PERSONNEL QUALIFICATIONS:

385-1-1 References			30.A.05 with parts a, b, c 30.A.06 30.A.07 and parts a, b, and c				30.A.08 with parts a, b, and special note - Philadelphia District Requirement - O_2 certifications will be refreshed every 2 yrs even if no expiration date is listed.				30.A.09 with parts a, b, c, d		30.B.06 part d		16.B.06 parts a, b, c, d, e			
			Dive Training and Experience				Emergency Treatment Certifications											
			Commercial Dive School Diploma or Cert	Diving Exp. (= >12 months in position)	4 Similar Dives, 1 in last 9 months, Dive Logs		CPR	First Aid	Emergency O_2		Dive Physical Date (signed and signature stamped by MD or DO)		Rigger cert. exp. (meets requirements in Section 15.B?)		Signal Person Qualifications			
Item #	Name	Role	Page #	Page #	Page #	USACE Review	Comp. Date	Comp. Date	Comp. Date	USACE Review	Date	USACE Review	Page #	USACE Review	Page #	USACE Review	Overall USACE Review	COMMENTS
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		

Comments:

Approved
Possible Action Needed Before Approval Can Be Given
Action Needed - Not Approved

Last Updated on 01/08/2019 by Stephen England - NAP ADC

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SECTION 01 42 00

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization (e.g., ASTM B564 Standard Specification for Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided.

AMERICAN LUMBER STANDARDS COMMITTEE (ALSC)
7470 New Technology Way, Suite F
Frederick, MD 21703
Ph: 301-972-1700
Fax: 301-540-8004
E-mail: alsc@alsc.org
Internet: http://www.alsc.org

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
Two Park Avenue
New York, NY 10016-5990
Ph: 800-843-2763
Fax: 973-882-1717
E-mail: customercare@asme.org
Internet: https://www.asme.org/

AMERICAN SOCIETY OF SAFETY PROFESSIONALS (ASSP)
520 N. Northwest Highway
Park Ridge, IL 60068
Ph: 847-699-2929
E-mail: customerservice@assp.org
Internet: https://www.assp.org/

AMERICAN WOOD PROTECTION ASSOCIATION (AWPA)
P.O. Box 361784
Birmingham, AL 35236-1784
Ph: 205-733-4077
Fax: 205-733-4075
Internet: http://www.awpa.com

ASTM INTERNATIONAL (ASTM)
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

Ph: 610-832-9500
Fax: 610-832-9555
E-mail: service@astm.org
Internet: https://www.astm.org/

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)
445 and 501 Hoes Lane
Piscataway, NJ 08854-4141
Ph: 732-981-0060 or 800-701-4333
Fax: 732-981-9667
E-mail: onlinesupport@ieee.org
Internet: https://www.ieee.org/

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
1 Batterymarch Park
Quincy, MA 02169-7471
Ph: 800-344-3555
Fax: 800-593-6372
Internet: https://www.nfpa.org

SOUTHERN PINE INSPECTION BUREAU (SPIB)
P.O. Box 10915
Pensacola, FL 32524-0915
Ph: 850-434-2611 or 800-995-7742
Fax: 850-434-1290
E-mail: spib@spib.org
Internet: https://www.spib.org/

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA)
1320 North Courthouse Rosd, Suite 200
Arlington, VA 22201
Ph: 703-907-7700
Fax: 703-907-7727
E-mail: marketing@tiaonline.org
Internet: https://www.tiaonline.org/

U.S. ARMY CORPS OF ENGINEERS (USACE)
CRD-C DOCUMENTS available on Internet:
http://www.wbdg.org/ffc/army-coe/standards
Order Other Documents from:
Official Publications of the Headquarters, USACE
E-mail: hqpublications@usace.army.mil
Internet: http://www.publications.usace.army.mil/
or
https://www.hnc.usace.army.mil/Missions/Engineering-Directorate/TECHINFO/

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)
8601 Adelphi Road
College Park, MD 20740-6001
Ph: 866-272-6272
Internet: https://www.archives.gov/
Order documents from:
Superintendent of Documents
U.S. Government Publishing Office (GPO)
732 N. Capitol Street, NW
Washington, DC 20401
Ph: 202-512-1800 or 866-512-1800

Bookstore: 202-512-0132
Internet: https://www.gpo.gov/

U.S. NAVAL SEA SYSTEMS COMMAND (NAVSEA)
Commander Naval Sea Systems Command
1333 Isaac Hull Ave., SE
Washington Navy Yard, DC 20376
Ph: 202-781-0000
Internet: https://www.navsea.navy.mil/

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

-- End of Section --

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SECTION 01 45 00

QUALITY CONTROL

PART 1 GENERAL

1.1 SUBMITTALS

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

SD-01 Preconstruction Submittals

Contractor Quality Control (CQC) Plan; G,DO

SD-06 Test Reports

Verification Statement (Daily Reports)

Submit reports as their incidence occurs, in accordance with the requirements of the Paragraph titled, "Documentation".

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Establish and maintain an effective quality control (QC) system that complies with FAR 52.246-12 Inspection of Construction. QC consist of plans, procedures, and organization necessary to produce an end product which complies with the Contract requirements. The QC system covers all contract operations, both onsite and offsite, and shall be keyed to the proposed work sequence. The project superintendent will be held responsible for the quality of work and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the Contract. In this context the highest level manager responsible for the overall construction activities at the site, including quality and production is the project superintendent. The project superintendent maintains a physical presence at the site at all times and is responsible for all construction and related activities at the site, except as otherwise acceptable to the Contracting Officer.

3.2 CONTRACTOR QUALITY CONTROL (CQC) PLAN

Submit no later than 10 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements FAR 52.246-12 Inspection of Construction. Work will be permitted to begin only after acceptance of the CQC Plan or acceptance of

an interim plan applicable to the particular feature of work to be started. Work outside of the accepted interim plan will not be permitted to begin until acceptance of a CQC Plan containing the additional work.

3.2.1 Content of the CQC Plan

Include, as a minimum, the following to cover all work, both onsite and offsite, including work by subcontractors fabricators, suppliers and purchasing agents:

a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff will implement the three phase control system for all aspects of the work specified. Include a CQC System Manager that reports directly to the corporate home office of the prime contractor and who shall not be subordinated to the project superintendent or project manager.

b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.

c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the Contract. Letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities will be issued by the CQC System Manager. Furnish copies of these letters to the Contracting Officer.

d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures must be in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.

e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities approved by the Contracting Officer are required to be used.)

f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

g. Procedures for tracking work deficiencies from identification through acceptable corrective action. Establish verification procedures that identified deficiencies have been corrected.

h. Reporting procedures, including proposed reporting formats.

i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and is identified by different trades or disciplines, or it is work by the same trade in a different environment. Although each section of the specifications can generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section. This list will be agreed upon during the coordination meeting.

3.2.2 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of work. Acceptance is conditional and will be predicated on satisfactory performance during the work. The Government reserves the right to require the Contractor to make changes in the Contractor Quality Control(CQC) Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.3 Notification of Changes

After acceptance of the CQC Plan, notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, meet with the Contracting Officer and discuss the Contractor's quality control system. Submit the CQC Plan a minimum of 10 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details must be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting will be prepared by the Government, signed by both the Contractor and the Contracting Officer and will become a part of the contract file. There can be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings or address deficiencies in the CQC system or procedures which can require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 Personnel Requirements

The requirements for the CQC organization are a Site Safety and Health Officer (SSHO), CQC System Manager (CQCSM), and sufficient number of additional qualified personnel to ensure safety and Contract compliance. The Site Safety and Health Officer reports directly to a senior project (or corporate) official independent from the CQC System Manager. The Site Safety and Health Officer will also serve as a member of the CQC Staff. Personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly will also be included as part of the CQC organization. The Contractor's CQC staff maintains a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure Contract compliance. The CQC staff will be subject to acceptance by the Contracting Officer. Provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Promptly complete and furnish all letters, material submittals, shop drawing submittals, schedules and all other project documentation to the CQC organization. The CQC organization is responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

3.4.2 CQC System Manager (CQCSM)

Identify as CQC System Manager an individual within the onsite work

organization that is responsible for overall management of CQC and has the authority to act in all CQC matters for the Contractor. The CQC System Manager is required to be a construction person with a minimum of 5 years of construction experience on projects similar to this contract. This CQC System Manager is on the site at all times during the performance of work and is employed by the prime Contractor. The CQC System Manager is assigned no other duties in addition to quality control. Identify in the plan an alternate to serve in the event of the CQC System Manager's absence. The requirements for the alternate are the same as the CQC System Manager. The CQC System Manager is a full time position and the CQCSM or designated representative or alternate shall be on the site at all times during work activities.

3.4.3 CQC Designated Representative

In addition to CQC personnel specified elsewhere in the contract, provide as part of the CQC organization, a sufficient number of qualified individual(s) to serve as the CQC System Manager's Designated Representative to provide CQCSM coverage for 24 hour work activities. These individuals shall be on the site at all times during work activities and be directly hired by and work for the prime Contractor and shall;

a. be responsible to the CQC System Manager;

b. be physically present at the project site when work is being performed;

c. be a construction person with a minimum of 2 years of construction management experience on projects similar to this contract.

d. perform CQC program tasks as designated by the CQCSM and report all findings to the CQCSM / Alternate CQCSM. The CQCSM shall document results of quality inspection findings and provide information for inclusion in the CQC reports.

These individuals may perform other duties but must be allowed sufficient time to perform their assigned quality control duties as described in the Quality Control Plan. Designated Representative(s) shall not be positions requiring continuous mechanical or equipment operations, such as equipment operators. The CQC Designated Representative shall not be the same person as the SSHO Designated Representative.

3.4.4 Additional Requirement

In addition to the above experience and education requirements, the Contractor Quality Control(CQC) System Manager and Alternate CQC System Manager are required to have completed the Construction Quality Management (CQM) for Contractors course. If the CQC System Manager does not have a current certification, obtain the CQM for Contractors course certification within 90 days of Contract award. All costs for the course shall be borne by the Contractor. This course is periodically offered by individual Army Corps of Engineers Districts. Contact the Contracting Officer for information on the next scheduled class.

The Construction Quality Management Training certificate expires after 5 years. If the CQC System Manager's certificate has expired, retake the course to remain current.

3.4.5 Organizational Changes

Maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5 SUBMITTALS AND DELIVERABLES

Submittals must comply with the requirements in Section 01 33 00 SUBMITTAL PROCEDURES. The CQC organization is responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

3.6 CONTROL

CQC is the means by which the Contractor ensures that the work performed, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control are required to be conducted by the CQC System Manager for each definable feature of the construction work as follows:

3.6.1 Preparatory Phase

This phase is performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase includes:

a. A review of each paragraph of applicable specifications, reference codes, and standards. Make available during the preparatory inspection a copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field. Maintain and make available in the field for use by Government personnel until final acceptance of the work.

b. Review of the Contract drawings.

c. Check to assure that all materials and equipment have been tested, submitted, and approved.

d. Review of provisions that have been made to provide required control inspection and testing.

e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the Contract.

f. Examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.

g. Review of the appropriate activity hazard analysis to assure safety requirements are met.

h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.

i. Check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

j. Discussion of the initial control phase.

k. Notify the Government at least 24 hours in advance of beginning the preparatory control phase. Include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. Document the results of the preparatory phase actions by separate minutes prepared by the CQC System Manager and attach to the daily CQC report. Instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase is accomplished at the beginning of a definable feature of work, but after the preparatory control meeting for this DFOW. Accomplish the following:

a. Check work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.

b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing are in compliance with the contract.

c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.

d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

f. Notify the Government at least 24 hours in advance of beginning the initial phase for definable feature of work. Prepare separate minutes of this phase by the CQC System Manager and attach to the daily CQC report. Indicate the exact location of initial phase for definable feature of work for future reference and comparison with follow-up phases.

g. The initial phase for each definable feature of work is repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Perform daily checks to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. Record the checks in the CQC documentation. Conduct final follow-up checks and correct all deficiencies prior to the start of additional features of work which may be affected by the deficient work. Do not build upon nor conceal non-conforming work. All work for the current definable feature of work shall meet the contract requirements prior to performing additional features of work which build upon this current DFOW.

3.6.4 Additional Preparatory and Initial Phases

Conduct additional preparatory and initial phases on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

3.7 COMPLETION INSPECTION

Upon completion of dredging in each acceptance section or individual work assignment area specified in Section 35 20 23 DREDGING of these specifications, the CQC System Manager shall conduct a completion inspection of the work and develop a "punch list" of items which do not conform to the approved plans and specifications. Such a list shall be included in the CQC documentation as required below, and shall include the estimated date by which the deficiencies will be corrected. The CQCSM shall make a second completion inspection to ascertain that all deficiencies have been corrected and so notify the COR. The completion inspection and any deficiency corrections required by this paragraph will be accomplished within the time stated for completion of the entire work or any particular increment thereof if the project is divided into increments by separate completion dates.

3.8 DOCUMENTATION

3.8.1 Quality Control Activities

Maintain current records providing factual evidence that required quality control activities and tests have been performed. Include in these records the work of subcontractors and suppliers on an acceptable form that includes, as a minimum, the following information:

a. The name and area of responsibility of the Contractor/Subcontractor.

b. Operating plant/equipment with hours worked, idle, or down for repair.

c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.

d. Test and control activities performed with results and references to specifications/drawings requirements. Identify the control phase (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.

e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.

f. Submittals and deliverables reviewed, with Contract reference, by whom, and action taken.

g. Offsite surveillance activities, including actions taken.

h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

i. Instructions given/received and conflicts in plans and specifications.

3.8.2 Verification Statement (Daily Reports)

Indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. Cover both conforming and deficient features and include a statement that equipment and materials incorporated in the work and workmanship comply with the Contract. Furnish the original and one copy of these records in report form to the Government daily within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, prepare and submit one report for every 7 days of no work and on the last day of a no work period. All calendar days need to be accounted for throughout the life of the contract. The first report following a day of no work will be for that day only. Submitted reports must be signed and dated by the Contractor Quality Control(CQC) System Manager. Include copies of test reports and copies of reports prepared by all subordinate quality control personnel within the CQC System Manager Report.

3.9 SAMPLE FORMS

Sample forms enclosed at the end of this section.

3.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. Take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, will be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer can issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders will be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

3.11 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for the work specified in this section and all costs in connection therewith shall be included in the cost of all the bid items.

-- End of Section --

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NO	TITLE AND LOCATION	DATE
		REPORT NO
CONTRACTOR	SUPERINTENDENT	
AM WEATHER	PM WEATHER	MAX TEMP F / MIN TEMP F

WORK PERFORMED TODAY

Schedule Activity No.	WORK LOCATION AND DESCRIPTION	EMPLOYER	NUMBER	TRADE	HRS

JOB SAFETY

WAS A JOB SAFETY MEETING HELD THIS DATE? ☐ YES ☐ NO
(If YES attach copy of the meeting minutes)

WERE THERE ANY LOST TIME ACCIDENTS THIS DATE? ☐ YES ☐ NO
(If YES attach copy of completed OSHA report)

WAS CRANE/MANLIFT/TRENCHING/SCAFFOLD/HV ELEC/HIGH WORK/ HAZMAT WORK DONE? ☐ YES ☐ NO
(If YES attach statement or checklist showing inspection performed.)

WAS HAZARDOUS MATERIAL/WASTE RELEASED INTO THE ENVIRONMENT? ☐ YES ☐ NO
(If YES attach description of incident and proposed action.)

TOTAL WORK HOURS ON JOB SITE, THIS DATE, INCL CON'T SHEETS	
CUMULATIVE TOTAL OF WORK HOURS FROM PREVIOUS REPORT	
TOTAL WORK HOURS FROM START OF CONSTRUCTION	

Schedule Activity No.	LIST SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED

☐ SAFETY REQUIREMENTS HAVE BEEN MET.

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB (INDICATE SCHEDULE ACTIVITY NUMBER)

Schedule Activity No.	Submittal #	Description of Equipment/Material Received

CONSTRUCTION AND PLANT EQUIPMENT ON JOB SITE TODAY. INDICATE HOURS USED AND SCHEDULE ACTIVITY NUMBER.

Schedule Activity No.	Owner	Description of Construction Equipment Used Today (incl Make and Model)	Hours Used

Schedule Activity No.	REMARKS

CONTRACTOR/SUPERINTENDENT DATE

CONTRACTOR PRODUCTION REPORT

(CONTINUATION SHEET)

CONTRACT NO	TITLE AND LOCATION	DATE REPORT NO

WORK PERFORMED TODAY

Schedule Activity No.	WORK LOCATION AND DESCRIPTION	EMPLOYER	NUMBER	TRADE	HRS

Schedule Activity No.	LIST SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB (INDICATE SCHEDULE ACTIVITY NUMBER)

Schedule Activity No.	Submittal #	Description of Equipment/Material Received

CONSTRUCTION AND PLANT EQUIPMENT ON JOB SITE TODAY. INDICATE HOURS USED AND SCHEDULE ACTIVITY NUMBER.

Schedule Activity No.	Owner	Description of Construction Equipment Used Today (incl Make and Model)	Hours Used

Schedule Activity No.	REMARKS

INCLUDE ALL PERSONNEL WORK HOURS IN THE WORK PERFORMED SECTION ON THIS SHEET
INTO THE FRONT CONTRACTOR PRODUCTION REPORT

4296/1A (9/98) SHEET OF

CONTRACTOR QUALITY CONTROL REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE

REPORT NO

PHASE | CONTRACT NO | CONTRACT TITLE

PREPARATORY

WAS PREPARATORY PHASE WORK PERFORMED TODAY? YES ☐ NO ☐

IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.

Schedule Activity No.	Definable Feature of Work	Index #

INITIAL

WAS INITIAL PHASE WORK PERFORMED TODAY? YES ☐ NO ☐

IF YES, FILL OUT AND ATTACH SUPPLEMENTAL INITIAL PHASE CHECKLIST.

Schedule Activity No.	Definable Feature of Work	Index #

FOLLOW-UP

WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? YES ☐ NO ☐

WORK COMPLIES WITH SAFETY REQUIREMENTS? YES ☐ NO ☐

Schedule Activity No.	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)

Schedule Activity No.	Description

REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)

Schedule Activity No.	Description

REMARKS (Also Explain Any Follow-Up Phase Checklist Item From Above That Was Answered "NO"), Manuf. Rep On-Site, etc.

Schedule Activity No.	Description

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

AUTHORIZED QC MANAGER AT SITE DATE

GOVERNMENT QUALITY ASSURANCE REPORT

DATE

QUALITY ASSURANCE REPRESENTATIVE'S REMARKS AND/OR EXCEPTIONS TO THE REPORT

GOVERNMENT QUALITY ASSURANCE MANAGER DATE

4296/2 (9/98) SHEET OF

CONTRACTOR QUALITY CONTROL REPORT

(CONTINUATION SHEET)

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE

REPORT NO.

PHASE	CONTRACT NO	CONTRACT TITLE

WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? YES ☐ NO ☐

WORK COMPLIES WITH SAFETY REQUIREMENTS? YES ☐ NO ☐

FOLLOW-UP

Schedule Activity No.	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present

REMARKS (Also Explain Any Checklist Item From Above That Was Answered "NO"), Manuf. Rep. On-Site, etc.

Schedule Activity No.	Description

2496/2A (9/98)

SHEET OF

SECTION 01 45 05

RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM)

PART 1 GENERAL

1.1 REFERENCES

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

U.S. ARMY CORPS OF ENGINEERS (USACE)

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

1.2 CONTRACT ADMINISTRATION

The Government will use the Resident Management System (RMS) to assist in its monitoring and administration of this contract. The Government accesses the system using the Government Mode of RMS (RMS GM) and the Contractor accesses the system using the Contractor Mode (RMS CM). The term RMS will be used in the remainder of this section for both RMS GM and RMS CM. The joint Government-Contractor use of RMS facilitates electronic exchange of information and overall management of the contract. The Contractor accesses RMS to record, maintain, input, track, and electronically share information with the Government throughout the contract period in the following areas:

Administration
Finances
Quality Control
Submittal Monitoring
Scheduling
Closeout
Import/Export of Data

1.2.1 Correspondence and Electronic Communications

For ease and speed of communications, exchange correspondence and other documents in electronic format to the maximum extent feasible. Some correspondence, including pay requests and payrolls, are also to be provided in paper format with original signatures. Paper documents will govern, in the event of discrepancy with the electronic version.

1.2.2 Other Factors

Other portions of this document have a direct relationship to the reporting accomplished through RMS. Particular attention is directed to FAR 52.236-15 Schedules for Construction Contracts; FAR 52.232-27 Prompt Payment for Construction Contracts; FAR 52.232-5 Payments Under Fixed-Priced Construction Contracts; Section 01 33 00 SUBMITTAL PROCEDURES; Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS; and Section 01 45 00 QUALITY CONTROL.

1.3 RMS SOFTWARE

RMS is a web based application. Download, install and be able to utilize the latest version of RMS within 7 calendar days of receipt of the Notice to Proceed. RMS software, user manuals, access and installation instructions, program updates and training information are available from the RMS website (https://rms.usace.army.mil). The Government and the Contractor will have different access authorities to the same contract database through RMS. The common database will be updated automatically each time a user finalizes an entry or change.

1.4 CONTRACT DATABASE - GOVERNMENT

The Government will enter the basic contract award data in RMS prior to granting the Contractor access. The Government entries into RMS will generally be related to submittal reviews, correspondence status, and Quality Assurance(QA)comments, as well as other miscellaneous administrative information.

1.5 CONTRACT DATABASE - CONTRACTOR

Contractor entries into RMS establish, maintain, and update data throughout the duration of the contract. Contractor entries generally include prime and subcontractor information, daily reports, submittals, RFI's, schedule updates and payment requests. RMS includes the ability to import attachments and export reports in many of the modules, including submittals. The Contractor responsibilities for entries in RMS typically include the following items:

1.5.1 Administration

1.5.1.1 Contractor Information

Enter all current Contractor administrative data and information into RMS within 7 calendar days of receiving access to the contract in RMS. This includes, but is not limited to, Contractor's name, address, telephone numbers, management staff, and other required items.

1.5.1.2 Subcontractor Information

Enter all missing subcontractor administrative data and information into RMS CM within 7 calendar days of receiving access to the contract in RMS or within 7 calendar days of the signing of the subcontractor agreement for agreements signed at a later date. This includes name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor is listed separately for each trade to be performed.

1.5.1.3 Correspondence

Identify all Contractor correspondence to the Government with a serial number. Prefix correspondence initiated by the Contractor's site office with "S". Prefix letters initiated by the Contractor's home (main) office with "H". Letters are numbered starting from 0001. (e.g., H-0001 or S-0001). The Government's letters to the Contractor will be prefixed with "C" or "RFP".

1.5.1.4 Equipment

Enter and maintain a current list of equipment planned for use or being

used on the jobsite, including the most recent and planned equipment inspection dates.

1.5.1.5 Reports

Track the status of the project utilizing the reports available in RMS. The value of these reports is reflective of the quality of the data input. These reports include the Progress Payment Request worksheet, Quality Control (QC) comments, Submittal Register Status, and Three-Phase Control worksheets.

1.5.1.6 Request For Information (RFI)

Create and track all Requests For Information (RFI) in the RMS Administration Module for Government review and response.

1.5.2 Finances

1.5.2.1 Pay Activity Data

Develop and enter a list of pay activities in conjunction with the project schedule. The sum of pay activities equals the total contract amount, including modifications. Each pay activity must be assigned to a Contract Line Item Number (CLIN). The sum of the activities assigned to a CLIN equals the amount of each CLIN.

1.5.2.2 Payment Requests

Prepare all progress payment requests using RMS. Update the work completed under the contract at least monthly, measured as percent or as specific quantities. After the update, generate a payment request and prompt payment certification using RMS. Submit the signed prompt payment certification and payment request as well as supporting data either electronically or by hard copy. Unless waived by the Contracting Officer, a signed paper copy of the approved payment certification and request is also required and will govern in the event of discrepancy with the electronic version.

1.5.3 Quality Control (QC)

Enter and track implementation of the 3-phase QC Control System, QC testing, transferred and installed property and warranties in RMS. Prepare daily reports, identify and track deficiencies, document progress of work, and support other Contractor QC requirements in RMS. Maintain all data on a daily basis. Insure that RMS reflects all quality control methods, tests and actions contained within the Contractor Quality Control (CQC) Plan and Government review comments of same within 7 calendar days of Government acceptance of the CQC Plan.

1.5.3.1 Quality Control (QC) Reports

The Contractor's Quality Control (QC) Daily Report in RMS is the official report. The Contractor can use other supplemental formats to record QC data, but information from any supplemental formats are to be consolidated and entered into the RMS QC Daily Report. Any supplemental information may be entered into RMS as an attachment to the report. QC Daily Reports must be finalized and signed in RMS within 24 hours after the date covered by the report. Provide the Government a printed signed copy of the QC Daily Report, unless waived by the Contracting Officer.

1.5.3.2 Deficiency Tracking.

Use the QC Daily Report Module to enter and track deficiencies. Deficiencies identified and entered into RMS by the Contractor or the Government will be sequentially numbered with a QC or QA prefix for tracking purposes. Enter each deficiency into RMS the same day that the deficiency is identified. Monitor, track and resolve all QC and QA entered deficiencies. A deficiency is not considered to be corrected until the Government indicates concurrence in RMS.

1.5.3.3 Three-Phase Control Meetings

Maintain scheduled and actual dates and times of preparatory and initial control meetings in RMS. Worksheets for the three-phase control meetings are generated within RMS.

1.5.3.4 Labor and Equipment Hours

Enter labor and equipment exposure hours on a daily basis. Roll up the labor and equipment exposure data into a monthly exposure report.

1.5.3.5 Accident/Safety Reporting

Both the Contractor and the Government enter safety related comments in RMS as a deficiency. The Contractor must monitor, track and show resolution for safety issues in the QC Daily Report area of the RMS QC Module. In addition, follow all reporting requirements for accidents and incidents as required in EM 385-1-1, Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS and as required by any other applicable Federal, State or local agencies.

1.5.3.6 Definable Features of Work(DFOW)

Enter each feature of work, as defined in the approved CQC Plan, into the RMS QC Module. A feature of work may be associated with a single or multiple pay activities, however a pay activity is only to be linked to a single feature of work.

1.5.3.7 Activity Hazard Analysis

Import activity hazard analysis electronic document files into the RMS QC Module utilizing the document package manager.

1.5.4 Submittal Management

Enter all current submittal register data and information into RMS within 7 calendar days of receiving access to the contract in RMS. The information shown on the submittal register following the specification Section 01 33 00 SUBMITTAL PROCEDURES will already be entered into the RMS database when access is granted. Group electronic submittal documents into transmittal packages to send to the Government, except very large electronic files, samples, spare parts, mock ups, color boards, or where hard copies are specifically required. Track transmittals and update the submittal register in RMS on a daily basis throughout the duration of the contract. Submit hard copies of all submittals unless waived by the Contracting Officer.

1.5.5 Schedule

Enter and update the contract project schedule in RMS by manually entering all schedule data.

1.5.6 Closeout

Closeout documents, processes and forms are managed and tracked in RMS by both the Contractor and the Government. Ensure that all closeout documents are entered, completed and documented within RMS.

1.6 IMPLEMENTATION

Use of RMS as described in the preceding paragraphs is mandatory. Ensure that sufficient resources are available to maintain contract data within the RMS system. RMS is an integral part of the Contractor's required management of quality control.

1.7 NOTIFICATION OF NONCOMPLIANCE

Take corrective action within 7 calendar days after receipt of notice of RMS non-compliance by the Contracting Officer.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for the work specified in this section and all costs in connection therewith shall be included in the costs of all the bid items.

-- End of Section --

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SECTION 01 57 19

TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 GENERAL

1.1 REFERENCES

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

U.S. ARMY CORPS OF ENGINEERS (USACE)

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

U.S. ARMY CORPS OF ENGINEERS (USACE)

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

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

29 CFR 1910.1200	Hazard Communication
40 CFR 64	Compliance Assurance Monitoring
40 CFR 68	Chemical Accident Prevention Provisions
40 CFR 112	Oil Pollution Prevention
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 279	Standards for the Management of Used Oil
40 CFR 300	National Oil and Hazardous Substances Pollution Contingency Plan
40 CFR 300.125	National Oil and Hazardous Substances Pollution Contingency Plan - Notification and Communications
40 CFR 302	Designation, Reportable Quantities, and Notification
40 CFR 355	Emergency Planning and Notification
49 CFR 171	General Information, Regulations, and Definitions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response

	Information, and Training Requirements
49 CFR 172.101	Hazardous Material Regulation-Purpose and Use of Hazardous Material Table
49 CFR 173	Shippers - General Requirements for Shipments and Packagings
49 CFR 178	Specifications for Packagings

1.2 DEFINITIONS

1.2.1 Contractor Generated Hazardous Waste

Contractor generated hazardous waste is materials that, if abandoned or disposed of, may meet the definition of a hazardous waste. These waste streams would typically consist of material brought on site by the Contractor to execute work, but are not fully consumed during the course of construction. Examples include, but are not limited to, excess paint thinners (i.e., methyl ethyl ketone, toluene), waste thinners, excess paints, excess solvents, waste solvents, excess pesticides, and contaminated pesticide equipment rinse water.

1.2.2 Environmental Pollution and Damage

Environmental pollution and damage is the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally or historically.

1.2.3 Environmental Protection

Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. For the purpose of this specification, environmental protection is further defined as the retention of the environment in its natural state, to the greatest extent possible, during all construction operations and to enhance the natural appearance in its final condition. Environmental protection requires consideration of air, water, and land resources and involves noise, solid waste-management and management of other pollutants. In order to prevent, and to provide for abatement and control of any environmental pollution arising from beachfill activities in performance of this contract, the Contractor and his subcontractors shall comply with all applicable Federal, state, and local laws and regulations and shall obtain all necessary permits required by same.

1.2.4 Hazardous Materials

Hazardous material is any material that: Is defined in 49 CFR 171, listed in 49 CFR 172, regulated as a hazardous material in accordance with 49 CFR 173; or requires a Safety Data Sheet (SDS) in accordance with 29 CFR 1910.1200; or during end use, treatment, handling, packaging, storage, transportation, or disposal meets or has components that meet or have potential to meet the definition of a hazardous waste as defined by 40 CFR 261 Subparts A, B, C, or D. Designation of a material by this definition, when separately regulated or controlled by other sections or directives, does not eliminate the need for adherence to that hazard-specific guidance which takes precedence over this section for

"control" purposes. Such material includes ammunition, weapons, explosive actuated devices, propellants, pyrotechnics, chemical and biological warfare materials, medical and pharmaceutical supplies, medical waste and infectious materials, bulk fuels, radioactive materials, and other materials such as asbestos, mercury, and polychlorinated biphenyls (PCBs).

1.2.5 Hazardous Waste

Hazardous Waste is any material that meets the definition of a solid waste and exhibits a hazardous characteristic (ignitability, corrosivity, reactivity, or toxicity) as specified in 40 CFR 261, Subpart C, or contains a listed hazardous waste as identified in 40 CFR 261, Subpart D, or meets a state, local, or host nation definition of a hazardous waste.

1.2.6 Oily Waste

Oily waste are those materials that are, or were, mixed with Petroleum, Oils, and Lubricants (POLs) and have become separated from that POLs. Oily wastes also means materials, including wastewaters, centrifuge solids, filter residues or sludges, bottom sediments, tank bottoms, and sorbents which have come into contact with and have been contaminated by, POLs and may be appropriately tested and discarded in a manner which is in compliance with other state and local requirements.

This definition includes materials such as oily rags, "kitty litter" sorbent clay and organic sorbent material. These materials may be land filled provided that: It is not prohibited in other state regulations or local ordinances; the amount generated is "de minimus" (a small amount); it is the result of minor leaks or spills resulting from normal process operations; and free-flowing oil has been removed to the practicable extent possible. Large quantities of this material, generated as a result of a major spill or in lieu of proper maintenance of the processing equipment, are a solid waste. As a solid waste, perform a hazardous waste determination prior to disposal. As this can be an expensive process, it is recommended that this type of waste be minimized through good housekeeping practices and employee education.

1.2.7 Regulated Waste

Regulated waste are solid wastes that have specific additional federal, state, or local controls for handling, storage, or disposal.

1.2.8 Sediment

Sediment is soil and other debris that have eroded and have been transported by runoff water or wind.

1.2.9 Solid Waste

Solid waste is a solid, liquid, semi-solid or contained gaseous waste. A solid waste can be a hazardous waste, non-hazardous waste, or non-Resource Conservation and Recovery Act (RCRA) regulated waste. Types of solid waste typically generated at construction sites may include:

1.2.9.1 Debris

Debris is non-hazardous solid material generated during the construction, demolition, or renovation of a structure that exceeds 2.5-inch particle size that is: a manufactured object; plant or animal matter; or natural

geologic material (for example, cobbles and boulders), broken or removed concrete, masonry, and rock asphalt paving; ceramics; roofing paper and shingles. A mixture of debris and other material such as soil or sludge is also subject to regulation as debris if the mixture is comprised primarily of debris by volume, based on visual inspection.

1.2.9.2 Green Waste

Green waste is the vegetative matter from landscaping, land clearing and grubbing, including, but not limited to, grass, bushes, scrubs, small trees and saplings, tree stumps and plant roots. Marketable trees, grasses and plants that are indicated to remain, be re-located, or be re-used are not included.

1.2.9.3 Material Not Regulated As Solid Waste

Material not regulated as solid waste is nuclear source or byproduct materials regulated under the Federal Atomic Energy Act of 1954 as amended; suspended or dissolved materials in domestic sewage effluent or irrigation return flows, or other regulated point source discharges; regulated air emissions; and fluids or wastes associated with natural gas or crude oil exploration or production.

1.2.9.4 Non-Hazardous Waste

Non-hazardous waste is waste that is excluded from, or does not meet, hazardous waste criteria in accordance with 40 CFR 261.

1.2.9.5 Surplus Soil

Surplus soil is existing soil that is in excess of what is required for this work, including aggregates intended, but not used, for on-site mixing of concrete, mortars, and paving. Contaminated soil meeting the definition of hazardous material or hazardous waste is not included and must be managed in accordance with paragraph HAZARDOUS MATERIAL MANAGEMENT.

1.2.10 Surface Discharge

Surface discharge means discharge of water into drainage ditches, storm sewers, or creeks meeting the definition of "waters of the United States". Surface discharges from construction sites are discrete, identifiable sources and require a permit from the governing agency. Comply with federal, state, and local laws and regulations.

1.2.11 Wastewater

Wastewater is the used water and solids that flow through a sanitary sewer to a treatment plant.

1.2.11.1 Stormwater

Stormwater is any precipitation in an urban or suburban area that does not evaporate or soak into the ground, but instead collects and flows into storm drains, rivers, and streams.

1.2.12 Waters of the United States

Waters of the United States means Federally jurisdictional waters, including wetlands, that are subject to regulation under Section 404 of the

Clean Water Act or navigable waters, as defined under the Rivers and Harbors Act.

1.2.13 Wetlands

Wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

1.3 SUBMITTALS

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

SD-01 Preconstruction Submittals

Preconstruction Visual Survey
Employee Training Records; G,COR
Environmental Protection Plan; G,COR
Spill Prevention Control And Countermeasure (SPCC) Plan; G,DO

SD-07 Certificates

Employee Training Records; G,COR

SD-11 Closeout Submittals

Assembled Employee Training Records; G,DO

1.4 ENVIRONMENTAL PROTECTION REQUIREMENTS

Provide and maintain, during the life of the contract, environmental protection as defined. Plan for and provide environmental protective measures to control pollution that develops during work. Plan for and provide environmental protective measures required to correct conditions that develop during the construction of permanent or temporary environmental features associated with the project. Protect the environmental resources within the project boundaries and those affected outside the limits of permanent work during the entire duration of this Contract. Comply with federal, state, and local regulations pertaining to the environment, including water, air, solid waste, hazardous waste and substances, oily substances, and noise pollution.

Tests and procedures assessing whether construction operations comply with Applicable Environmental Laws may be required. Analytical work must be performed by qualified laboratories; and where required by law, the laboratories must be certified.

1.5 QUALITY ASSURANCE

1.5.1 Preconstruction Survey and Protection of Features

This paragraph supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. Prior to

start of any onsite construction activities, perform a Preconstruction Visual Survey of the project disposal site with the Contracting Officer Representative, and take photographs showing existing environmental conditions in and adjacent to the site. Submit a report for the record. Include in the report a plan describing the features requiring protection under the provisions of the Contract Clauses, which are not specifically identified on the drawings as environmental features requiring protection along with the condition of trees, shrubs and grassed areas immediately adjacent to the site of work and adjacent to the Contractor's assigned storage area and access route(s), as applicable. The Contractor and the Contracting Officer will sign this survey report upon mutual agreement regarding its accuracy and completeness. Protect those environmental features included in the survey report and any indicated on the drawings, regardless of interference that their preservation may cause to the work under the Contract.

1.5.2 Environmental Brief

Prior to initiating any work on site, meet with the Contracting Officer Representative (COR) to discuss the proposed Environmental Protection Plan (EPP) or equipment local requirement. Develop a mutual understanding relative to the details of environmental protection, including measures for protecting natural and cultural resources, required reports, required permits, permit requirements (such as mitigation measures), and other measures to be taken.

1.5.3 Employee Training Records

a. Prepare and submit Employee Training Records throughout the term of the contract meeting applicable 40 CFR requirements and maintain throughout the term of the contract. Provide Employee Training Records in the Environmental Records Binder. Submit these Assembled Employee Training Records to the Contracting Officer at the conclusion of the project, unless otherwise directed.

b. Train personnel to meet EPA and state requirements. Conduct environmental protection/pollution control meetings for personnel prior to commencing construction activities. Conduct additional meetings for new personnel and when site conditions change. Include in the training and meeting agenda: methods of detecting and avoiding pollution; familiarization with statutory and contractual pollution standards; installation and care of devices, vegetative covers, and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control; anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants; recognition and protection of archaeological sites, artifacts, waters of the United States, and endangered species and their habitat that are known to be in the area.

1.5.4 Non-Compliance Notifications

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with federal, state or local environmental laws or regulations, permits, and other elements of the Contractor's EPP. After receipt of such notice, inform the Contracting Officer of the proposed corrective action and take such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. FAR 52.242-14 Suspension of Work provides that a suspension, delay, or interruption of work due to the fault or negligence of the Contractor

allows for no adjustments to the contract for time extensions or equitable adjustments. In addition to a suspension of work, the Contracting Officer may use additional authorities under the contract or law.

1.6 ENVIRONMENTAL PROTECTION PLAN

Prior to commencing work, submit an Environmental Protection Plan (EPP) for review and approval by the Contracting Officer. The purpose of the EPP is to present an overview of known or potential environmental issues which the Contractor must consider and address during the performance of work. Incorporate construction related objectives and targets from the installation's EMS into the EPP. Include in the EPP measures for protecting natural and cultural resources, required reports, and other measures to be taken. Issues of concern must be defined within the Environmental Protection Plan as outlined in this section. Address each topic at a level of detail commensurate with the environmental issue and required construction task(s). Topics or issues which are not identified in this section, but are considered necessary, must be identified and discussed after those items formally identified in this section. Prior to submittal of the Environmental Protection Plan, meet with the Contracting Officer for the purpose of discussing the implementation of the Environmental Protection Plan; possible subsequent additions and revisions to the plan including any reporting requirements; and methods for administration of the Contractor's Environmental Plans. Submit the EPP within 15 days after notice to proceed and not less than 10 days before the preconstruction meeting. Revise the EPP throughout the project to include any reporting requirements, changes in site conditions, or contract modifications that change the project scope of work in a way that could have an environmental impact. No requirement in this section will relieve the Contractor of any applicable federal, state, and local environmental protection laws and regulations. During Construction, identify, implement, and submit for approval any additional requirements to be included in the EPP. Maintain the current version onsite.

The EPP includes, but is not limited to, the following elements:

1.6.1 Contents

Include in the environmental protection plan, but not limit it to the following:

a. Name(s) of person(s) within the Contractor's organization who is(are) responsible for ensuring adherence to the Environmental Protection Plan.

b. Name(s) and qualifications of person(s) responsible for manifesting hazardous waste to be removed from the site, if applicable.

c. Name(s) and qualifications of person(s) responsible for training the Contractor's environmental protection personnel.

d. Description of the Contractor's environmental protection personnel training program.

e. Drawings showing locations of proposed temporary excavations or embankments for haul roads, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on the site.

f. Traffic control plans including coordination of Contractor vehicle and equipment access with public accessways, measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Include in the plan measures to minimize the amount of mud transported onto paved public roads by vehicles or runoff.

g. Work area plan showing the proposed activity in each portion of the project area and identifying the areas of limited use or nonuse. Include in the plan measures for marking the limits of use areas including methods for protection of features to be preserved within authorized work areas.

h. Include in the Spill Control Plan the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by 40 CFR 68, 40 CFR 302, 40 CFR 355, and/or regulated under State or Local laws and regulations. The Spill Control Plan supplements the requirements of EM 385-1-1. Include in this plan, as a minimum:

(1) The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the Contracting Officer in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-800-424-8802) if a reportable quantity is released to the environment. Include in the plan a list of the required reporting channels and telephone numbers.

(2) The name and qualifications of the individual who will be responsible for implementing and supervising the containment and cleanup.

(3) Training requirements for Contractor's personnel and methods of accomplishing the training.

(4) A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.

(5) The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.

(6) The methods and procedures to be used for expeditious contaminant cleanup.

i. A non-hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris and schedules for disposal.

j. A historical, archaeological, cultural resources, biological resources, and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources, and wetlands known to be on the project site: and/or identifies procedures to be followed if historical archaeological, cultural resources, biological resources and wetlands not previously known to be onsite or in the area are discovered during construction. Include in the plan methods to assure the protection of known or

discovered resources, identifying lines of communication between Contractor personnel and the Contracting Officer.

1.6.2 Appendix

Attach to the Environmental Protection Plan, as an appendix, copies of all environmental permits, permit application packages, approvals to construct, notifications, certifications, reports, and termination documents.

1.7 ENVIRONMENTAL ASSESSMENT OF CONTRACT DEVIATIONS

Deviations from the drawings, plans and specifications, requested by the Contractor and which may have an environmental impact, shall be subject to approval by the Contracting Officer and may require an extended review, processing, and approval time. The Contracting Officer reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer determines that the proposed alternate method will have an adverse environmental impact.

1.8 ENVIRONMENTAL ASSESSMENT OF CONTRACT DEVIATIONS

Deviations from the drawings, plans and specifications, requested by the Contractor and which may have an environmental impact, shall be subject to approval by the Contracting Officer and may require an extended review, processing, and approval time. The Contracting Officer reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer determines that the proposed alternate method will have an adverse environmental impact.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 PROTECTION OF NATURAL RESOURCES

Minimize interference with, disturbance to, and damage to fish, wildlife, and plants, including their habitats. The protection of rare, threatened, and endangered animal and plant species identified, including their habitats, is the Contractor's responsibility.

Preserve the natural resources within the project boundaries and outside the limits of permanent work. Restore to an equivalent or improved condition upon completion of work that is consistent with the requirements of the Installation Environmental Office or as otherwise specified. Confine construction activities to within the limits of the work indicated or specified.

3.1.1 Flow Ways

Do not alter water flows or otherwise significantly disturb the native habitat adjacent to the project and critical to the survival of fish and wildlife, except as specified and permitted.

3.1.2 Vegetation

Except in areas to be cleared, do not remove, cut, deface, injure, or destroy vegetationwithout the Contracting Officer's permission. Do not fasten or attach ropes, cables, or guys to existing nearby trees for anchorages unless authorized by the Contracting Officer. Where such use of attached ropes, cables, or guys is authorized, the Contractor is responsible for any resultant damage.

3.2 WATER RESOURCES

Monitor all water areas affected by dredging and disposal activities to prevent pollution. Do not apply toxic or hazardous chemicals to soil or vegetation unless otherwise indicated. Do not pollute any streams, rivers or waterways with fuels, oils, bitumens, calcium chloride, acids, insecticides, herbicides or other harmful materials. Investigate and comply with all applicable Federal, state, county, and municipal laws concerning pollution of rivers and streams.

3.2.1 Wetlands

Do not enter, disturb, destroy, or allow discharge into any wetlands, without prior approval of the Contracting Officer.

3.2.2 Water Quality Certificate

The Corps' maintenance dredging of the Upper 40-foot project and Fairless Turning Basin, generally involves hydraulic dredging and placement of the dredged material via pipeline into the Money Island disposal area. Pursuant to Section 404 of the Clean Water, the return water from an upland contained dredged material disposal site is administratively defined as a discharge of dredged material. Further, any discharges subject to the Section 404 authority must receive a Water Quality Certification (WQC) from the State where the discharge occurs pursuant to Section 401 of the Clean Water Act. In accordance with Section 404(e) of the Clean Water Act, the Corps of Engineers may develop general/nationwide permits (NWP) for certain types or categories of activities that are similar in nature and that have only minimal adverse environmental effects both individually and cumulatively. The NWPs are based on an activity basis and not an applicant. Any applicant, whether they are a government agency or private entity, may conduct work under the authorization of an NWP provided the specific activity meets the terms and conditions of the respective NWP. The purpose of these nationwide permits is to simplify the permitting and environmental review process for projects with only minimal adverse effects on the environment. Among the nationwide permits, is a nationwide permit (NWP 16) that specifically authorizes the return water from an upland contained dredged material disposal site. In conjunction with the NWP re-authorization process, the States have an opportunity to review both WQC and CZM consistency for all of the NWPs, where applicable. The current NWPs were re-authorized in March 2017. The State of Pennsylvania has generically issued a WQC for activities such as the proposed maintenance dredging authorized by Nationwide Permit 16 (Return Water from Upland Disposal Sites).

3.3 PROTECTION OF HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

3.3.1 Archaeological Resources

If, during dredging and disposal activities, any previously unidentified or

unanticipated historical, archaeological, and cultural resources are discovered or found, activities that may damage or alter such resources will be suspended. Resources covered by this paragraph include, but are not limited to: any human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, or other deposits; rock or coral alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery or find, immediately notify the Contracting Officer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. Cease all activities that may result in impact to or the destruction of these resources. Secure the area and prevent employees or other persons from trespassing on, removing, or otherwise disturbing such resources. The Government retains ownership and control over archaeological resources.

3.4 BIOLOGICAL RESOURCES

a. Perform all work and take such steps as required to minimize interference with, disturbance to, and damage to fish, wildlife, and plants including their habitat. Do not alter water flows or otherwise disturb native habitat adjacent to any disposal area which, in the opinion of the Contracting Officer, are critical to fish and wildlife. The protection of threatened and endangered animal and plant species, including their habitat, is the Contractor's responsibility in accordance with Federal, State, Regional, and local laws and regulations.

3.4.1 Protection of Endangered and Threatened Species

a. Hydraulic dredging operations in the upper Delaware River pose a lethal threat to Atlantic and shortnose sturgeon. Sturgeon occur in the upper Delaware River throughout the year. Maintenance dredging operations in the Kinkora to Trenton range of the Delaware River have occurred during the winter months when shortnose sturgeon form dense overwintering congregations. Shortnose sturgeon are particularly vulnerable to dredge operations during winter months (December through March) because they exhibit little activity and may be unable to quickly avoid an oncoming dredge.

b. Perform inspections of the disposal area a minimum of 4 times per day to look for evidence of entrained shortnose sturgeon and record the results on the Daily Report. Notify the Contracting Officer immediately following the discovery of a sturgeon or sturgeon parts, and complete and submit the sturgeon mortality form attached to this section. The inspector shall have sufficient training to identify sturgeon and shall be present at the disposal area during dredging operations. The inspection schedule and procedures shall be sufficient to ensure a high likelihood of documenting entrained sturgeon and shall involve inspections of ponded areas and the sluice.

c. Take fin clips in accordance with the procedures specified in Appendix E, attached to this section, of all sturgeon identified in the disposal area, and send to NMFS for genetic analysis. Fin clips shall be taken prior to preservation of other fish parts or whole bodies. In the event of lethal takes of shortnose or Atlantic sturgeon, photograph, measure and preserve (refrigerate or freeze) dead specimens or body parts until disposal procedures are coordinated with NMFS.

3.5 AIR RESOURCES

Equipment operation, activities, or processes must be in accordance with 40 CFR 64 and state air emission and performance laws and standards.

3.5.1 Burning

Burning is prohibited.

3.6 WASTE DISPOSAL

Properly dispose of any debris resulting from the contract work and any wastes, effluents, trash, garbage, oil, grease, chemicals, etc., in or adjacent to the work area. Disposal of wastes will be as directed below, unless otherwise specified in other sections and/or shown on the drawings.

3.6.1 Solid Wastes

All debris resulting from work under this contract shall be removed from the disposal area sites, as directed by the Contracting Officer, and properly disposed of at no additional cost to the Government. Such disposal shall comply with all applicable Federal, state, and local laws. Such materials shall be removed from the disposal area sites before the date of completion of the work under these specifications. If any waste material is dumped in unauthorized areas, remove the material and restore the area to its original condition. If necessary, contaminated ground shall be excavated, disposed of as directed by the Contracting Officer, replaced with suitable fill material, compacted and finished with topsoil, and planted as required to reestablish vegetation.

3.6.2 Chemical Wastes

Dispense chemicals ensuring no spillage to the ground or water. Perform and document periodic inspections of dispensing areas to identify leakage and initiate corrective action. This documentation will be periodically reviewed by the Government. Collect chemical waste in corrosion resistant, compatible containers. Wastes will be classified, managed, stored, and disposed of in accordance with Federal, State, and local laws and regulations.

3.6.3 Contractor Generated Hazardous Wastes/Excess Hazardous Materials

Hazardous wastes are defined in 40 CFR 261, or are as defined by applicable State and local regulations. Hazardous materials are defined in 49 CFR 171, 49 CFR 172, 49 CFR 172.101, 49 CFR 173, and 49 CFR 178. At a minimum, manage and store hazardous waste in compliance with 40 CFR 262. Take sufficient measures to prevent spillage of hazardous and toxic materials during dispensing. Segregate hazardous waste from other materials and wastes, protect it from the weather by placing it in a safe covered location, and take precautionary measures such as berming or other appropriate measures against accidental spillage. Storage, describing, packaging, labeling, marking, and placarding of hazardous waste and hazardous material in accordance with 49 CFR 171, 49 CFR 172, 49 CFR 172.101, 49 CFR 173, and 49 CFR 178, State, and local laws and regulations is the Contractor's responsibility. Transport Contractor generated hazardous waste off Government property within 60 days in accordance with the Environmental Protection Agency and the Department of Transportation laws and regulations. Dispose of hazardous waste in compliance with Federal, State and local laws and regulations. Spills of hazardous or toxic

materials must be immediately reported to the Contracting Officer. Cleanup and cleanup costs due to spills are the Contractor's responsibility. The disposition of Contractor generated hazardous waste and excess hazardous materials are the Contractor's responsibility.

3.7 WASTE MINIMIZATION

Minimize the use of hazardous materials and the generation of waste. Include procedures for pollution prevention/ hazardous waste minimization in the Hazardous Waste Management Section of the EPP. Obtain a copy of the installation's Pollution Prevention/Hazardous Waste Minimization Plan for reference material when preparing this part of the EPP. If no written plan exists, obtain information by contacting the Contracting Officer. Describe the anticipated types of the hazardous materials to be used in the construction when requesting information.

3.8 WASTE MANAGEMENT AND DISPOSAL

3.8.1 Solid Wastes

Place solid wastes (excluding clearing debris) in containers which are emptied on a regular schedule. Handling, storage, and disposal must be conducted to prevent contamination. Employ segregation measures so that no hazardous or toxic waste will become co-mingled with solid waste. Comply with Federal, State, and local laws and regulations pertaining to the use of landfill areas.

3.8.2 Chemical Wastes

Dispense chemicals ensuring no spillage to the ground or water. Perform and document periodic inspections of dispensing areas to identify leakage and initiate corrective action. This documentation will be periodically reviewed by the Government. Collect chemical waste in corrosion resistant, compatible containers. Wastes shall be classified, managed, stored, and disposed of in accordance with Federal, State, and local laws and regulations.

3.8.3 Disposal of Debris

Do not dispose of debris resulting from the contract work and any wastes, effluents, trash, garbage, oil, grease, chemicals, etc., in or adjacent to the work area. If waste material is dumped in unauthorized areas, the Contractor shall remove the material and restore the area to its original condition. If necessary, contaminated ground shall be excavated, disposed of as directed by the Contracting Officer, replaced with suitable fill material, compacted and finished with topsoil, and planted as required to reestablish vegetation.

3.8.4 Contractor Generated Hazardous Wastes/Excess Hazardous Materials

Hazardous wastes are defined in 40 CFR 261, or are as defined by applicable State and local regulations. Hazardous materials are defined in 49 CFR 171, 49 CFR 172, 49 CFR 172.101, 49 CFR 173, and 49 CFR 178. At a minimum, manage and store hazardous waste in compliance with 40 CFR 262. Take sufficient measures to prevent spillage of hazardous and toxic materials during dispensing. Segregate hazardous waste from other materials and wastes, protect it from the weather by placing it in a safe covered location, and take precautionary measures such as berming or other appropriate measures against accidental spillage. Storage, describing,

packaging, labeling, marking, placarding, and transporting of hazardous waste and hazardous material in accordance with 49 CFR 171, 49 CFR 172, 49 CFR 172.101, 49 CFR 173, and 49 CFR 178, State, and local laws and regulations is the Contractor's responsibility. Transport Contractor generated hazardous waste within 60 days in accordance with the Environmental Protection Agency and the Department of Transportation laws and regulations. Dispose of hazardous waste in compliance with Federal, State and local laws and regulations. The disposition of Contractor generated hazardous waste and excess hazardous materials are the Contractor's responsibility.

3.8.5 Releases/Spills of Oil and Hazardous Substances

3.8.5.1 Response and Notifications

Exercise due diligence to prevent, contain, and respond to spills of hazardous material, hazardous substances, hazardous waste, sewage, regulated gas, petroleum, lubrication oil, and other substances regulated in accordance with 40 CFR 300. Maintain spill cleanup equipment and materials at the work site. In the event of a spill, take prompt, effective action to stop, contain, curtail, or otherwise limit the amount, duration, and severity of the spill/release. In the event of any releases of oil and hazardous substances, chemicals, or gases; immediately (within 15 minutes) notify the Installation Fire Department, the Installation Command Duty Officer, the Installation Environmental Office, the Contracting Officer and the state or local authority.

Submit verbal and written notifications as required by the federal (40 CFR 300.125 and 40 CFR 355), state, local regulations and instructions. Provide copies of the written notification and documentation that a verbal notification was made within 20 days. Spill response must be in accordance with 40 CFR 300 and applicable state and local regulations. Contain and clean up these spills without cost to the Government.

3.8.5.2 Clean Up

Clean up hazardous and non-hazardous waste spills. Reimburse the Government for costs incurred including sample analysis materials, clothing, equipment, and labor if the Government will initiate its own spill cleanup procedures, for Contractor- responsible spills, when: Spill cleanup procedures have not begun within one hour of spill discovery/occurrence; or, in the Government's judgment, spill cleanup is inadequate and the spill remains a threat to human health or the environment.

3.9 PREVIOUSLY USED EQUIPMENT

Clean previously used construction equipment prior to bringing it onto the project site. Equipment must be free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds. Consult with the U.S. Department of Agriculture jurisdictional office for additional cleaning requirements.

3.10 PETROLEUM, OIL, LUBRICANT (POL) STORAGE AND FUELING

a. Storage, fueling and lubrication of equipment and motor vehicles must be conducted in a manner that affords the maximum protection against spill and evaporation. Manage and store fuel, lubricants and oil in accordance with all Federal, State, Regional, and local laws and regulations. Used

lubricants and used oil to be discarded must be stored in marked corrosion-resistant containers and recycled or disposed in accordance with 40 CFR 279, State, and local laws and regulations. Storage of fuel on the project site shall be in accordance with all Federal, State, and local laws and regulations. Employ measures during all phases of construction operations to prevent spills of fuels, lubricants, or other hazardous substances.

b. In the event of a spill, make every effort to stop the leak and contain the spill, and shall immediately contact the Contracting Officer's Representative (COR), the Hazardous Spill Response Team (HAZMAT) at 1-800-662-8802. Comply with all directives to contain and clean up the spilled material(s) as stipulated by the HAZMAT team, and to restore the site as may be required

c. Describe in the EPP (see paragraph ENVIRONMENTAL PROTECTION PLAN) how POL tanks and containers must be stored, managed, and inspected and what protections must be provided. Storage of fuel on the project site must be in accordance with EPA, state, and local laws and regulations and paragraph OIL STORAGE INCLUDING FUEL TANKS.

3.10.1 Used Oil Management

Manage used oil generated on site in accordance with 40 CFR 279. Determine if any used oil generated while onsite exhibits a characteristic of hazardous waste. Used oil containing 1,000 parts per million of solvents is considered a hazardous waste and disposed of at the Contractor's expense. Used oil mixed with a hazardous waste is also considered a hazardous waste. Dispose in accordance with paragraph HAZARDOUS WASTE DISPOSAL.

3.10.2 Oil Storage Including Fuel Tanks

Provide secondary containment and overfill protection for oil storage tanks. A berm used to provide secondary containment must be of sufficient size and strength to contain the contents of the tanks plus 5 inches freeboard for precipitation. Construct the berm to be impervious to oil for 72 hours that no discharge will permeate, drain, infiltrate, or otherwise escape before cleanup occurs. Use drip pans during oil transfer operations; adequate absorbent material must be onsite to clean up any spills and prevent releases to the environment. Cover tanks and drip pans during inclement weather. Provide procedures and equipment to prevent overfilling of tanks. If tanks and containers with an aggregate aboveground capacity greater than 1320 gallons will be used onsite (only containers with a capacity of 55 gallons or greater are counted), provide and implement a Spill Prevention Control and Countermeasure (SPCC) plan meeting the requirements of 40 CFR 112. Do not bring underground storage tanks to the installation for Contractor use during a project. Submit the SPCC plan to the Contracting Officer for approval.

Monitor and remove any rainwater that accumulates in open containment dikes or berms. Inspect the accumulated rainwater prior to draining from a containment dike to the environment, to determine there is no oil sheen present.

3.11 INADVERTENT DISCOVERY OF PETROLEUM-CONTAMINATED SOIL OR HAZARDOUS WASTES

If petroleum-contaminated soil, or suspected hazardous waste is found

during construction that was not identified in the Contract documents, immediately notify the Contracting Officer. Do not disturb this material until authorized by the Contracting Officer.

3.12 SOUND INTRUSION

Keep construction activities under surveillance and control to minimize environment damage by noise. Comply with the provisions of the State of New Jersey and all local ordinances, whichever are more stringent.

3.13 POST CONSTRUCTION CLEANUP

Clean up areas used for construction in accordance with Contract Clause: "Cleaning Up". Unless otherwise instructed in writing by the Contracting Officer, remove traces of temporary construction facilities such as haul roads, work area, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the work. Grade parking area and similar temporarily used areas to conform with surrounding contours. Restore the area to near natural conditions which will permit the growth of vegetation thereon.

3.14 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for the work specified in this section and all costs in connection therewith shall be included in the costs of all the bid items. Payment of fees associated with environmental permits, application, and/or notices obtained by the Contractor, and payment of all fines/fees for violation or non-compliance with Federal, State, Regional and local laws and regulations are solely the Contractor's responsibility.

-- End of Section --

Appendix A.

Historical Take Records of Sturgeon

Sturgeon Take Records from Dredging Operations 1990 - Mar 2012

Take #	Date	Corps District	Location	Sp	Dredge Type/ Name	Status	Specimen Description	Notes	Photos	Documentation
1	30 Oct 90	SAC	Winyah Bay Georgetown	A	H *Ouchita*	Dead	~69cm, rear half	Overflow Screening	N	Chris Slay pers com Observer report DACW 60-90-C-0067
2	15 Jan 94	SAS	Savannah Harbor	A	H *RN Weeks*	NA	NA	Found by Turtle observer	No	Steve Calver pers com 14 Jun 05 Observer load sheet and final rpt #DACW21-93-C-0072
3	07 Dec 94	SAS	Savannah Harbor	A	H *Dodge Island*	Live released	71cm, whole fish	Starboard Skimmer Screening	Yes We have efile	Chris Slay pers com Observer report
4	07 Dec 94 Different Load	SAS	Savannah Harbor	A	H *Dodge Island*	Dead	77.5cm, whole fish	Starboard Skimmer Screening	Yes We have efile	Chris Slay pers com Observer report
5	Feb 96	NAP	Delaware River Newbold Island	S	P *Ozark*	Dead	83cm, female w/eggs	In DMA Money Island		NMFS memo for record From Laurie Silva 19 Apr 96
6	Feb 96	NAP	Delaware River Newbold Island	S	P *Ozark*	Dead	63cm, mature male	In DMA Money Island		NMFS memo for record From Laurie Silva 19 Apr 96
7	06 Jan 98	NAP	Delaware River Kinkora Range	S	P *??*	Dead	Either 657mm or 573mm **???**	In DMA Money Island	Y Not e-file	Memo for file 20 Jan 98 From Greg Wacik NAP
8	12 Jan 98	NAP	Delaware River Florence Range	S	P *??*	Dead	Either 657mm or 573mm **???**	In DMA Money Island	Y Not e-file	Memo for file 20 Jan 98 From Greg Wacik NAP
9	13 Jan 98	NAP	Delaware River Florence Range	S	P *??*	Dead	Either 657mm or 573mm **???**	In DMA Money Island	Y Not e-file	Memo for file 20 Jan 98 From Greg Wacik NAP
10	7 Sep 98	SAW	Wilmington Har Cape Fear River	A	H *McFarland*	Dead	Head only (1 ft long)	In turtle Inflow screen		Observer incident report Pers com Bill Adams- SAW 26 Jul 04
11	01 Mar 00	SAC	Charleston Harbor	A	H *Stuyvesant*	Dead	Missing head and tail	Main Overflow Screening	No	Chris Slay pers com Observer reporting forms
12	12 Apr 00	SAC	Charleston Harbor	A	H *Stuyvesant*	Dead	71.6cm, whole fish	Starboard Overflow screening	No	Chris Slay pers com Observer reporting forms
13	03 Dec 00	SAW	Wilmington Har MOTSU	A	C *New York*	Dead	82.5cm, whole fish decomposing	In bucket	Y Not e-file Payonk? ?	Chris Slay pers com Phil Payonk pers com 30 Jul 04 Bill Adams pers com 28 Jul 04 #DACW54-00-C-0013

SAW=Wilmington
SAS=Savannah
SAJ=Jacksonville
SAM=Mobile
NAE=New England
NAO=Norfolk
NAN=New York
NAP=Philadelphia
H=Hopper
P=Hydraulic Cutterhead pipeline
C=Mechanical clamshell or bucket, bucket and barge
DMA=Dredged material disposal area
NDNEF=No documentation, no evidence found to confirm citation

External Sturgeon Take SOPs

You must follow the RPMs and T&Cs in your Biological Opinion for every take of a live or dead sturgeon. Within 24 hours of the take, you must send information and photos to incidental.take@noaa.gov. Follow the steps below and return live sturgeon to the water ASAP. Do not complete any step that is not required by the RPMs and T&Cs of your BiOp.

STURGEON PRESUMED ALIVE BUT UNRESPONSIVE

Resuscitate the sturgeon if it is alive and unresponsive. Follow procedures for "LIVE" once it is responsive or, if the fish is unresponsive after 30 minutes of resuscitation, follow procedures for "DEAD".

LIVE STURGEON

1. Check for any tags, including PIT tags, and record tag numbers.
2. PIT tag sturgeon if none present and if authorized by the BiOp.
3. Measure and photograph sturgeon.
4. Obtain fin clip sample (See BiOp T&Cs for details).
5. If authorized by the BiOp T&Cs, administer anesthesia and surgically implant internal tags.
6. Ensure the sturgeon is responsive and return it to the water as described in the BiOp.

DEAD STURGEON

1. Check for any tags, including PIT tags, and record tag numbers.
2. Measure and photograph sturgeon.
3. Obtain fin clip sample.
4. Do the BiOp T&Cs require a necropsy?

UNKNOWN

Refrigerate sturgeon or put sturgeon on ice (do NOT freeze). Coordinate with Section 7 contact. Within 3 days, NMFS Section 7 contact will confirm whether a necropsy is required and, if yes, will send you (the Action Agency) the contact information for the pathology lab.

YES

Refrigerate sturgeon or put sturgeon on ice (do NOT freeze). Then, follow the Necropsy Plan in the BiOp.

NO

Freeze sturgeon for possible salvage. Within 7 days, NMFS Section 7 contact will: advise you to properly dispose of the carcass; OR notify you that a Salvage Network member will contact you for transport of the carcass or parts at their expense.

Within 24 hours of the take:

- Send Take Report Form and photos to incidental.take@noaa.gov (one form per fish). See Section 7 website for form: https://www.greateratlantic.fisheries.noaa.gov/protected/section7/reporting.html
- Send PIT tag #, date, location, and length to mike_mangold@fws.gov.
- Store fin clips until designated time to send to USGS (see BiOp T&Cs for details).

Properly dispose of carcass if you do not receive a reply from the NMFS Section 7 contact within 3 days for refrigerated/iced carcasses or within 7 days for frozen carcasses.

Appendix C

Take Report Form for ESA-Listed Species
Use one form per individual animal taken

Biological Opinion PCTS No.

Species taken:

- ☐ **Green sea turtle**
- ☐ **Kemp's ridley sea turtle**
- ☐ **Leatherback sea turtle**
- ☐ **Loggerhead sea turtle**
- ☐ **Unknown sea turtle**
- ☐ **Atlantic sturgeon**
- ☐ **Shortnose sturgeon**
- ☐ **Unknown sturgeon**
- ☐ **Atlantic salmon**

Condition when taken (select one):

☐ Alive ☐ Fresh Dead ☐ Moderately Decomposed

☐ Severely Decomposed ☐ Dried ☐ Skeletal

Date take observed:

Animal was:

- ☐ Released alive with no visible injuries
- ☐ Released alive with visible injuries
- ☐ Released dead
- ☐ Held for Necropsy
- ☐ Transferred to rehabilitation (sea turtles only)

Date: _____

Rehabilitation facility:

SPECIES CONDITION KEY

Fresh dead – no foul smell
Moderately decomposed – scutes and skin are intact or just beginning to peel, internal organs intact
Severely decomposed – foul smell with scutes lifting or gone, skin peeling, internal organs beginning to liquefy
Dried carcass – leathery, internal organs have decomposed
Skeletal remains - bones only

Location of the take:

Latitude and Longitude in Decimal Degrees to six places:

Latitude:

Longitude:

Sediment type in area (e.g., SAV, cobble, silt/mud, shellfish present):

Body of water where take occurred:

- ☐ Atlantic Ocean
- ☐ River (name): _____
- ☐ Bay or Sound (name): _____
- ☐ Creek (name): _____

Take activity (select all that apply):

- ☐ Pile Driving
- ☐ Bridge/Road Construction
- ☐ Dredging
- ☐ Beach Renourishment
- ☐ Vessel Operation
- ☐ Relocation trawling
- ☐ Blasting

If dredging project:

Type of dredge/name:

Load number:

Location on dredge mechanism where specimen was found (screen, hopper):

Was draghead deflector used: ☐ Yes ☐ No

Was rigid deflector used: ☐ Yes ☐ No

Condition of deflector:

Condition of screening or UXO screen:

If construction project:

Vessel or Rig Name: Exclusion Zone, if required:

If installing or extracting piles:

Tools: ☐ Impact Hammer

☐ Vibratory Hammer

☐ Other (specify) _____

If pile driving:

Pile Type	Diameter	Number

If using explosives:

Type	Size	Number

Refer to your Biological Opinion for guidance on handling and resuscitating live animals

Indicate type and location of visible injuries (see diagrams). Check all that apply:

Type of Injury	Dorsal Surface	Ventral Surface -
Cuts/Gashes (not severed)	☐	☐
Severed body, limbs, or organs	☐	☐

Describe injuries and list any missing body parts:

For live animals - indicate behavior when taken:

☐ Active (alert, moving head, fins or flippers)

☐ Slow and lethargic (minimal movement and responsiveness)

☐ No movement but may or may not respond to reflex test

For dead animals, does the BiOp require necropsy:

☐ Yes ☐ No

Was resuscitation attempted:

☐ Yes, length of time _____ hours Outcome: ☐ Alive ☐ Dead

☐ No ☐ N/A, animal confirmed dead, or alive and moving when taken

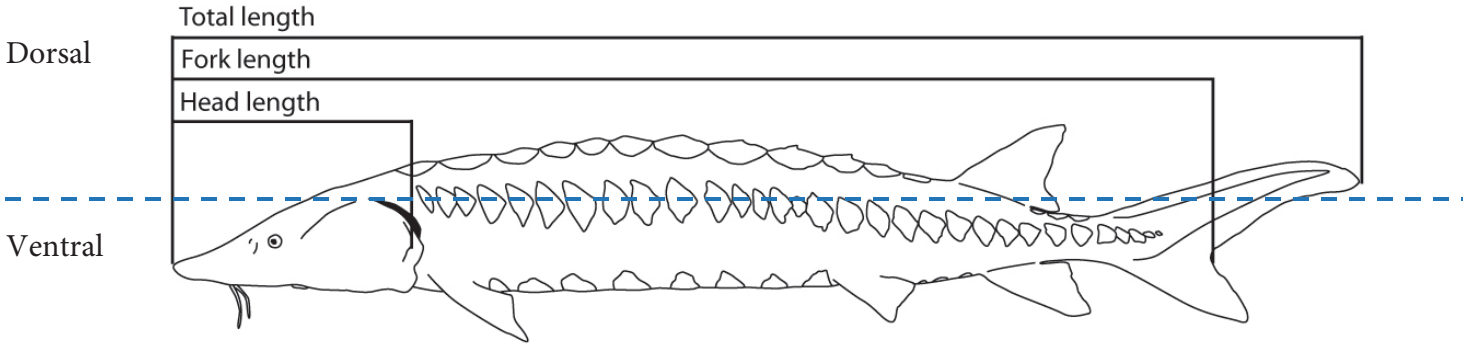
Fish measurements in centimeters – measurements should be exact.
Provide the reason for any estimated measure (e.g., tail missing)

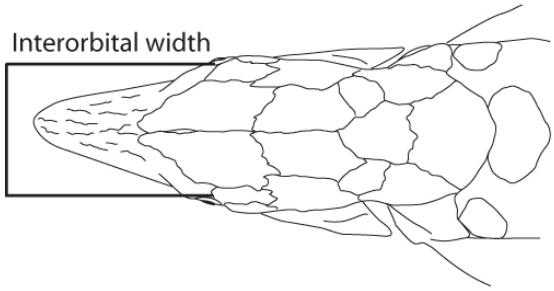
	Exact	Estimated	Reason for Estimated Measure
Total Length: _____ cm	☐	☐	_____
Fork Length: _____ cm	☐	☐	_____
Mouth Width: _____ cm	☐	☐	_____
Interorbital Width: _____ cm	☐	☐	_____

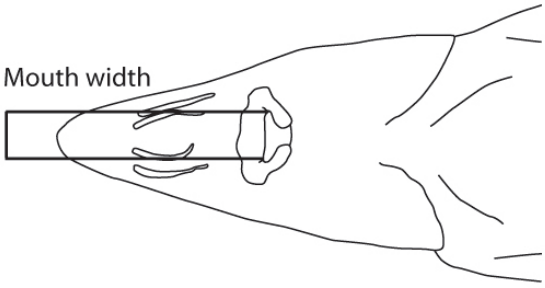
Turtle measurements in centimeters – measurements should be exact.
Provide the reason for any estimated measure (e.g., shell crushed and flattened)

	Exact	Estimated	Reason for Estimated Measure
Curved Carapace Length: _____ cm (notch to tip length with measuring tape)	☐	☐	_____
Straight Carapace Length:_____ cm (notch to tip length with calipers)	☐	☐	_____
Straight Carapace Width: _____ cm (widest points with calipers)	☐	☐	_____
Weight: _____ kg	☐	☐	_____

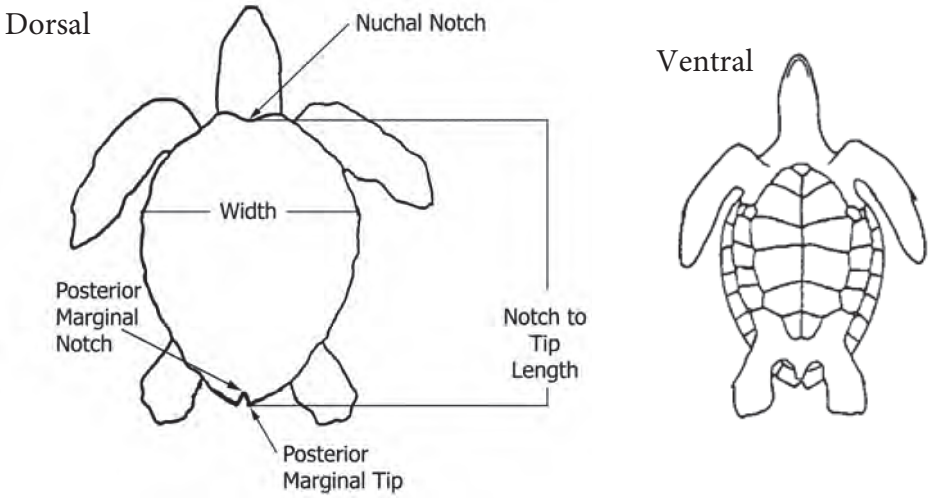
Shortnose and Atlantic Sturgeon -







Sea Turtles -



Checklist for samples required to be collected and submitted per the BiOp's Standard Operating Procedures, RPMs, and T&Cs

Photographs and/or Video: Submit with this form to **incidental.take@noaa.gov**

Biopsy punch (sea turtles): Current Disposition (person/affiliation):

Fin Clip (fish): Current Disposition (person/affiliation):

Tags present[1]:

Type (e.g., PIT, flipper)	Number	Location on animal

Tags inserted or applied[1]:

Type (e.g., PIT, flipper)	Number	Location on animal

[1] For sturgeon, also send PIT tag #, date, location, and length to Mike_mangold@fws.gov.

Contact information for person completing this form

Name:

Email:

Phone Number:

Agency/Organization name if other than the Federal Action Agency for the BiOp:

APPENDIX D STURGEON SALVAGE FORM

IFB W912BU23B0003

For use in documenting dead sturgeon in the wild under ESA permit no. 17273 (version 7-24-2015)

INVESTIGATORS'S CONTACT INFORMATION

Name: First _____ Last _____

Agency Affiliation _____ Email_____

Address _____

_____

Area code/Phone number _____

UNIQUE IDENTIFIER (Assigned by NMFS)

DATE REPORTED:

Month ☐☐ Day☐☐ Year 20☐☐

DATE EXAMINED:

Month ☐☐ Day☐☐ Year 20☐☐

SPECIES: (check one)

☐ shortnose sturgeon

☐ Atlantic sturgeon

☐ Unidentified *Acipenser* species

Check "Unidentified" if uncertain .

See reverse side of this form for aid in identification.

LOCATION FOUND: ☐Offshore (Atlantic or Gulf beach) ☐Inshore (bay, river, sound, inlet, etc)

River/Body of Water_____ City_____ State ____

Descriptive location (be specific)_____

_____

_____

Latitude _____N (Dec. Degrees) Longitude _____ W (Dec. Degrees)

CARCASS CONDITION at time examined: (check one)

☐ 1 = Fresh dead

☐ 2 = Moderately decomposed

☐ 3 = Severely decomposed

☐ 4 = Dried carcass

☐ 5 = Skeletal, scutes & cartilage

SEX:

☐ Undetermined

☐ Female ☐ Male

How was sex determined?

☐ Necropsy

☐ Eggs/milt present when pressed

☐ Borescope

MEASUREMENTS: **Circle unit**

Fork length _____ cm / in

Total length _____ cm / in

Length ☐ actual ☐ estimate

Mouth width (inside lips, see reverse side) _____ cm / in

Interorbital width (see reverse side) _____ cm / in

Weight ☐ actual ☐ estimate _____ kg / lb

TAGS PRESENT? Examined for external tags including fin clips? ☐ **Yes** ☐ **No** **Scanned for PIT tags?** ☐ **Yes** ☐ **No**

Tag #	Tag Type	Location of tag on carcass

CARCASS DISPOSITION: (check one or more)

☐1 = Left where found

☐2 = Buried

☐3 = Collected for necropsy/salvage

☐4 = Frozen for later examination

☐5 = Other (describe) _____

Carcass Necropsied?

☐Yes ☐No

Date Necropsied:_____

Necropsy Lead:

_____

PHOTODOCUMENTATION:

Photos/vide taken? ☐ Yes ☐ No

Disposition of Photos/Video:_____

_____

_____

SAMPLES COLLECTED? ☐ **Yes** ☐ **No**

Sample	How preserved	Disposition (person, affiliation, use)

Comments:

_____

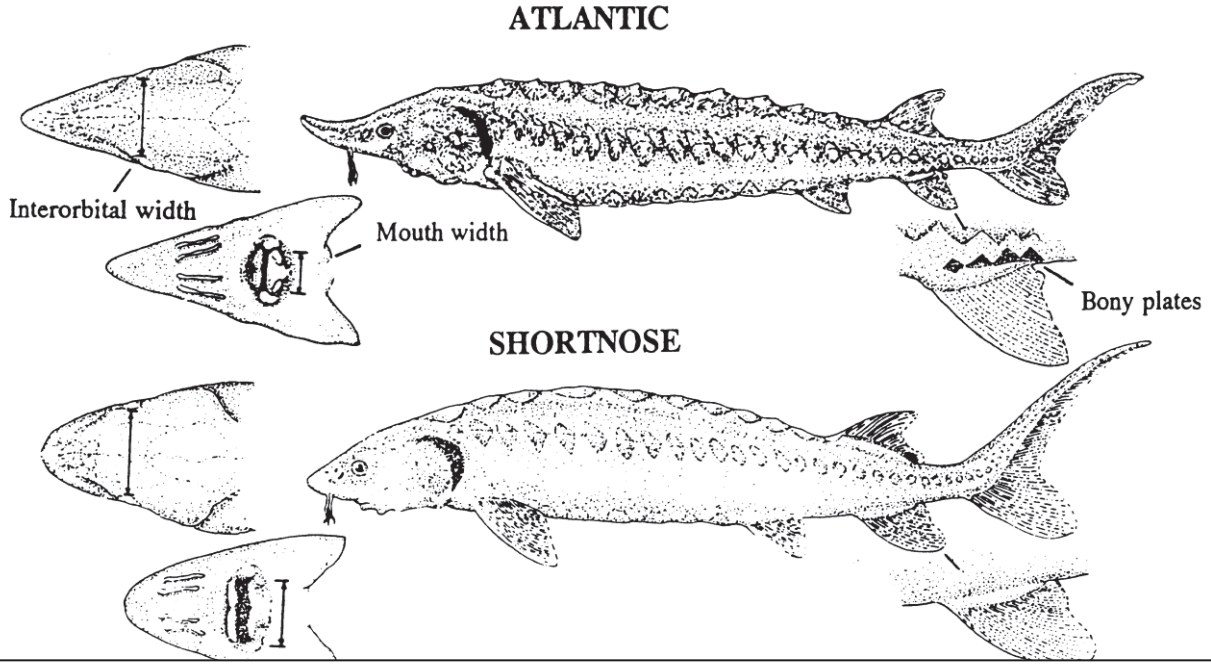
_____

_____

Distinguishing Characteristics of Atlantic and Shortnose Sturgeon (version 7-24-2015)

Characteristic	Atlantic Sturgeon, *Acipenser oxyrinchus*	Shortnose Sturgeon, *Acipenser brevirostrum*
Maximum length	> 9 feet/ 274 cm	4 feet/ 122 cm
Mouth	Football shaped and small. Width inside lips < 55% of bony interorbital width	Wide and oval in shape. Width inside lips > 62% of bony interorbital width
*Pre-anal plates	Paired plates posterior to the rectum & anterior to the anal fin.	1-3 pre-anal plates almost always occurring as median structures (occurring singly)
Plates along the anal fin	Rhombic, bony plates found along the lateral base of the anal fin (see diagram below)	No plates along the base of anal fin
Habitat/Range	Anadromous; spawn in freshwater but primarily lead a marine existence	Freshwater amphidromous; found primarily in fresh water but does make some coastal migrations

* From Vecsei and Peterson, 2004



Describe any wounds / abnormalities (note tar or oil, gear or debris entanglement, propeller damage, etc.). **Please note if no wounds / abnormalities are found.**

_____

_____

_____

_____

_____

Data Access Policy: Upon written request, information submitted to National Marine Fisheries Service (NOAA Fisheries) on this form will be released to the requestor provided that the requestor credit the collector of the information and NOAA Fisheries. NOAA Fisheries will notify the collector that these data have been requested and the intent of their use.

Submit completed forms (within 30 days of date of investigation) to: **Greater Atlantic Regional Fisheries Office Contacts** – Edith Carson (Edith.Carson@noaa.gov , 978-282-8490) or Lynn Lankshear (Lynn.Lankshear@noaa.gov, 978-282-8473); **Southeast Region Contact**- Stephania Bolden (Stephania.Bolden@noaa.gov, 727-551-5768).

APPENDIX E

Procedure for obtaining fin clips from sturgeon for genetic analysis

1. Wash hands and use disposable gloves. Ensure that any knife, scalpel or scissors used for sampling has been thoroughly cleaned and wiped with alcohol to minimize the risk of contamination.
2. For any sturgeon, after the specimen has been measured and photographed, take a one-cm square clip from the pelvic fin.
3. Place fin clips in small screw top vials (2 ml screw top plastic vials are preferred) with preservative. Avoid using glass vials.
4. Label each vial with fish's unique ID number that matches the ID number you record on the metadata sheet. This is critical for accurate tracking and record keeping .
5. RNAlater™ is the preferred preservative and is not hazardous. Ninety-five percent absolute ETOH (un-denatured) is an accepted alternative. Note that ETOH is a Class 3 Hazardous Material due to its flammable nature.
6. If non-screw top vials are used, seal individual vials with leak proof positive measure (e.g., tape).
7. Package vials together (e.g., in one box) with an absorbent material within a double-sealed container (e.g., zip lock baggie).
8. If using excepted quantities of ETOH, follow DOT and IATA packaging regulations, including affixing ETOH warning label to air package. Accepted quantities of ETOH is 30 mL per inner package and 1 L for the total package.
9. A sub-sample of the fin clip must be sent to the sturgeon genetics archive at the USGS facility in Leetown, WV.
   a. Submit sample metadata to rjohnson1@usgs.gov with a cc to incidental.take@noaa.gov. Electronic metadata must be provided in order to properly identify and archive samples. A copy of the electronic metadata was emailed to the Federal agency point of contact for this Opinion and a list of the metadata fields is included below. Retain a copy of metadata sheets for your records.
   b. Mail samples to:

Robin Johnson
U.S. Geological Survey
Leetown Science Center
Aquatic Ecology Branch
11649 Leetown Road
Kearneysville, WV 25430

10. Send a subsample and associated metadata to the NMFS-approved lab for processing to determine DPS or river of origin per the agreement you have with that facility.

Metadata to be recorded for each genetic sample submitted to USGS and other NMFS-approved lab:

- Collection Date
- Species (ATS/SNS)
- Collector
- Collector Email
- Collector Phone Number
- Permit/Biological Opinion Number
- Permit Holder, Responsible Party (RP), or Principal Investigator (PI)
- Holder, RP, or PI Email
- Holder, RP, or PI Phone Number
- Unique Fish ID
- PIT Tag Number
- Location Collected
- Latitude
- Longitude
- Fork Length (mm)
- Total Length (mm)
- Weight (g)
- Sex
- Preservative
- Tag Info Available (Y/N)
- Tag Info
- Mortality (Y/N)
- Mortality Type
- Release of Information to Interested Party
- Recapture (Y/N)
- Comments

SEA TURTLE TAKE PROCEDURES

Action Agency should refer to BiOp and always follow the RPMs and T&Cs. If BiOp does not include one of these steps, then you are not covered under the BiOp to perform that step. Skip that step and move onto the next step. See BiOp for specific instructions.

START: Take Occurs
Is the sea turtle alive or dead?

ALIVE

Handle and, if needed, resuscitate turtle properly.

If resuscitation is needed and turtle does not respond after 24 hours, proceed to DEAD protocol.

Record measurements and photograph/video turtle, including injuries and behavior.

Is the turtle alert and visibly uninjured?

YES, turtle is visibly uninjured

Check the turtle for tags. Is the turtle PIT or flipper tagged?

YES

Record tag numbers.

NO

Determine whether additional handling/sampling is required, depending on BiOp. Check with NMFS if unclear what is allowed.

YES

If authorized, obtain biopsy/genetic samples and apply PIT and/or flipper tags (if no tags present).

NO

Safely release turtle to water

Fill out Incidental Take Form (one per turtle). Submit form and photos to incidental.take@noaa.gov within 72 **hours** of take occurring.

END

NO, turtle is injured or inactive

Place turtle in resuscitation position if necessary.

Call NMFS stranding hotline 866-755-NOAA, extension 0 to coordinate transport to rehabilitation. The **Action Agency** is responsible for paying for rehab.

Be prepared to give the following details:
(1) Project name and vessel name;
(2) GPS coordinates for the location of the interaction (in decimal degrees);
(3) type of interaction involved (e.g., bottom trawl, hopper dredge);
(4) time and date of the interaction; (5) species identification and
(6) description of injuries.

Fill out Incidental Take Form (one per turtle). Submit form and photos to incidental.take@noaa.gov within **72 hours** of take occurring.

END

DEAD

Within 12 hours of take occurring, notify NMFS by email - incidental.take@noaa.gov or calling stranding hotline 866-755-NOAA, extension 0.

Be prepared to give the following details:
(1) Project name and vessel name;
(2) GPS coordinates for the location of the interaction (in decimal degrees);
(3) type of interaction involved (e.g., bottom trawl, hopper dredge);
(4) time and date of the interaction; (5) species identification and
(6) description of injuries.

Record measurements and photograph turtle, including injuries.

Check the turtle for tags. Is the turtle PIT or flipper tagged?

YES

Record tag numbers.

NO

Determine whether additional handling/sampling is required, depending on BiOp. Check with NMFS if unclear what is allowed.

YES

If authorized, obtain biopsy/genetic samples (Check BiOp for details)

NO

Put turtle on ice (do NOT freeze)

Within 72 hours, **NMFS** will make a determination and contact you if a necropsy is required.
If no answer within 72 hours, spray paint and dispose of carcass.

Necropsy Required

Continue leaving turtle on ice (do NOT freeze). **NMFS** will send you the contact information for the **Stranding Responder**.

The **Action Agency** is responsible for transporting the carcass and paying for the necropsy.

No Necropsy Required

Either **NMFS** will advise you to spray paint and discard the carcass, or a **Stranding Responder** will contact you and will arrange the transport of the carcass for salvage.

The **Action Agency** is not responsible for transporting the carcass and paying for the necropsy.

Fill out Incidental Take Form (one per turtle). Submit form and photos to incidental.take@noaa.gov within **72 hours** of take occurring.
END

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

NOV 27 2017

MEMORANDUM FOR: The File

FROM: Julie Crocker Julie E. Crocker
Acting Assistant Regional Administrator for Protected Resources

SUBJECT: Characteristics and process for when strandings should be considered hopper dredge takes

Sea turtles are occasionally taken in hopper dredging activities. Observers are typically placed on hopper dredges to monitor the intake for turtles or turtle parts. Turtles that interact with hopper dredges often have the same characteristics. Sometimes, strandings are found with injuries that are consistent with those seen by observers onboard hopper dredges. Such strandings can involve dead turtles washed up on the beach, found in the dredge material or pipeline, or found floating in nearshore waters. In the Greater Atlantic Region, most of the sea turtle/hopper dredge interactions have occurred in Virginia. The Incidental Take Statement (ITS) of the 2012 Biological Opinion on the maintenance of Chesapeake Bay Entrance Channels notes that "...should we receive any reports of injured or killed sea turtles or sturgeon in the area (i.e., via the STSSN [Sea Turtle Stranding and Salvage Network]) and necropsy documents that interactions with the hopper dredge operating during this project was the cause of death, we will consider those animals to be taken by this action." As such, it is important to explore the characteristics of hopper dredge interactions in order to determine when a dredge can be positively identified as the cause of death in a stranding. This information is critical for monitoring sea turtle takes against the authorized takes contained in the ITS of a Biological Opinion.

The characteristics outlined below have been observed in sea turtle interactions with hopper dredges; however, not every dredge interaction shows all of these characteristics. The Virginia Aquarium and Marine Science Center previously explored this issue to determine whether trauma in stranded turtles is consistent with observed dredge takes (Trapani *et al.* 2008). We referred to this information in the development of these criteria. The 2012 Chesapeake Bay dredging Biological Opinion notes that a necropsy is needed to document dredging as the cause of death. We will share these criteria with the appropriate STSSN partner and work with them to ensure necropsies are conducted, whenever possible, on strandings that exhibit potential dredge-related injuries (as outlined below). A necropsy isn't necessarily required to determine a stranding was related to dredge activity (through the process outlined below); however, a necropsy may be needed to attribute the take towards the ITS in some Biological Opinions (e.g., Chesapeake Bay dredging). These criteria will apply to all areas where suspect dredge strandings are found, not only in Virginia.

Characteristics

Injury type

To assign take of a turtle with an unknown cause of death to a dredge ITS, the turtle must exhibit injuries inconsistent with another mortality source (e.g., no ligature injuries or serial parallel wounds as would be seen in fishery interactions or vessel strikes, respectively). The types of injuries occurring from hopper dredge interactions may include:

- Crushing wounds/injuries;
- Partial carapace or body part[1];
- Jagged edges to injury;
- Internal organs completely or partially missing or displaced;
- Excoriated skin injuries; or
- Peeling or missing scutes, not related to decomposition, around injury area.

Other characteristics

- Heavy inundation of the body cavity, organs, and/or tissue (especially open wounds) by mud, silt, or other sediment; or
- Hopper dredging occurring in the area within the last one to two weeks.

  When evaluating whether a stranding would be attributable to a dredging ITS, all possible mortality sources will be considered. Any mortality source that may result in characteristics similar to those outlined here will be reviewed. Current and past hopper dredging activity and location (within two states of the stranding location) will be documented and environmental conditions (e.g., currents, wind patterns) will be evaluated to determine if a stranding in a certain location may be related to local dredge activity. The condition of the stranding in relation to the location of the dredging activity will also be considered.

Process

When a stranding is documented with one or more of the injury characteristics noted above, the following steps will occur in order to ascertain whether the dredge was the cause of turtle death.

- STSSN responder will fill out the STSSN form and note on the top of the form that the case is a suspect dredge interaction.
- STSSN responder will perform a necropsy, if possible.
- The STSSN form and any necropsy results will be forwarded to the GARFO STSSN coordinator within three working days.
- A team of three GARFO Protected Resources Division biologists[2] will review the case, considering the characteristics presented in this memo, as well as the STSSN data. If a necropsy was not completed, the team will review all relevant information available, as the completion of a necropsy should not preclude a determination.
- The team will discuss the case and make a consensus determination as to whether the stranding represents a dredge take and should be counted towards an ITS. The relevant ITS will also be identified.

---

[1] A partial carapace or body part may also be seen with vessel strikes, so this injury descriptor would need to be evaluated in conjunction with the other injury types.

[2] The team will include two sea turtle biologists and one section 7 biologist. While staff may change, the team currently includes Zach Jylkka, Kate Sampson, and Carrie Upite (lead).

- A memo from the team lead to the GARFO Assistant Regional Administrator for Protected Resources will be prepared with the team's rationale.
- GARFO section 7 staff will inform and distribute the associated rationale to the lead action agency (typically the Army Corps of Engineers).
- If determined to be a dredge take, the interaction will be included in the respective incidental take reporting logs.

Literature Cited

Trapani, C.M., D.D. Boyd and P.D. Bargo. 2008. Sea Turtle/Dredge Interactions in Virginia, USA: A Diagnostic View of Observed Takes vs. Strandings. Page 131 in: Kalb, H., Rohde, A., Gayheart, K. and Shanker, K., compilers. Proceedings of the Twenty-Fifth Annual Symposium on Sea Turtle Biology and Conservation. NOAA Technical Memorandum NMFS-SEFSC-582. 204 pp.

APPENDIX H

MONITORING SPECIFICATIONS FOR DREDGES

Part 1. – HOPPER DREDGES

I. EQUIPMENT SPECIFICATIONS

A. Baskets or screening

Baskets or screening must be installed over the hopper inflows with openings no smaller than 4 inches by 4 inches to provide 100% coverage of all dredged material and shall remain in place during all dredging operations. Baskets/screening will allow for better monitoring by observers of the dredged material intake for sea turtles, sturgeon and their remains. The baskets or screening must be safely accessible to the observer and designed for efficient cleaning.

B. Draghead

The draghead of the dredge shall remain on the bottom **at all times** during a pumping operation, except when:

1) the dredge is not in a pumping operation, and the suction pumps are turned completely off;
2) the dredge is being re-oriented to the next dredge line during borrow activities; and
3) the vessel's safety is at risk (i.e., the dragarm is trailing too far under the ship's hull).

At initiation of dredging, the draghead shall be placed on the bottom during priming of the suction pump. If the draghead and/or dragarm become clogged during dredging activity, the pump shall be shut down, the dragarms raised, whereby the draghead and/or dragarm can be flushed out by trailing the dragarm along side the ship. If plugging conditions persist, the draghead shall be placed on deck, whereby sufficient numbers of water ports can be opened on the draghead to prevent future plugging.

Upon completion of a dredge track line, the drag tender shall:

1) throttle back on the RPMs of the suction pump engine to an idling speed (e.g., generally less than 100 RPMs) **prior to** raising the draghead off the bottom, so that no flow of material is coming through the pipe into the dredge hopper. Before the draghead is raised, the vacuum gauge on the pipe should read zero, so that no suction exists both in the dragarm and draghead, and no suction force exists that can impinge a turtle on the draghead grate;
2) hold the draghead firmly on the bottom with no flow conditions for approximately 10 to 15 seconds before raising the draghead; then, raise the draghead quickly off the bottom and up to a mid-water column level, to further reduce the potential for any adverse interaction with nearby turtles;

3) re-orient the dredge quickly to the next dredge line; and

4) re-position the draghead firmly on the bottom prior to bringing the dredge pump to normal pumping speed, and re-starting dredging activity.

C. Floodlights

Floodlights must be installed to allow the NMFS-approved observer to safely observe and monitor the baskets or screens.

D. Intervals between dredging

Sufficient time must be allotted between each dredging cycle for the NMFS-approved observer to inspect and thoroughly clean the baskets and screens for sea turtles and/or turtle parts and document the findings. Between each dredging cycle, the NMFS-approved observer should also examine and clean the dragheads and document the findings.

II. OBSERVER PROTOCOL

A. Basic Requirement

A NMFS-approved observer with demonstrated ability to identify sea turtle and sturgeon species must be placed aboard the dredge(s) being used, starting immediately upon project commencement to monitor for the presence of listed species and/or parts being entrained or present in the vicinity of dredge operations.

B. Duty Cycle

Observers are required at times and locations outlined in the ITS. While onboard, the observer must work a shift schedule appropriate to allow for the observation of at least 50% of the dredge loads (e.g., 12 hours on, 12 hours off). The USACE shall require of the dredge operator that, when the observer is off watch, the cage shall not be opened unless it is clogged. The USACE shall also require that if it is necessary to clean the cage when the observer is off watch, any aquatic biological material is left in the cage for the observer to document and clear out when they return on duty. In addition, the observer shall be the only one allowed to clean off the overflow screen.

C. Inspection of Dredge Spoils

During the required inspection coverage, the trained NMFS-approved observer shall inspect the galvanized screens and baskets at the completion of each loading cycle for evidence of sea turtles or shortnose sturgeon. The Endangered Species Observation Form shall be completed for each loading cycle, whether listed species are present or not. If any whole (alive or dead) or turtle parts are taken incidental to the project(s), NMFS Protected Resources Division must be contacted by phone (978-281-9328) or e-mail (incidental.take@noaa.gov) within 24 hours of the take. An incident report for sea turtle/shortnose sturgeon take (Appendix E) shall also be completed by the observer and sent via FAX (978) 281-9394 or e-mail (incidental.take@noaa.gov) within 24 hours of the take. Incident reports shall be completed for

every take regardless of the state of decomposition. NMFS will determine if the take should be attributed to the incidental take level, after the incident report is received. Every incidental take (alive or dead, decomposed or fresh) should be photographed, and photographs shall be sent to NMFS either electronically (incidental.take@noaa.gov) or through the mail. Weekly reports, including all completed load sheets, photographs, and relevant incident reports, as well as a final report, shall be submitted to NMFS NER, Protected Resources Division, 55 Great Republic Drive, Gloucester, MA 01930-2298.

D. Information to be Collected

For each sighting of any endangered or threatened marine species (including whales as well as sea turtles), record the following information on the Endangered Species Observation Form (Appendix E):

1) Date, time, coordinates of vessel
2) Visibility, weather, sea state
3) Vector of sighting (distance, bearing)
4) Duration of sighting
5) Species and number of animals
6) Observed behaviors (feeding, diving, breaching, etc.)
7) Description of interaction with the operation

E. Disposition of Parts

If any whole turtles or sturgeon (alive or dead, decomposed or fresh) or turtle or shortnose sturgeon parts are taken incidental to the project(s), NMFS Protected Resources must be contacted within 24 hours of the take (phone: 978-281-9328 or e-mail (incidental.take@noaa.gov). All whole dead sea turtles or sturgeon, or turtle or shortnose sturgeon parts, must be photographed and described in detail on the Incident Report of Sea Turtle Mortality (Appendix E). The photographs and reports should be submitted by email (incidental.take@noaa.gov) or mail (Attn: Section 7 Coordinator, NMFS, Protected Resources Division, 55 Great Republic Drive, Gloucester, MA 01930-2298). After NMFS is notified of the take, it may instruct the observer to save the animal for future analysis if there is freezer space. Disposition of dead sea turtles/ sturgeon will be determined by NMFS at the time of the take notification. If the species is unidentifiable or if there are entrails that may have come from a turtle, the subject should be photographed, placed in plastic bags, labeled with location, load number, date and time taken, and placed in cold storage.

Live turtles (both injured and uninjured) should be held onboard the dredge until transported as soon as possible to the appropriate stranding network personnel for rehabilitation (Appendix C). No live turtles should be released back into the water without first being checked by a qualified veterinarian or a rehabilitation facility. The NMFS Stranding Network Coordinator ((978) 282-8470) should also be contacted immediately for any marine mammal injuries or mortalities.

III. OBSERVER REQUIREMENTS

Submission of resumes of endangered species observer candidates to NMFS for final approval ensures that the observers placed onboard the dredges are qualified to document takes of endangered and threatened species, to confirm that incidental take levels are not exceeded, and to provide expert advice on ways to avoid impacting endangered and threatened species. NMFS does not offer certificates of approval for observers, but approves observers on a case-by-case basis.

A. Qualifications

Observers must be able to:

1) differentiate between leatherback (*Dermochelys coriacea*), loggerhead *Caretta caretta*), Kemp's ridley *(Lepidochelys kempii*), green (*Chelonia mydas*), and hawksbill *(Eretmochelys imbricata*) turtles and their parts, and shortnose (*Acipenser brevirostrum*) and Atlantic (*Acipenser oxyrinchus oxyrinchus*) sturgeon and their parts;
2) handle live sea turtles and sturgeon and resuscitate and release them according accepted procedures;
3) correctly measure the total length and width of live and whole dead sea turtle and sturgeon species;
4) observe and advise on the appropriate screening of the dredge's overflow, skimmer funnels, and dragheads; and
5) identify marine mammal species and behaviors.

B. Training

Ideally, the applicant will have educational background in marine biology, general experience aboard dredges, and hands-on field experience with the species of concern. For observer candidates who do not have sufficient experience or educational background to gain immediate approval as endangered species observers, the below observer training is necessary to be considered admissible by NMFS. We can assist the USACE by identifying groups or individuals capable of providing acceptable observer training. Therefore, at a minimum, observer training must include:

1) instruction on how to identify sea turtles and sturgeon and their parts;
2) instruction on appropriate screening on hopper dredges for the monitoring of sea turtles and sturgeon (whole or parts);
3) demonstration of the proper handling of live sea turtles and sturgeon incidentally captured during project operations. Observers may be required to resuscitate sea turtles according to accepted procedures prior to release;
4) instruction on standardized measurement methods for sea turtle and sturgeon lengths and widths; and

5) instruction on how to identify marine mammals; and
6) instruction on dredging operations and procedures, including safety precautions onboard a vessel.

Part 2. MECHANICAL DREDGES

I. EQUIPMENT SPECIFICATIONS

A. Floodlights

Should dredging occur at night or in poor lighting conditions, floodlights must be installed to allow the NMFS-approved observer to safely observe and monitor dredge bucket and scow.

B. Intervals between dredging

Sufficient time must be allotted between each dredging cycle for the NMFS-approved observer to inspect the dredge bucket and scow for shortnose sturgeon and/or sturgeon parts and document the findings.

II. OBSERVER PROTOCOL

A. Basic Requirement

A NMFS-approved observer with demonstrated ability to identify shortnose sturgeon must be placed aboard the dredge(s) being used; starting immediately upon project commencement to monitor for the presence of listed species and/or parts being taken or present in the vicinity of dredge operations.

B. Duty Cycle

A NMFS-approved observer must be onboard during dredging until the project is completed. While onboard, observers shall provide the required inspection coverage to provide 100% coverage of all dredge-cycles.

C. Inspection of Dredge Spoils

During the required inspection coverage, the NMFS-approved observer shall observe the bucket as it comes out of the water and as the load is deposited into the scow during each dredge cycle for evidence of shortnose sturgeon. If any whole sturgeon (alive or dead) or sturgeon parts are taken incidental to the project(s), NMFS must be contacted **within 24 hours** of the take (phone: 978-281-9328 or email (incidental.take@noaa.gov). An incident report for sturgeon take shall also be completed by the observer and sent to NMFS via FAX (978) 281-9394 or e-mail (incidental.take@noaa.gov) within 24 hours of the take. Incident reports shall be completed for every take regardless of the state of decomposition. Every incidental take (alive or dead, decomposed or fresh) must be photographed. A final report including all completed load sheets,

photographs, and relevant incident reports are to be submitted to the attention of the Section 7 Coordinator, NMFS Protected Resources Division, 55 Great Republic Drive, Gloucester, MA 01930.

D. Inspection of Disposal

The NMFS-approved observer shall observe all disposal operations to inspect for any whole sturgeon or sturgeon parts that may have been missed when the load was deposited into the scow. If any whole sturgeon (alive or dead) or sturgeon parts are observed during disposal operation, the procedure for notification and documentation outlined above should be completed.

E. Disposition of Parts

As required above, NMFS must be contacted as soon as possible following a take. Any dead sturgeon should be refrigerated or frozen until disposition can be discussed with NMFS. Under no circumstances should dead sturgeon be disposed of without confirmation of disposition details with NMFS.

III. OBSERVER REQUIREMENTS

Submission of resumes of endangered species observer candidates to NMFS for final approval ensures that the observers placed onboard the dredges are qualified to document takes of endangered and threatened species, to confirm that incidental take levels are not exceeded, and to provide expert advice on ways to avoid impacting endangered and threatened species. NMFS does not offer certificates of approval for observers, but approves observers on a case-by-case basis.

A. Qualifications

Observers must be able to:

1) differentiate between shortnose (*Acipenser brevirostrum*) and Atlantic (*Acipenser oxyrinchus oxyrinchus*) sturgeon and their parts;
2) handle live sturgeon;
3) correctly measure the total length and width of live and whole dead sturgeon species;

B. Training

Ideally, the applicant will have educational background in biology, general experience aboard dredges, and hands-on field experience with the species of concern. For observer candidates who do not have sufficient experience or educational background to gain immediate approval as endangered species observers, we note below the observer training necessary to be considered admissible by NMFS. We can assist the USACE by identifying groups or individuals capable of providing acceptable observer training. Therefore, at a minimum, observer training must include:

1) instruction on how to identify sturgeon and their parts;

2) instruction on appropriate screening on hopper dredges for the monitoring of sturgeon(whole or parts);

3) demonstration of the proper handling of live sturgeon incidentally captured during project operations;

4) instruction on standardized measurement methods for sturgeon lengths and widths; and

5) instruction on dredging operations and procedures, including safety precautions onboard.

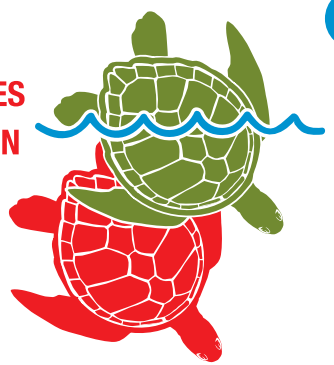
SEA TURTLE HANDLING AND RESUSCITATION REQUIREMENTS

IF YOU ENCOUNTER AN ENTANGLED, INJURED OR UNRESPONSIVE SEA TURTLE, please immediately call the National Marine Fisheries Service Northeast Region Hotline:

866-755-NOAA (6622)

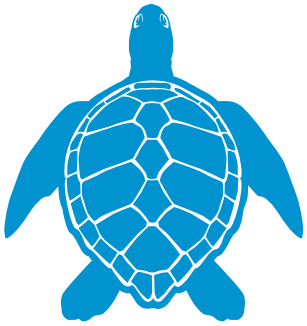
Any sea turtle taken incidentally during fishing must be handled with care to prevent injury, observed for activity, and returned to the water according to the following procedures:

A A SEA TURTLE THAT IS ACTIVELY MOVING OR IS DEAD (THAT IS, IF MUSCLES ARE STIFF AND/OR THE FLESH HAS BEGUN TO ROT) MUST BE RELEASED OVER THE VESSEL'S STERN ONLY:



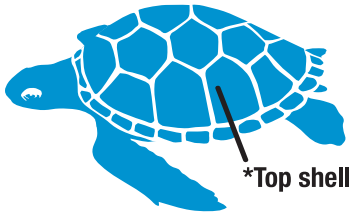
- When fishing gear is not in use,
- When the engine is in neutral, and
- In areas where the turtle is unlikely to be recaptured or injured by vessels.

OTHERWISE, YOU MUST CONSIDER THE TURTLE UNRESPONSIVE AND ATTEMPT RESUSCITATION AS DESCRIBED IN B.



You are strongly encouraged to read the full regulation, which can be found at 50 CFR 223.206(d)(1).

B YOU MUST ATTEMPT RESUSCITATION ON SEA TURTLES THAT ARE UNRESPONSIVE AS FOLLOWS:



1. Place the turtle top shell up* and elevate its hindquarters at least 6" (or 15-30°) for at least 4 hours and up to 24 hours.
   - The amount of elevation depends on the turtle's size; larger turtles require greater elevation.
   - In warm weather (over 60 °F), keep the turtle shaded and moist, preferably by placing a damp towel over the head, shell, and flippers. You must NOT place the turtle into a container of water.
2. Periodically rock the turtle gently side to side by holding the outer edge of the shell and lifting one side about 3", then alternate to the other side.
3. Periodically gently touch the eye and pinch the tail (reflex tests) to see if there is a response.

C IF THE TURTLE REVIVES AND BECOMES ACTIVE DURING RESUSCITATION EFFORTS, you must release it over the vessel's stern as described in A. If the turtle does not respond to the reflex test (as described in B 3) or move within 4 hours (up to 24 hours, if possible), you must return the turtle to the water in the same manner.

APPENDIX I

Sea turtle handling and resuscitation measures as found at 50 CFR 223.206(d)(1).

(d) (1) (i) Any specimen taken incidentally during the course of fishing or scientific research activities must be handled with due care to prevent injury to live specimens, observed for activity, and returned to the water according to the following procedures.

(A) Sea turtles that are actively moving or determined to be dead as described in (d)(1)(i)(C) of this section must be released over the stern of the boat. In addition, they must be released only when fishing or scientific collection gear is not in use, when the engine gears are in neutral position, and in areas where they are unlikely to be recaptured or injured by vessels.

(B) Resuscitation must be attempted on sea turtles that are comatose, or inactive, as determined in paragraph (d)(1) of this section by:

(1) placing the turtle on its bottom shell (plastron) so that the turtle is right side up, and elevating its hindquarters at least 6 inches (15.2 cm) for a period of 4 up to 24 hours. The amount of the elevation depends on the size of the turtle; greater elevations are needed for larger turtles. Periodically, rock the turtle gently left to right and right to left by holding the outer edge of the shell (carapace) and lifting one side about 3 inches (7.6 cm) then alternate to the other side. Gently touch the eye and pinch the tail (reflex test) periodically to see if there is a response.

(2) sea turtles being resuscitated must be shaded and kept damp or moist but under no circumstance be placed into a container holding water. A water-soaked towel placed over the head, neck, and flippers is the most effective method in keeping a turtle moist.

(3) sea turtles that revive and become active must be released over the stern of the boat only when fishing or scientific collection gear is not in use, when the engine gears are in neutral position, and in areas where they are unlikely to be recaptured or injured by vessels. Sea turtles that fail to respond to the reflex test or fail to move within 4 hours (up to 24, if possible) must be returned to the water in the same manner as that for actively moving turtles.

© A turtle is determined to be dead if the muscles are stiff (rigor mortis) and/or the flesh has begun to rot; otherwise the turtle is determined to be comatose or inactive and resuscitation attempts are necessary.

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SECTION 35 20 23

DREDGING

PART 1 GENERAL

1.1 WORK COVERED BY CONTRACT PRICE

The contract price per cubic yard for dredging shall include the cost of removal and disposal of all materials as specified herein or indicated on the drawings, with the exception of ledge rock, large boulders, rock fragments, wrecks, snags, stumps, and piles which cannot be removed or buried below project depth without blasting. Should ledge rock or other material which cannot be removed without blasting be encountered, the Contractor shall remove therefrom all overlying material which in the judgment of the Contracting Officer can be removed. Nothing in this paragraph shall be construed as prohibiting the removal of excepted material by special means at prices agreed upon and approved in accordance with the FAR 52.236-2 entitled: "DIFFERING SITE CONDITIONS".

1.2 REFERENCES

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

AMERICAN WOOD PROTECTION ASSOCIATION (AWPA)

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

ASTM INTERNATIONAL (ASTM)

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

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PennDOT)

Publication 408	(2020) Publication 408 Specifications

SOUTHERN PINE INSPECTION BUREAU (SPIB)

SPIB 1003	(2014) Standard Grading Rules for Southern Pine Lumber

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety -- Safety and Health Requirements Manual
EM 1110-2-1003	(2013) Hydrographic Surveying Manual

AMERICAN LUMBER STANDARDS COMMITTEE (ALSC)

ALSC PS 20	(2015) American Softwood Lumber Standard

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

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

1.3 SUBMITTALS

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

SD-01 Preconstruction Submittals

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

SD-02 Shop Drawings

Sluice Walkway Plan; G,DO

SD-05 Design Data

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

SD-06 Test Reports

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

SD-07 Certificates

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

1.4 ORDER OF WORK AND DREDGING RESTRICTIONS

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

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

1.4.1 Hopper Dredging

Hopper dredging will not be permitted under this contract.

1.4.2 Hydraulic Dredging

Hydraulic pipeline dredging will not be permitted under this contract

1.4.3 Mechanical or Bucket Dredging

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

1.5 CHARACTER OF MATERIALS

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

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

1.6 SITE CONDITIONS

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

1.7 DAILY LOG OF SURVEYS PERFORMED

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

1.8 DAILY DREDGEHEAD POSITIONING RECORDS

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

1.9 VESSEL AND EQUIPMENT LIST

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

1.10 HYDROGRAPHIC SURVEYS

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

1.11 FUEL OIL HANDLING

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

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

the current month.

1.12 GOVERNMENT PLANT

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

PART 2 PRODUCTS

2.1 TIMBER FOR FLASHBOARDS AND SLUICE BOX WALKWAYS

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

2.1.1 Brush-Applied Preservative Treatment

AWPA M4.

2.2 AGGREGATE MATERIAL

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

2.2.1 Crushed Aggregate Ramp

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

PART 3 EXECUTION

3.1 INSPECTION

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

3.2 CONDUCT OF DREDGING WORK

3.2.1 Lights

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

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

3.2.2 Ranges, Gages, and Lines

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

3.2.3 Plant

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

3.2.4 Dredging Disposal

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

(1) Palmyra Cove

(2) Money Island Cell A

(3) Biles Island

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

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

3.2.5 Misplaced Material

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

3.2.6 Government Quality Control Monitor

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

3.2.7 Submerged Pipeline

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

3.2.8 Floating Pipeline

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

3.2.9 Navigation Warnings

Furnish and maintain navigation warning signs along the pipeline.

3.2.10 Method of Communication

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

3.2.11 Salvaged Material

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

3.2.12 Plant Removal

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

3.3 DEVELOPMENT AND OPERATION OF DISPOSAL AREA

3.3.1 Contractor Coordination

a. Conduct a disposal area prep meeting and site visit prior to starting actual disposal area work.

b. At least 7 days prior to the use or modification of the disposal area, contact Mr. Dan Kelly, Project Manager, at 215-656-6889.

3.3.2 General

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

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

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

3.3.3 Disposal Area

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

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

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

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

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

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

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

g. The Palmyra Cove Disposal Area is owned by the New Jersey Tidelands Commission and is available as a disposal area for this contract. It is being provided to the Corps of Engineers under agreement by the State of New Jersey under the terms of the local cooperation agreement for the Delaware River, Philadelphia to Trenton project authorization. It is also located within the limits of the Palmyra Cove Nature Park, which is operated by the Burlington County Bridge Commission (BCBC). The Park will remain open during dredging operations between dawn to dusk each day. The Contractor shall address public interaction and safety within both his health and safety plan as well as the disposal area plan. Phone number at the local Bridge Police Station is 856-829-1900, Ext 1244.

3.3.4 Additional Disposal Area Requirements

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

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

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

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

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

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

g. Provide full body safety harnesses for employees and Government inspectors during the installation and removal of flashboards and the taking of samples from the effluent sampling location in the discharge box. Each person working on the sluice shall wear a safety harness as described in the approved site specific fall protection plan. A competent

person in fall protection is required at the sluice box when fall protection is being used to add or remove boards.

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

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

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

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

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

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

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

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

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

3.4 CONTROL OF DISPOSAL AREA EFFLUENT IN UPLAND DISPOSAL AREA

3.4.1 General

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

a. Do not allow the density of the effluent discharged over the sluice to exceed 4.5 grams/liter at any time.

b. Maintain the pH of the effluent between 6 and 9 standard units at all times.

3.4.2 Sluice Management

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

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

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

b. Maintain the top of exterior sluice boards around the inlet box at the same elevation to the maximum extent possible.

c. Maintain the top of exterior sluice boards around the discharge box at least 8 inches, i.e., 2 boards minimum, above the top of the exterior flashboards around the inlet box.

d. Set the interior weir between the inlet and discharge boxes 1 to 2 feet lower than the elevation of the exterior flashboards around the inlet box.

e. Remove and properly dispose of all floating debris lodged in and around the sluice boxes.

f. In order to minimize leaks, place burlap bags or an approved

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

3.4.3 Effluent Sampling and Testing

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

3.4.3.1 Effluent pH

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

3.4.3.2 Effluent Sampling and Testing

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

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

3.4.4 Records

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

3.4.5 Timber Flashboards

Prior to commencement of pumping, provide a sufficient number of

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

3.4.6 Continuing Effluent Control

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

3.5 OVERDEPTH, SIDE SLOPES, AND EXCESIVE DREDGING

3.5.1 Overdepth

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

3.5.2 Side and End Slopes

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

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

3.5.3 Excessive Dredging

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

3.6 ESTIMATED QUANTITIES

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

<u>BASE BID</u>

Acceptance Section	Station to Station	Req'd Dredging to 41' (CY)	Overdepth 41' to 42'(CY)	Total Available (CY)
AS1	18+000 to 21+000(NJ)	4,500	4,500	9,000
AS2	26+000 to 28+500(PA)	5,500	3,000	8,500
AS3	55+000 to 57+500(NJ)	6,000	5,000	11,000
AS4	59+000 to 61+500(NJ)	6,500	4,500	11,000
AS5	63+500 to 65+467(PA)	8,500	4,500	13,000
AS6	65+467 to 68+000(PA)	10,500	6,000	16,500
AS7	69+500 to 71+500(NJ)	4,500	5,000	9,500
AS8	71+500 to 73+500(NJ)	6,000	5,500	11,500
AS9	72+700 to 75+700(PA)	12,000	8,000	20,000
AS10	78+798 to 80+219(PA)	7,500	3,000	10,500
AS11	82+000 to 84+660(NJ)	10,500	5,500	16,000
AS12	88+000 to 90+549(PA)	33,000	9,000	42,000
AS13	90+549 to 93+000(PA)	17,000	6,500	23,500
AS14	98+000 to 101+000(NJ)	23,000	6,000	29,000
AS15	101+000 to 104+000(NJ)	19,000	6,500	25,500
AS16	108+500 to 111+000(PA)	11,500	3,500	15,000
AS17	59+700 to 61+700(NJ)	20,000	10,000	30,000
AS18	116+000 to 119+000(NJ)	20,000	10,000	30,000
AS19	118+541 to 120+461(NJ)	15,000	8,000	23,000
AS20	Fairless Turning Basin	50,000	20,000	70,000
	TOTALS	290,500	134,000	424,500

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

3.7 LIMIT OF DREDGING

3.7.1 General

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

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

3.7.2 Quantity Acceptance

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

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

3.8 DEBRIS REMOVAL

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

3.9 CONTRACTOR QUALITY CONTROL

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

3.10 FINAL EXAMINATION AND ACCEPTANCE

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

3.11 MEASUREMENT AND PAYMENT

3.11.1 Mobilization and Demobilization

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

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

3.11.1.1 Cost Data

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

3.11.1.2 Mobilization and Demobilization Costs

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

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

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

3.11.2 Disposal Area Costs

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

3.11.3 Debris

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

working days after weighing.

3.11.4 Dredging Quantities

Dredging quantities will be conducted as follows:

3.11.4.1 Dredging - Channel Clearance Surveys

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

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

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

3.11.4.2 Dredging - Volume Calculations

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

3.11.4.3 Dredging - Plotting

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

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

calculation of square footage and volumes.

3.11.4.4 Surveys for Acceptance

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

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

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

3.11.4.5 Existing Conditions

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

3.11.4.6 Hydrographic Survey Equipment

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

3.11.4.7 Tide Corrections

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

3.11.4.8 Partial Payments

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

3.11.4.9 Payment

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

-- End of Section --

Contractor Daily Log of Survey, USACE, Philadelphia District, Hydro Survey Data

Date: **Weather cond:**
Job Title: **Location (Body of water):**
Location (River Mile or Brief Descr):
Party Chief: **Boat Operator:**
Additional Personnel:
Boat Name: **Contr & T.O. No.:**
Misc Contr Info: (QAR, POC, Survey Type, etc)

Control Recovery

Mon. Name/Designation	Mile	H/V	Cond	Remarks

Sounding Machine Calibration Data

Manufacturer (Fath): _____
S/N: _____

Date	Time 1	Speed of Sound	Draft	Time 2	Speed of Sound	Draft

Manufacturer (Digitizer): _____
S/N: _____

Date	Time 1	Speed of Sound	Draft	Time 2	Speed of Sound	Draft

Water Surface Calculations

Mon. Name/Designation	BS	HI	FS	Elev	Remarks (Lat/Long at WS)

Slope Profile Data

	Date	Range	Range	Range	Station	BS	HI	FS	Elev
W/S									
Diff									
W/S									
Diff									
W/S									
Diff									
W/S									

Survey Special Remarks

(Control, hardware, software problems. Barges, trees, drift, etc. Include lat/long at problem areas.)

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DAILY REPORT OF OPERATIONS

DAILY REPORT OF OPERATIONS	CONTRACT NO.	DATE	RCS ENGKW-31 [Feeder]
DREDGE	CONTRACTOR		
LOCATION OF WORK (Range, Stationing, Longitudinal Position)		CHARACTER OF WORK [ ] Maintenance [ ] New	
DISPOSAL AREA OR REHANDLING BASIN	LENGTH OF DISCHARGE OF PIPELINE: Pontoon Ft. Shore Ft.	Total Length Ft. Submerged Ft.	
CHARACTER OF MATERIAL AND PERCENTAGE OF EACH Gravel			
AVERAGE DEPTH (Feet and Tenths) Before Dredging After Dredging Payment Depth		WEATHER	
NUMBER OF MEN	MAN HOURS	MAN HOURS TO DATE	

WORK PERFORMED

ITEM	UNIT	AMOUNT GROSS	AMOUNT NET
Av. width of cut	Feet		
Area dredged	Sq. Ft.		
Distance advanced this period	Feet		
Distance advanced previously	Feet		
Distance advanced to date	Feet		
Amt. dredged this period	Cu. Yds.		
Amt. dredged previously	Cu. Yds.		
Total amt. dredged to date	Cu. Yds.		

ATTENDANT PLANT

ITEM	NAME	HOURS
Tugboat		
Tugboat		
Launch		
Barges		
Barges		
Scows		
Derrick		

COMMODITIES CONSUMED

ITEM	UNIT	QUANTITY
Fuel oil	Gals.	
Lubricants	Gals.	
Lubricants	Pounds	
Water	Gals.	

DISTRIBUTION OF TIME

EFFECTIVE WORKING TIME	HOURS	MINUTES
Dredging		
Percentage of total time		
NON- EFFECTIVE TIME		
Handling pipe lines		
Handling swinging lines		
Clearing pump and pipe line		
Clearing cutter or suction head		
Changing location of plant on job		
Loss due to opposing natural elements <8hr		
Loss due to opposing natural elements >8hr		
Loss due to passing vessals		
Minor operating repairs <4hr		
Secure for weekend		
Miscelaneous (Explain in remarks)		
Total Non-effective Time		
LOST TIME NOT CHARGEABLE		
Loss due to repairs >4hr		
Loss due to laying /relaying submerged line		
Lay time off shift		
Sundays and Holidays		
Waiting for equipment plant		
Collisions		
TOTAL TIME IN PERIOD		

No. of Supervisory Inspections: By field personnel By office personnel

REMARKS (Attach additional aheet, if necesary)

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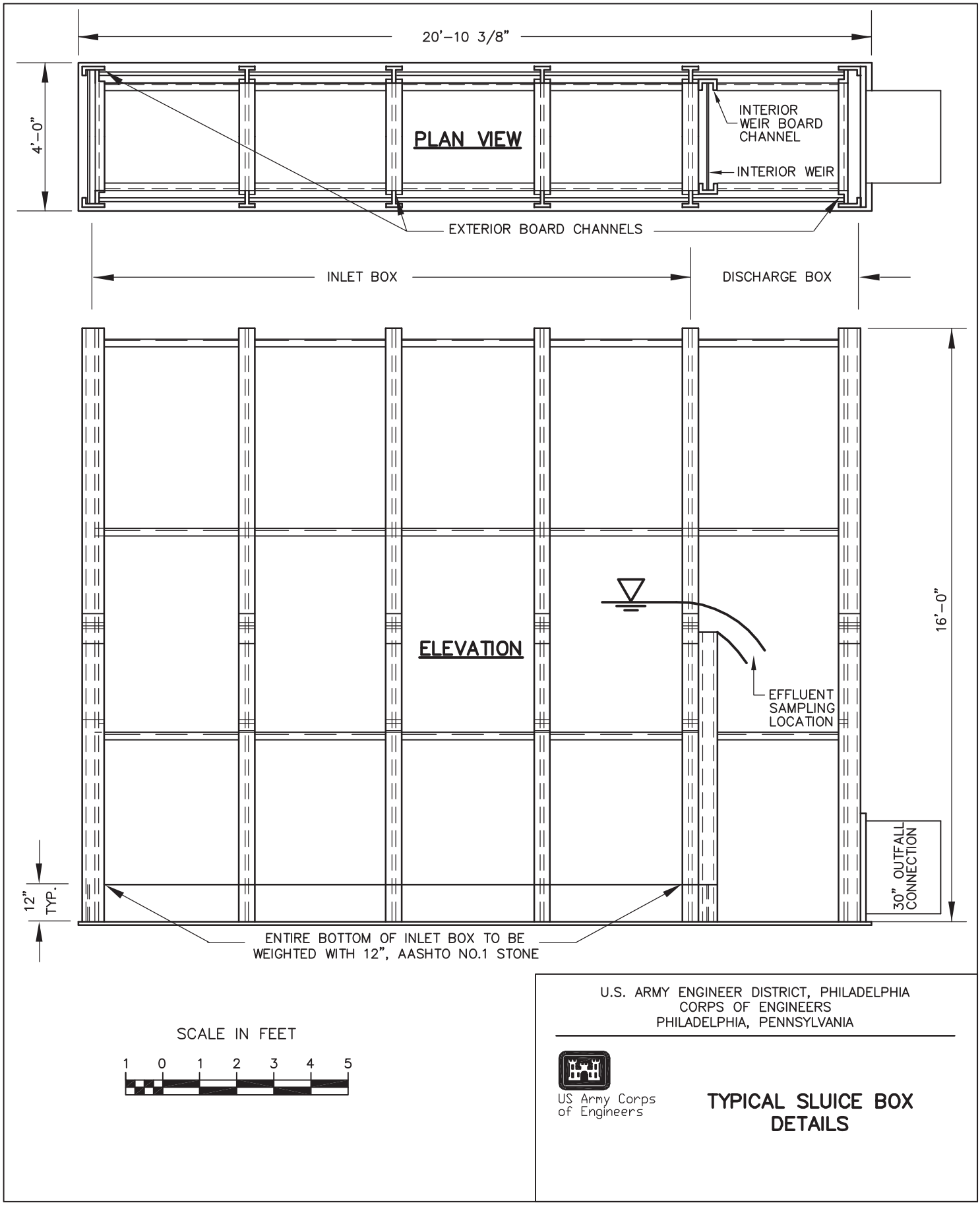
20'-10 3/8"
4'-0"
PLAN VIEW
INTERIOR WEIR BOARD CHANNEL
INTERIOR WEIR
EXTERIOR BOARD CHANNELS
INLET BOX
DISCHARGE BOX
ELEVATION
EFFLUENT SAMPLING LOCATION
16'-0"
30" OUTFALL CONNECTION
12" TYP.
ENTIRE BOTTOM OF INLET BOX TO BE WEIGHTED WITH 12", AASHTO NO.1 STONE
SCALE IN FEET
1 0 1 2 3 4 5
U.S. ARMY ENGINEER DISTRICT, PHILADELPHIA
CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA
US Army Corps of Engineers
TYPICAL SLUICE BOX DETAILS

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SECTION 35 20 23.13

NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM
SCOW - MONITORING PROFILE

PART 1 GENERAL

1.1 DESCRIPTION

The work under this contract requires use of the National Dredging Quality Management Program (DQM) to monitor the scow's status at all times during the contract and to manage data history. For the purpose of these specifications, a scow is defined as any non-self-propelled vessel used to transport dredged material. This includes, but is not limited to, split-hull scows, pocket scows, hopper barges, and deck barges.

This performance-based specification section identifies the minimum required output and the precision and instrumentation requirements. The requirements may be satisfied using equipment and technical procedures selected by the Contractor.

1.2 SUBMITTALS

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

SD-07 Certificates

Letter of National Dredging Quality Management Program Certification; G,DO

1.3 NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM CERTIFICATION

The Contractor is required to have a current certification from DQM for the scow instrumentation system to be used under this contract. Criteria for certification shall be based on the most recent specification posted on the DQM website (http://dqm.usace.army.mil/Specifications/Index.aspx). Compliance with these criteria shall be verified by onsite quality assurance (QA) checks conducted by the DQM Support Center Data Acquisition and Analysis Team and by periodic review of the transmitted data. If a system is installed specifically for this contract, in order to ensure that it is capable of transmitting quality data to the DQM database, the QA checks should take place either prior to the start of the contract or, with prior approval of the local USACE District, as soon as practical after dredging commences. DQM certification is valid for one year from the date of certification and is contingent upon the system's ability to meet the performance requirements as outlined in Paragraph 3.3, "Performance Requirements." If issues with data quality are not corrected within 48 hours, the system certification shall be revoked and additional QA checks by the Data Acquisition and Analysis Team may be necessary.

Annual DQM certification shall be based on the following:

A series of QA checks as outlined on the DQM website

(https://dqm.usace.army.mil/Certifications/Index.aspx

Verification of data acquisition and transfer as described in Paragraph3.3, "Performance Requirements")

Review of the Dredge Plant Instrumentation Plan (DPIP) as described in Paragraph 1.5, "Dredge Plant Instrumentation Plan (DPIP)"

The Dredging Contractor shall have personnel who are familiar with the system instrumentation and who have the ability to recalibrate the sensors on site during the QA process. The Dredging Contractor shall coordinate pickup times and locations and provide transportation to and from any platform with a DQM system to team personnel in a timely manner. The Dredging Contractor shall also have on site for the QA checks a tug capable of towing the scow. As a general rule, DQM Data Acquisition and Analysis Team personnel will come with personal protective equipment (PPE) consisting of hardhats, steel toe boots, and life jackets. If additional safety equipment is needed - such as eye protection, safety harnesses, work gloves or personal location beacons - these items shall be provided to the team while on site. The Contractor shall submit a test data package to the DQM database from the system on each scow and have it accepted by the DQM Support Center prior to scow compliance checks. The Contractor shall also submit data collected during the QA checks from the scow monitoring system to the DQM database and the Data Acquisition and Analysis Team personnel while on site. It is the Dredging Contractor's obligation to inform the QA team if the location designated for the QA checks has any site-specific safety concerns prior to their arrival on site.

The owner or operator of the scow shall contact DQM at DQM-AnnualQA@rpsgroup.com on an annual basis, or at least three weeks prior to the proposed beginning of dredging, to schedule QA checks. This notification is meant to make the Data Acquisition and Analysis Team aware of a target date and the contract on which the plant will be used. At least one week prior to the target date, the Dredging Contractor shall contact the Data Acquisition and Analysis Team and verbally coordinate a specific date and location. The Contractor shall then follow up this conversation with a written email confirmation. The owner/operator shall coordinate the QA checks with all local authorities including, but not limited to, the local USACE Contracting Officer's Representative (COR).

Recertification is required for any yard work which produces modification to displacement (for example, a change in scow lines, or repositioning or repainting hull marks), modification to bin volume (change in bin dimensions or addition or subtraction of structure), or changes in sensor type or location; these changes shall be reported in the sensor log section of the DPIP. A system does not have to be transmitting data between jobs; however, in order to retain certification during this period, the system sensors or hardware should not be disconnected or removed from the scow. If the system is powered down, calibration coefficients shall be retained.

1.4 DREDGE PLANT INSTRUMENTATION PLAN (DPIP)

The Contractor shall have a digital copy of the DPIP on file with the DQM Support Center. While working on site, the Contractor shall also maintain on the dredge a copy of the DPIP which is easily accessible to Government personnel at all times. This document shall describe the sensors used, configuration of the system, how sensor data will be collected, how quality control on the data will be performed, and how sensors/data reporting equipment will be calibrated and repaired if they fail. A description of

computed scow-specific data and how the sensor data will be transmitted to the DQM database shall also be included. The Contractor shall submit to the DQM Support Center any addendum or modifications made to the plan, subsequent to its original submission, prior to the start of work.

A complete list of the required DPIP contents is provided on the DQM website (https://dqm.usace.army.mil/Certifications/Index.aspx).

The Contractor shall submit to the DQM Support Center any addendum or modifications made to the plan, subsequent to its original submission, prior to the start of work. Any changes to the computation methods shall be approved by the DQM Support Center prior to their implementation.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 REQUIREMENTS FOR REPORTED DATA

The Contractor shall provide, operate, and maintain all hardware and software to meet these specifications. The Contractor shall be responsible for the replacement, repair, and calibration of sensors and other necessary data acquisition equipment needed to supply the required data.

Repairs shall be completed within 48 hours of any sensor failure. Upon completion of a repair, replacement, installation, modification or calibration the Contractor shall notify the Contracting Officer's Representative (COR). The COR may request recalibration of sensors or other hardware components at any time during the contract as deemed necessary.

The Contractor shall keep a log of sensor repair, replacement, installation, modification and calibration in the onsite copy of the DPIP. The log shall contain a three-year history of sensor maintenance including the time of sensor failures (and subsequent repairs), the time and results of sensor calibrations, the time of sensor replacements, and the time that backup sensor systems were initiated to provide the required data. It shall also contain the name of the person responsible for the sensor work.

Sensors installed shall be capable of collecting parameters within specified accuracies and resolutions indicated in the following subparagraphs.

With the exception of position and any value calculated, reported sensor values should represent a weighted average with the highest and lowest values not included in the calculated average for the given interval. The averaging routine used should be consistent across all event triggers. This information should be documented in the DPIP sections that say "Calculations done external to the instrumentation."

These data-reporting requirements cover the collection of electronic data on a scow through the entire dredging cycle. Disposal events can consist of both open-water disposal and offloading. Open water-disposal is the placement of material via bottom doors or split hull. Offloading is the placement of material via either hydraulic or mechanical means.

3.1.1 Scow Name

Each scow shall be assigned a unique name that will remain constant from

one dredging operation to the next.

3.1.2 Contract Number

The USACE-assigned contract number for the project will be reported.

3.1.3 Load Number

A DQM load number shall document the end of a disposal event for a given scow.

3.1.4 Horizontal Positioning

Horizontal positioning shall be recorded as the geographic coordinates of the vessel as indicated by the location of the Global Positioning System (GPS) antenna. All locations shall be obtained using a positioning system operating with a minimum accuracy level of 1 to 3 meters horizontal Circular Error Probable (CEP). Positions shall be reported as Latitude/Longitude WGS 84 in decimal degrees. West Longitude and South Latitude values are reported as negative.

3.1.5 Date and Time

The date and time shall be reported to the nearest second and referenced to Universal Time Coordinated (UTC) based on a 24-hour format; yyyy-mm-dd hh:mm:ss.

3.1.6 Hull Status

Hull status is meant to reflect a condition when material could be removed or released from the scow.
For this contract, hull status shall register closed prior to leaving the disposal area.

3.1.6.1 Open-Water Disposal

An open split hull or open bottom door of a scow shall be indicated by reporting an "OPEN" value. A closed split hull or closed bottom door of a scow shall be indicated by reporting a "CLOSED" value. An open status shall be indicated as the bin starts to open, and a closed status shall be indicated only once the bin is fully closed. For pocket scows, the open/closed status shall correspond to the compartment which is first to open and last to close.

3.1.6.2 Offloading

For non-dumping scows, an "OPEN" value shall indicate that the bin is in the process of being unloaded, either by pumping or mechanical means.

3.1.7 Course

Scow course-over-ground (COG) shall be provided using industry-standard equipment. The Contractor shall provide scow course-over-ground (to the nearest whole degree) with values from 000 (true north) to 359 degrees referenced to a clockwise positive direction convention.

3.1.8 Speed

Scow speed-over-ground shall be provided in knots using industry-standard

equipment with a minimum accuracy of 1.0 knot and resolution to the nearest 0.1 knot.

3.1.9 Heading

Scow heading shall be provided using industry standard equipment. The scow heading shall be accurate to within 5 degrees and reported to the nearest whole degree, with values from 000 (true north) to 359 degrees referenced to a clockwise positive direction convention.

3.1.10 Draft

All reported draft measurements shall be in feet, tenths. and hundredths with an accuracy of +/- 0.1 foot relative to observed physical draft readings. The measurements shall be reported at a resolution of two decimal places (hundredths of a foot). The reported forward draft value shall be equal to the sum of the visual forward port and starboard draft mark readings divided by two. The reported aft draft value shall be equal to the sum of the visual aft port and starboard draft mark readings divided by two. Forward draft, aft draft, and average draft will be reported. Sensors shall be placed at an optimum location on the scow to be reflective of observed physical draft mark readings at any trim or list. Minimum accuracies are conditional to relatively calm water. The sensor value reported shall be an average of at least ten samples per event, with at least one maximum value and one minimum value removed, and the minimum eight remaining values averaged. When the average draft is calculated for the purpose of determining displacement, significant digits for average draft shall be maintained such that if forward draft were 0.15 and aft draft were 0.1, then the average draft would be 0.125.

3.1.11 Displacement

Scow displacement shall be reported in long tons, based on the most accurate method available for the scow. The minimum standard of accuracy for displacement is interpolation from the displacement table, based on the average draft. For this contract the density of water used to calculate displacement shall be_____* kg/cubic meter and shall be used for an additional interpolation between the fresh and salt water tables.

**The water density used is project-/location-specific. Enter the appropriate water density in the blank:*

- *Fresh Water: 1000 kg/m3 (1g/cm3)*
- *Salt Water: 1027-1030 kg/m3 (1.027-1.03g/cm3)*

3.2 NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM SYSTEM REQUIREMENTS

The Contractor's DQM system shall be capable of collecting, displaying, and transmitting information to the DQM database. The parameters which shall be reported to the DQM database include trip number, date and time, hull status, scow course, scow speed, scow heading, draft, and displacement. An easily accessible, permanent visual display on the scow shall show in real time the parameters collected by the system in the same units as are used for data submitted to the DQM database. In the event a reported parameter is calculated based on multiple sensors, the sensor values as used in the equation shall be able to be viewed in addition to the required parameter. If a hardware problem occurs, or if a part of the system is physically damaged, then the Contractor shall be responsible for repairing it within 48 hours of determination of the condition.

3.2.1 Telemetry

The Contractor may select any commercial satellite, cellular phone, or other data communications systems available as long as it is capable of transmitting real-time data as well as enough additional bandwidth to clear historically queued data when a connection is reobtained. If connectivity is lost, unsent data shall be queued and transmitted upon restoration of connectivity. Delays in pushing real-time data to the DQM database should not exceed four hours. Exceptions to these requirements may be granted by the DQM Center on a case-by-case basis with consideration for contract-specific requirements, site-specific conditions, and extreme weather events.

The data transition process from the scow to the DQM database must be automated. The data may be sent from the scow directly to the DQM database or to a shore-based system. Data transmitted to the DQM database should be raw data; any processing of the data conducted shoreside shall be done using repeatable automated software or programming routine. A description of this process shall be included in the DPIP.

3.2.2 Data Reporting Frequency

Disposal activities shall be logged with high temporal and spatial resolution. Data shall be logged as a series of events. Each set of measurements (time, position, etc.) will be considered an event. Any required information in Paragraph 3.1, "Requirements for Reported Data," that is not an averaged variable (that is, draft and ullage) shall be collected within 1 second of the reported time. Data shall be measured with sufficient frequency by the scow system to resolve the events to the accuracy specified in the following table. Any averaged variable must be collected and computed within this sampling interval. Event types "Sailing," "Loading/Stationary," "Offloading," and "Open Water Disposal" are triggered by a time criterion; the criterion should be consistent across the "Sailing" and "Open Water Disposal" event types and should not change for the data collected on a given scow. This criterion should be documented by the Contractor in the DPIP.

Event Type	**Event Trigger Descriptions**	**Event Time Resolution**	**Event Position Resolution**
Loading/ Stationary	**No change in position with hull status closed** An elapsed time of 1 hour since the last event. **No change in position with hull status open** ----------NONCLOSURE------- In the event a scow has completed an open water disposal and transited back to a holding station without closing the hull, the sampling shall be changed to once per hour.	1 minute	N/A
Sailing	**Change in position with hull status closed** Time from the last sample equals 1 minute.	1 second	+/-10 ft
Open Water Disposal	**Hull status open** A position must be recorded within 1 second of the hull status going from closed to open and again within 1 second of the hull status going from open to closed. The position shall be reported at any equal interval from 6 to 12	1 second	+/-10 ft

	seconds. This interval shall always remain consistent for the dredge plant.	
Offloading	**Offloading material, hull status reported as open** A position must be recorded within 1 minute arrival at the offload location and within one second of the material starting to be removed from scow. The time from the last sample equals 1 minute.	1 second +/-10 ft
	--------STANDBY OFFLOADING----- In the event a scow is not being actively offloaded at the offload location for a time equal to one hour, the sampling interval shall be equal to once an hour.	1 minute

Example: The scow is stationary for 1 hour and 15 minutes, and then it sails to the disposal area. You should have a "Loading/Stationary" event at time 0 time 1 hour, and time 1 hour and 15 minutes. Then, for "Sailing," within 1 second of an elapsed time of 1 minute from the 1 hour and 15 minutes event, another event occurs.

3.2.3 Data Transmission to the Web Service

A Simple Object Access Protocol (SOAP) web service shall be used to report sensor data to the DQM database. Data shall be transmitted as it is collected in real time and pushed to the DQM web service. If the web service is not available or returns an error message, the data shall be stored in a queue and transmitted upon re-establishment of the connection, starting with the oldest data in the queue and continuing until real-time transmission is restored. Delays in pushing real-time data to the DQM database should not exceed four hours. Exceptions to these requirements may be granted by the DQM Support Center on a case-by-case basis with consideration for contract-specific requirements, site-specific conditions, and extreme weather events.

Contact dqm-support@usace.army.mil to obtain the web service URL and the appropriate key credentials and communication protocol.

The data transmission method call takes two arguments: a string containing the plant identifier assigned by the DQM Support Center and a second string containing the XML-formatted sensor data. The method returns the string "OK" if the data is received. If the data is not received, either the web service or the client application throws an error.

3.2.4 XML-Formatted Sensor Data String

Each scow event shall be passed as a string on one continuous line of data. The example below is broken up by variable for ease of reading:

```
<?xml version="1.0"?>
<SCOW_DREDGING_DATA version="2.5">
   <SCOW_NAME>AU1994</SCOW_NAME>
   <CONTRACT>W123BA-09-D-0087_RL01</CONTRACT>
   <TRIP_NUMBER>34</TRIP_NUMBER>
   <X_POSITION>-81.670632</X_POSITION>
   <Y_POSITION>41.528987</Y_POSITION>
   <DATE_TIME>2010-08-14 10:50:15</DATE_TIME>
   <SCOW_SPEED>0.0</SCOW_SPEED>
```

```
    <SCOW_COURSE>0.0</SCOW_COURSE>
    <HULL_STATUS>OPEN</HULL_STATUS>
    <SCOW_HEADING></SCOW_HEADING>
    <SCOW_FWD_DRAFT></SCOW_FWD_DRAFT>
    <SCOW_AFT_DRAFT></SCOW_AFT_DRAFT>
    <SCOW_AVG_DRAFT></SCOW_AVG_DRAFT>
    <ULLAGE_FWD></ULLAGE_FWD>
    <ULLAGE_AFT></ULLAGE_AFT>
    <ULLAGE_AVG></ULLAGE_AVG>
    <SCOW_BIN_VOLUME></SCOW_BIN_VOLUME>
    <SCOW_DISPLACEMENT></SCOW_DISPLACEMENT>
    <SCOW_LIGHTSHIP></SCOW_LIGHTSHIP>
    <SCOW_TDS></SCOW_TDS>
    <ADDITIONAL_DATA>Some more scow info, if needed</ADDITIONAL_DATA>
  </SCOW_DREDGING_DATA>
```

DATE_TIME values shall be formatted as YYYY-MM-DD HH:MM:SS, as shown above. If, for any reason, a field has no value, the enclosing XML tags should be sent with nothing between them (for example, <DRAFT_AFT></DRAFT_AFT>). The web service cannot handle a "null" value or any other indicators of no value collected.

3.2.5 Contractor Data Backup

The Contractor shall maintain an archive of all data sent to the DQM database during the dredging contract. The Contracting Officer's Representative (COR) may require, at no increase in the contract price, that the Contractor provide a copy of these data covering specified time periods. The data shall be provided in the HTML format which would have been transmitted to the DQM database. Data submission shall be via storage medium acceptable to the COR.

At the end of the dredging contact, the Contractor shall contact the DQM Support Center prior to discarding the data. The DQM Support Center will verify that all data has been received and appropriately archived before giving the Contractor discard permission. The Contractor shall record in a separate section at the end of the scow's onsite copy of the DPIP the following information:

- Person who made the call
- Date of the call
- DQM representative who gave permission to discard

3.3 PERFORMANCE REQUIREMENTS

The Contractor's DQM system shall be fully operational at the start of dredging operations and fully certified prior to moving dredge material on the contract (see Paragraph 1.4, "National Dredging Quality Management Program Certification"). To meet contract requirements for operability, in addition to certification, the Contractor's system shall provide, at a minimum, a data string with values for all parameters while operating, as described within the specifications. Additionally, all hardware shall be compliant with DPIP requirements Paragraph 1.5, "Dredge Plant Instrumentation Plan (DPIP)"). Quality data strings are considered to be those providing values for all parameters reported when operating according to the specification. Repairs necessary to restore data return compliance shall be made within 48 hours. Failure by the Contractor to report the required data within the specified time window for scow measurements (see Paragraph 3.2.2, "Data Reporting Frequency," and Paragraph 3.2.3, "Data

Transmission to the Web Service") and failure to receive DQM certification prior to dredging will result in withholding of up to 10 percent of the contract progress payment per clause 52.232-5.

3.4 LIST OF ITEMS TO BE PROVIDED BY THE CONTRACTOR

DPIP https://dqm.usace.army.mil/Certifications/Index.aspx

DQM SYSTEM
Sensor Instrumentation Paragraph 3.1, Requirements for Reported Data"

SCOW DATA

Event documentation	Paragraph 3.2.2, "Data Reporting Frequency"
Data reports	Paragraph 3.2.3, "Data Transmission to the Web Service"

QA EQUIPMENT ON THE DREDGE
Clear and accurate draft marks

3.5 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for installation, operation, and maintenance of the DQM-certified system as specified herein for the duration of the dredging operations; all costs in connection therewith shall be considered a subsidiary obligation of the Contractor and covered under the contract unit price for dredging in the Bidding Schedule.

-- End of Section --

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TABLE OF CONTENTS

APPENDICES

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APPENDIX A30

SURVEY CONTROL DESCRIPTION SHEETS

NOTE: Survey control for this contract is included in this appendix and can also be accessed at https://rsgisias.crrel.usace.army.mil/apexcrrel/f?p=493:1:::NO:::.

COUNTRY	TYPE OF MARK	STATION	
USA	Standard Disk	AL-20	
LOCALITY PHILADELPHIA PA	STAMPING ON MARK	AGENCY (CAST IN MARKS) *Corps of Engineers*	ELEVATION (FT) 6.686
LATITUDE	LONGITUDE	DATUM	DATUM NAVD 88
(NORTHING) **(FT)** 417210.916 (ft)	**(EASTING)** **(FT)** 324956.098 (ft)	GRID AND ZONE NJ 2900	ESTABLISHED BY (AGENCY) USACE
(NORTHING) **(FT)** (M)	**(EASTING)** **(FT)** (M)	GRID AND ZONE	DATE 2020 / ORDER 3RD

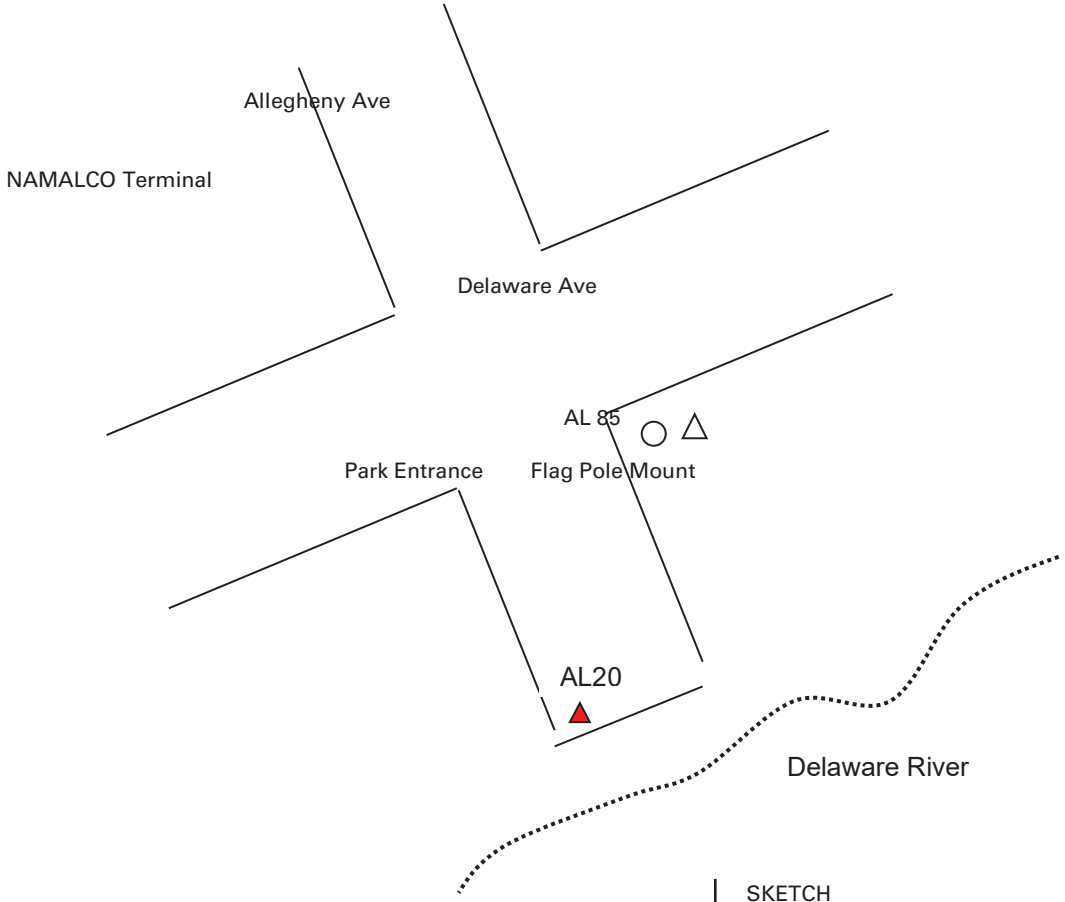
TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

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)
	° ' "	° ' "		

MLLW ELEVATION =

Bench mark AL 20 is located in Port Richmond section of Philadelphia, PA. at the intersection of Allegheny Avenue and Delaware Avenue. The bench mark is marked by a COE disk set at the southwest corner of the park.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

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

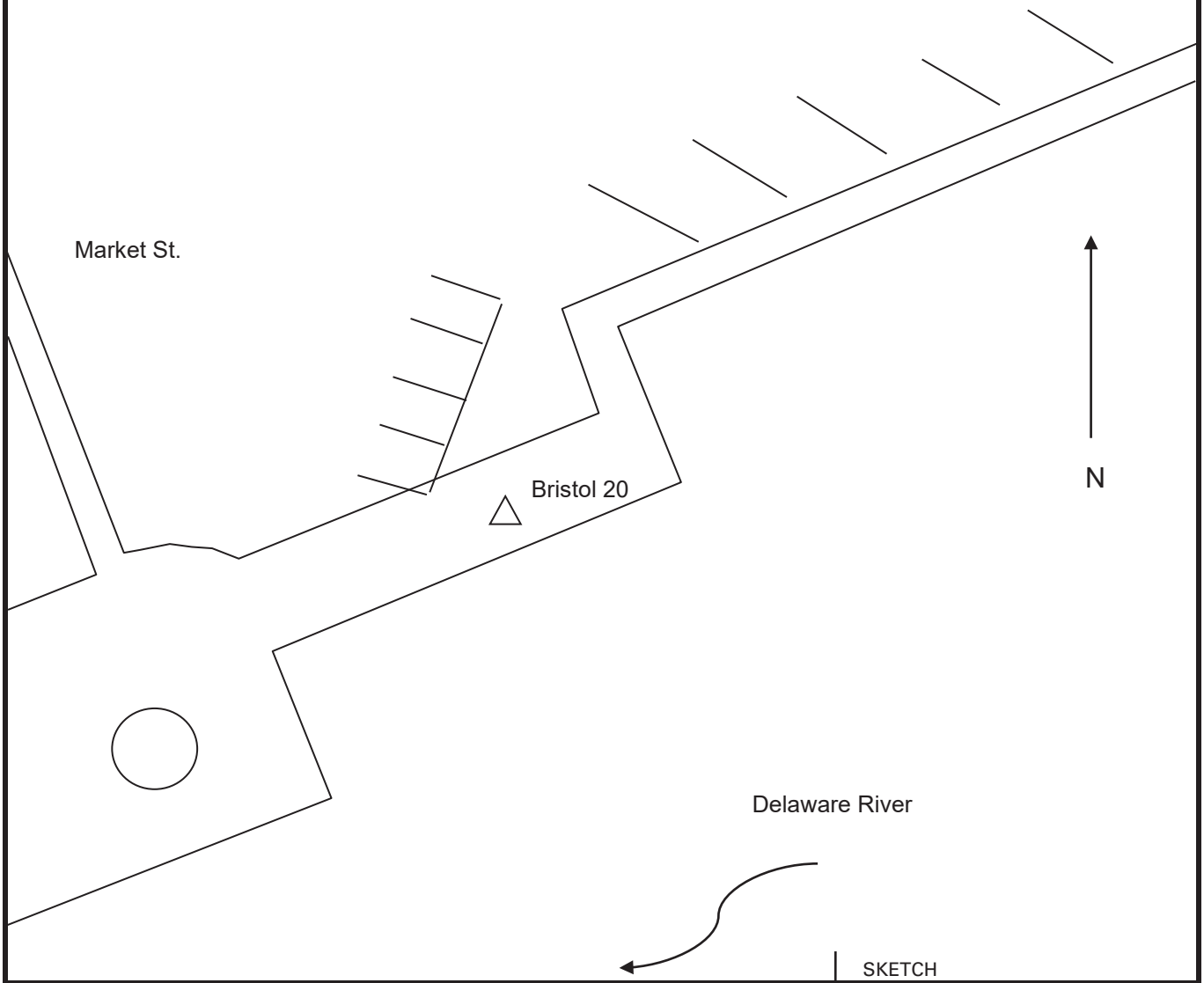
COUNTRY	TYPE OF MARK	STATION	
USA	Disk	Bristol 20	
LOCALITY Bristol, PA	STAMPING ON MARK	AGENCY (CAST IN MARKS) *Corps of Engineers*	ELEVATION (FT) 5.912
LATITUDE	LONGITUDE	DATUM NAD 83 (2011)	DATUM NAVD 88
(NORTHING) (FT) 290603.911	**(EASTING) (FT)** 2778313.596	GRID AND ZONE 3702 PA S	ESTABLISHED BY (AGENCY) USACE
(NORTHING) (FT) 459581.223 (ft)	**(EASTING) (FT)** 392833.485 (ft)	GRID AND ZONE NJ 2900	DATE 2020 / ORDER

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)
	° ' "	° ' "		

Disk is located in the sidewalk along the Delaware River in Bristol PA. Mark is adjacent to the parking lot at the SE end of Market St.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

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

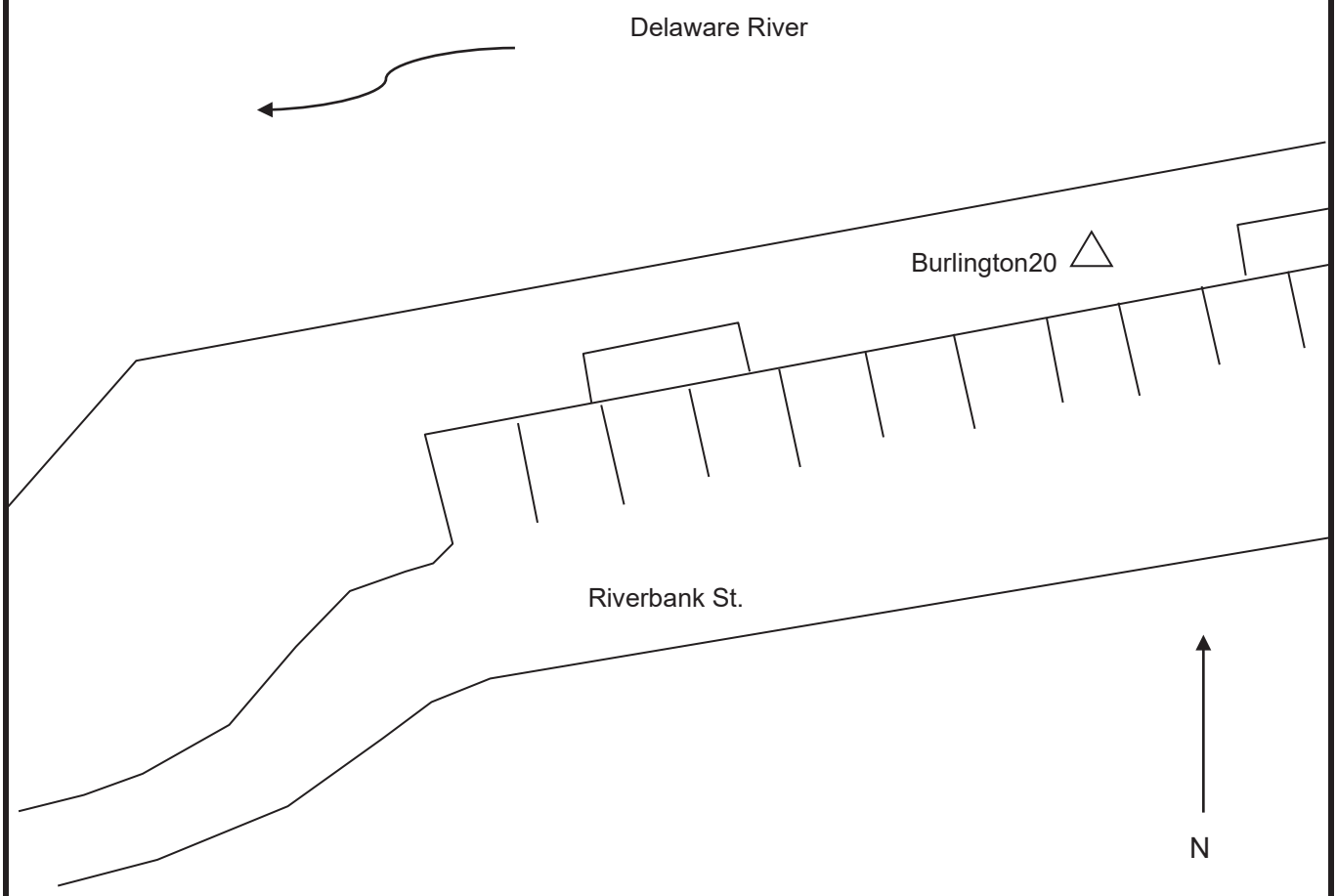
COUNTRY	TYPE OF MARK	STATION	
USA	Disk	Burlington 20	
LOCALITY Burlington, NJ	STAMPING ON MARK	AGENCY (CAST IN MARKS) *Corps of Engineers*	ELEVATION (FT) 6.519 (ft)
LATITUDE	LONGITUDE	DATUM NAD 83 (2011)	DATUM NAVD 88
(NORTHING) **(FT)** 454601.214 (ft)	**(EASTING)** **(FT)** 390596.240 (ft)	GRID AND ZONE 2900 NJ	ESTABLISHED BY (AGENCY) USACE
(NORTHING) **(FT)** (M)	**(EASTING)** **(FT)** (M)	GRID AND ZONE	DATE 2020 / ORDER

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)
	° ' "	° ' "		

Disk is located in the sidewalk of the Burlington Riverfront on Riverbank Street (between Talbot Street and Wood Street). The mark is adjacent to a strip of parking spaces overlooking the Delaware River.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

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

COUNTRY	TYPE OF MARK	STATION	
USA	Disk	FOP T-1	
LOCALITY	STAMPING ON MARK	AGENCY (CAST IN MARKS)	ELEVATION (FT)
Bucks County, PA	FOP T-1	*Corps of Engineers*	7.999
LATITUDE	LONGITUDE	DATUM	DATUM
		NAD 83 (2011)	NAVD 88
(NORTHING) (FT)	**(EASTING) (FT)**	GRID AND ZONE	ESTABLISHED BY (AGENCY)
302770.217	2785900.121	3702 PA S	USACE
(NORTHING) (FT)	**(EASTING) (FT)**	GRID AND ZONE	DATE / ORDER
471459.558 (ft)	400861.642 (ft)	NJ 2900	2006 / 3rd

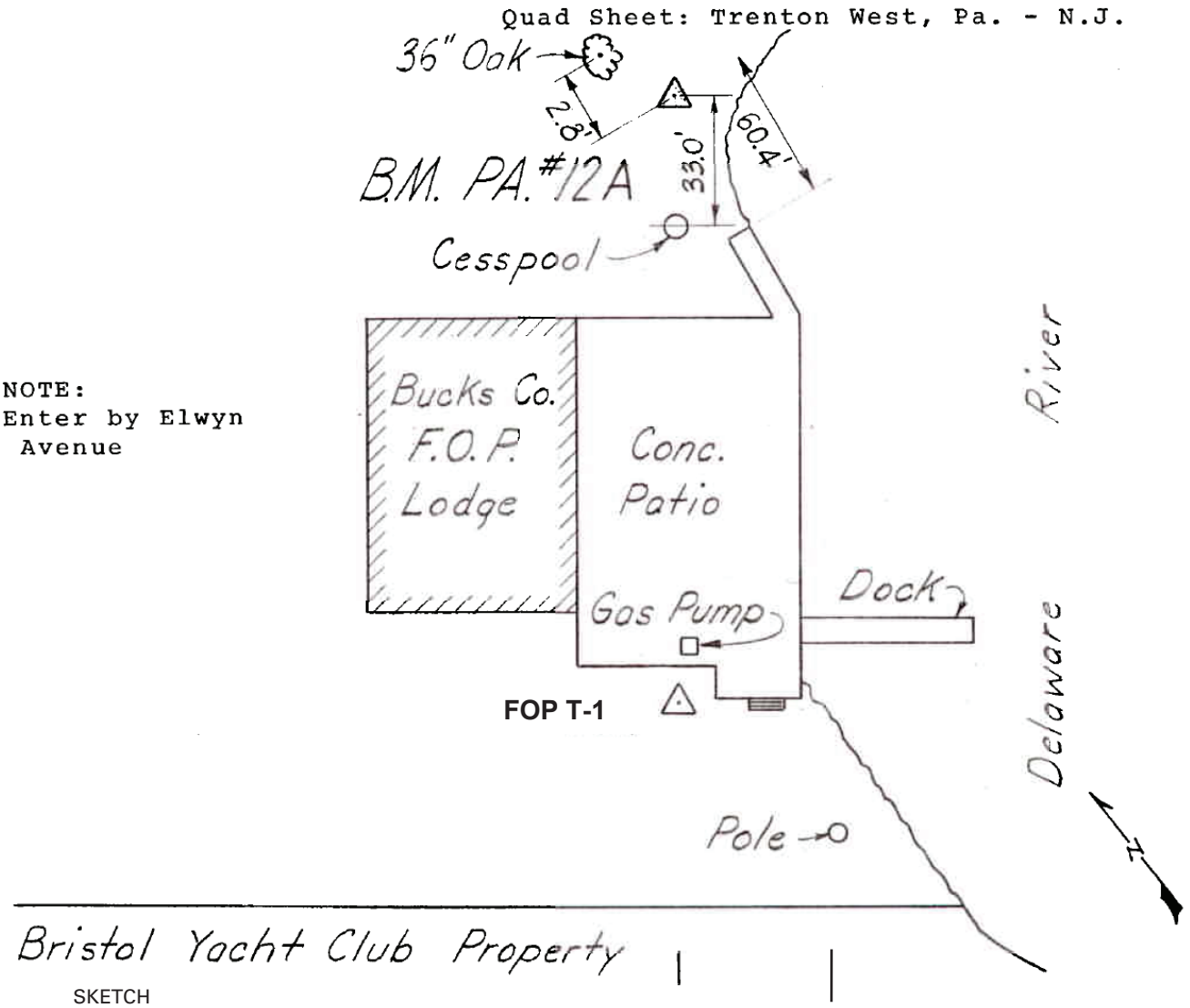
TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

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)
	° ' "	° ' "		

Located in Bucks County in the Bucks County F.O.P. lodge property along the Delaware River just south of the lodge.

MLLW Elevation =



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

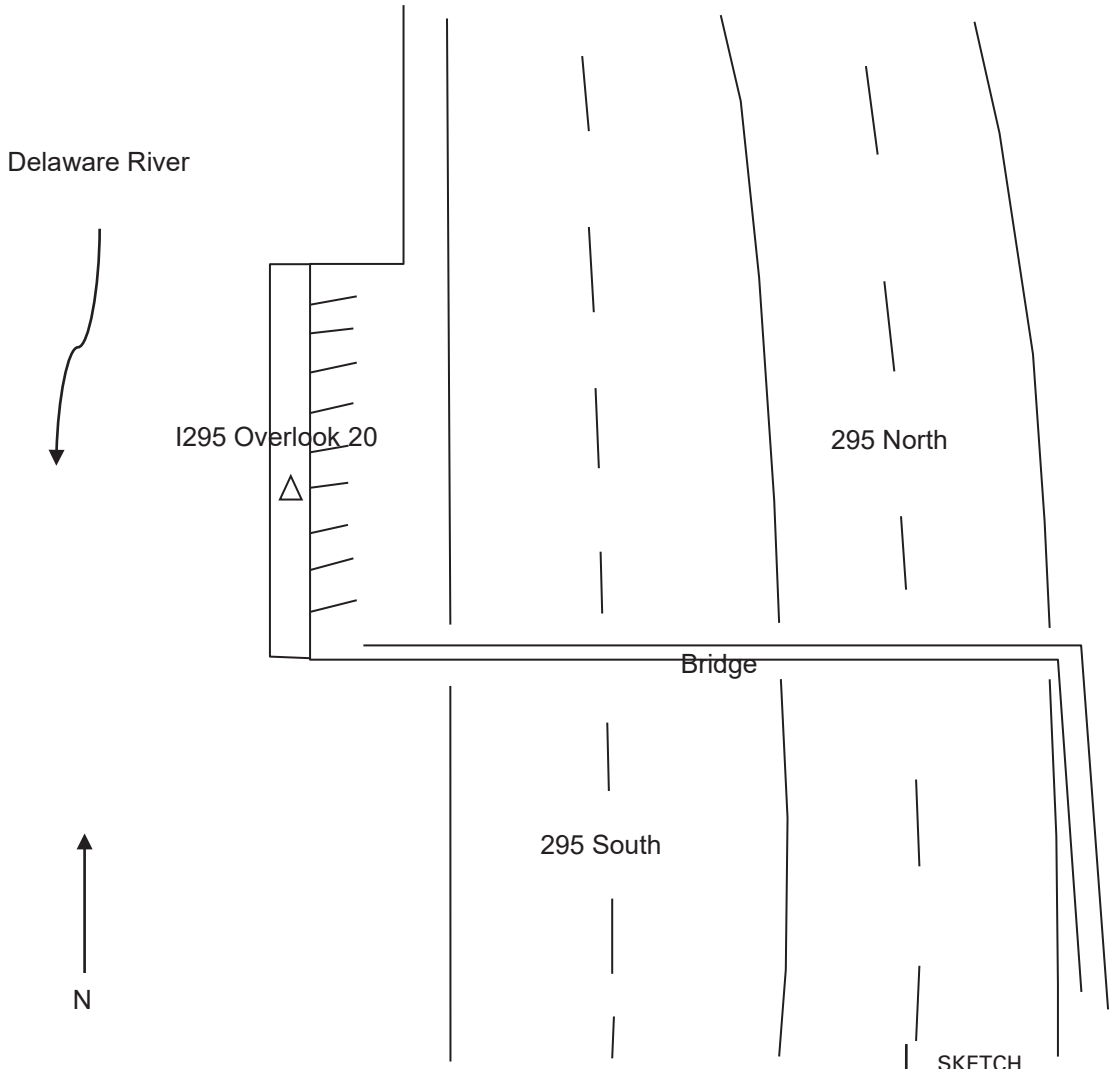
For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY	TYPE OF MARK	STATION	
USA	Disk	I295 Overlook 20	
LOCALITY I295 North of Bordentown, NJ	STAMPING ON MARK	AGENCY (CAST IN MARKS) *Corps of Engineers*	ELEVATION (FT) 21.493
LATITUDE	LONGITUDE	DATUM NAD 83 (2011)	DATUM NAVD 88
(NORTHING) **(FT)** 481896.92	**(EASTING)** **(FT)** 431086.92	GRID AND ZONE 2900 NJ	ESTABLISHED BY (AGENCY) USACE
(NORTHING) **(FT)** (M)	**(EASTING)** **(FT)** (M)	GRID AND ZONE	DATE 2020 / ORDER

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)
	° ' "	° ' "		

Mark is located at the I295 Overlook just north of Bordentown, NJ. Mark can be reached off the southbound exit or northbound exit with a trip across the bridge over the highway. Disk is set in the concrete sidewalk overlooking the Delaware River adjacent to the parking spaces.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

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

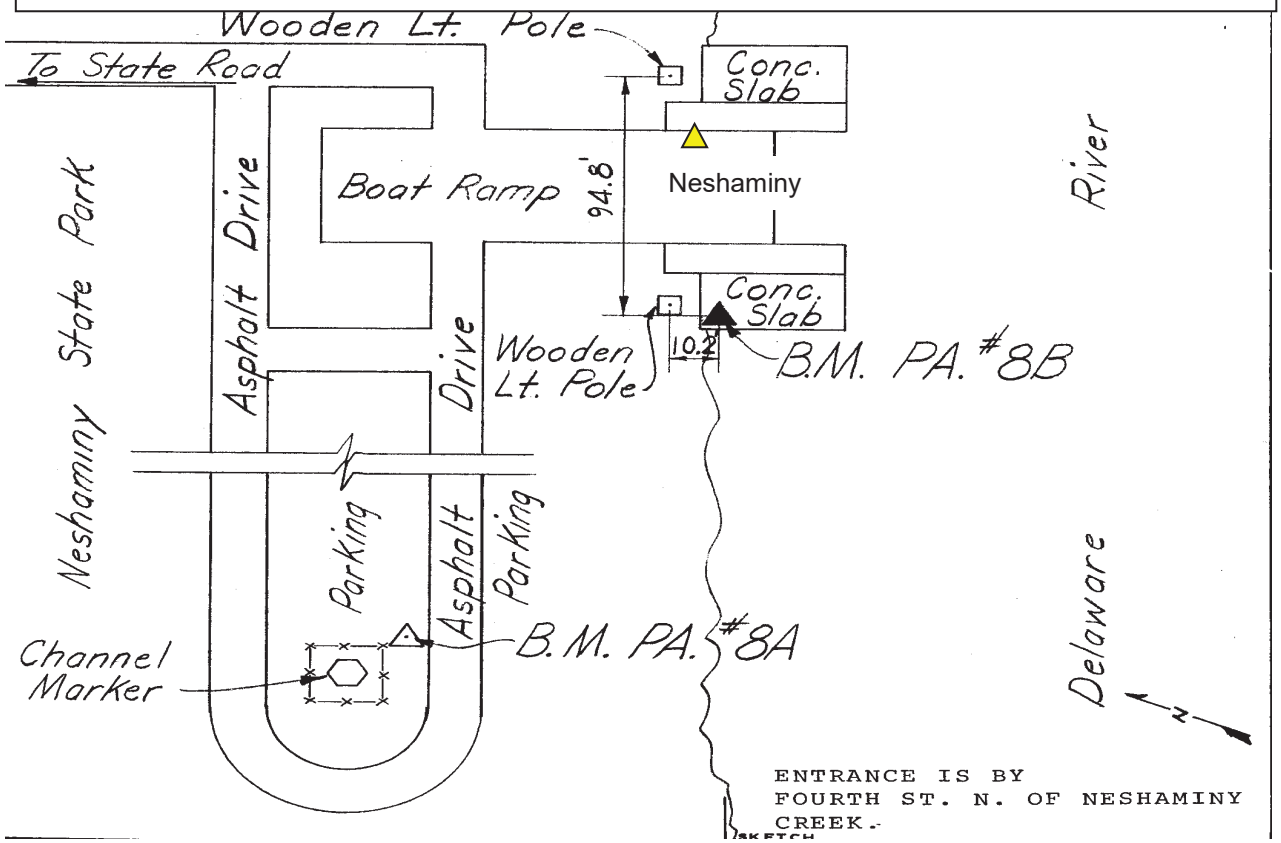
COUNTRY	TYPE OF MARK	STATION	
USA	DISK	Neshaminy	
LOCALITY BUCKS COUNTY, PA	STAMPING ON MARK Neshaminy	AGENCY (CAST IN MARKS) *Corps of Engineers*	ELEVATION (FT) 6.565
LATITUDE	LONGITUDE	DATUM NAD 83 (2011)	DATUM NAVD 88
(NORTHING) (FT) 283276.906	**(EASTING) (FT)** 2765561.306	GRID AND ZONE 3702 PA S	ESTABLISHED BY (AGENCY) USACE
(NORTHING) (FT) 452728.436 (ft)	**(EASTING) (FT)** 379821.362 (ft)	GRID AND ZONE NJ 2900	DATE 2006 / ORDER 3RD

TO OBTAIN AZIMUTH GRID AZIMUTH, ADD ° ' " TO THE GEODETIC

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

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

Disk is located in the concrete slab just north of the Neshaminy State Park boat ramp



SKETCH

DA FORM 1959 1 OCT 64 REPLACES DA FORMS 1959 AND 1960, 1FEB 57, WHICH ARE OBSOLETE.

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

COUNTRY	TYPE OF MARK	STATION	
USA	Disk	PA 14B	
LOCALITY Bucks County, PA	STAMPING ON MARK PA 14B 1980	AGENCY (CAST IN MARKS) *Corps of Engineers*	ELEVATION (FT) 5.049
LATITUDE	LONGITUDE	DATUM NAD 83(2011)	DATUM NAVD 88 Geoid 12B
(NORTHING) **(FT)** (M)	**(EASTING)** **(FT)** (M)	GRID AND ZONE	ESTABLISHED BY (AGENCY) USACE
(NORTHING) **(FT)** 474623.336	**(EASTING)** **(FT)** 420455.417	GRID AND ZONE NJ 2900	DATE: Sept 2019 ORDER: 3rd

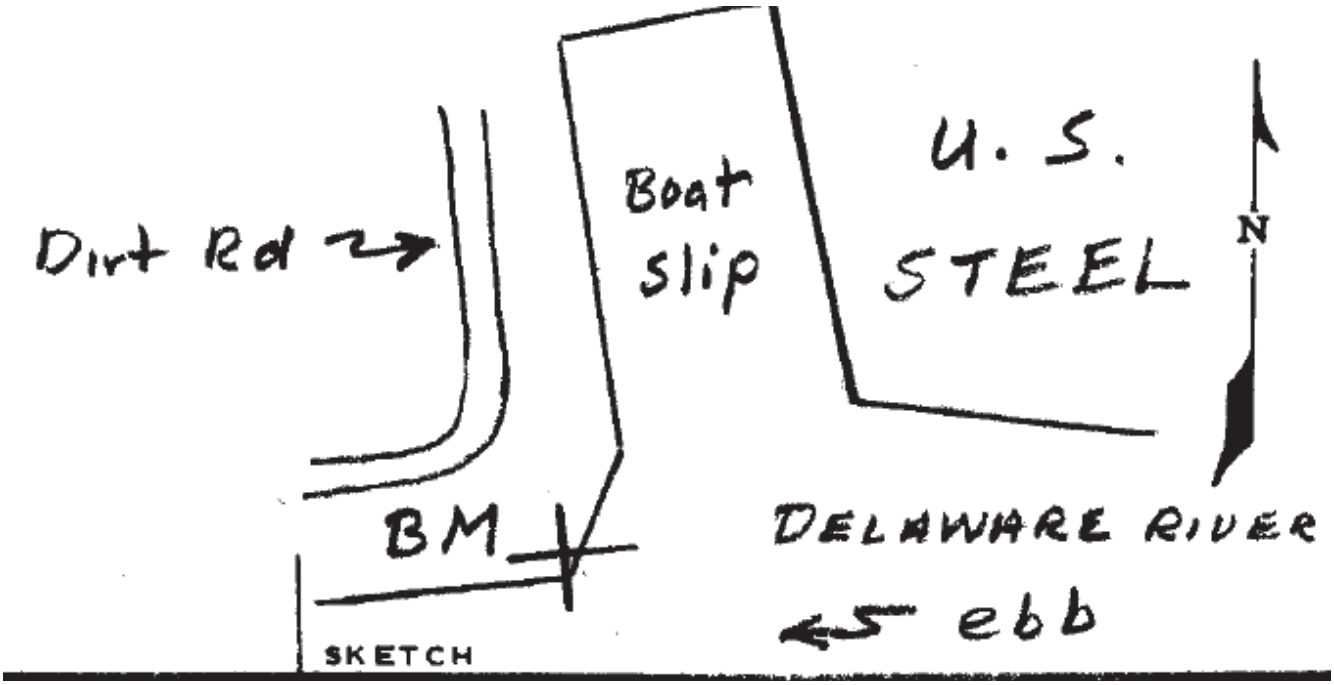
TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

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)
	° ' "	° ' "		

Bench mark is marked by a standard Corps of Engineers Disk set flush in concrete and stamped "PA 14B 1980" It is located in bucks county in the Fairless Hills Plant of the US Steel Corp. at the downstream outshore corner of the Boat slip (Fairlesss Basin) at the Delaware River.

MLLW Elevation = 8.61 ft



DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

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

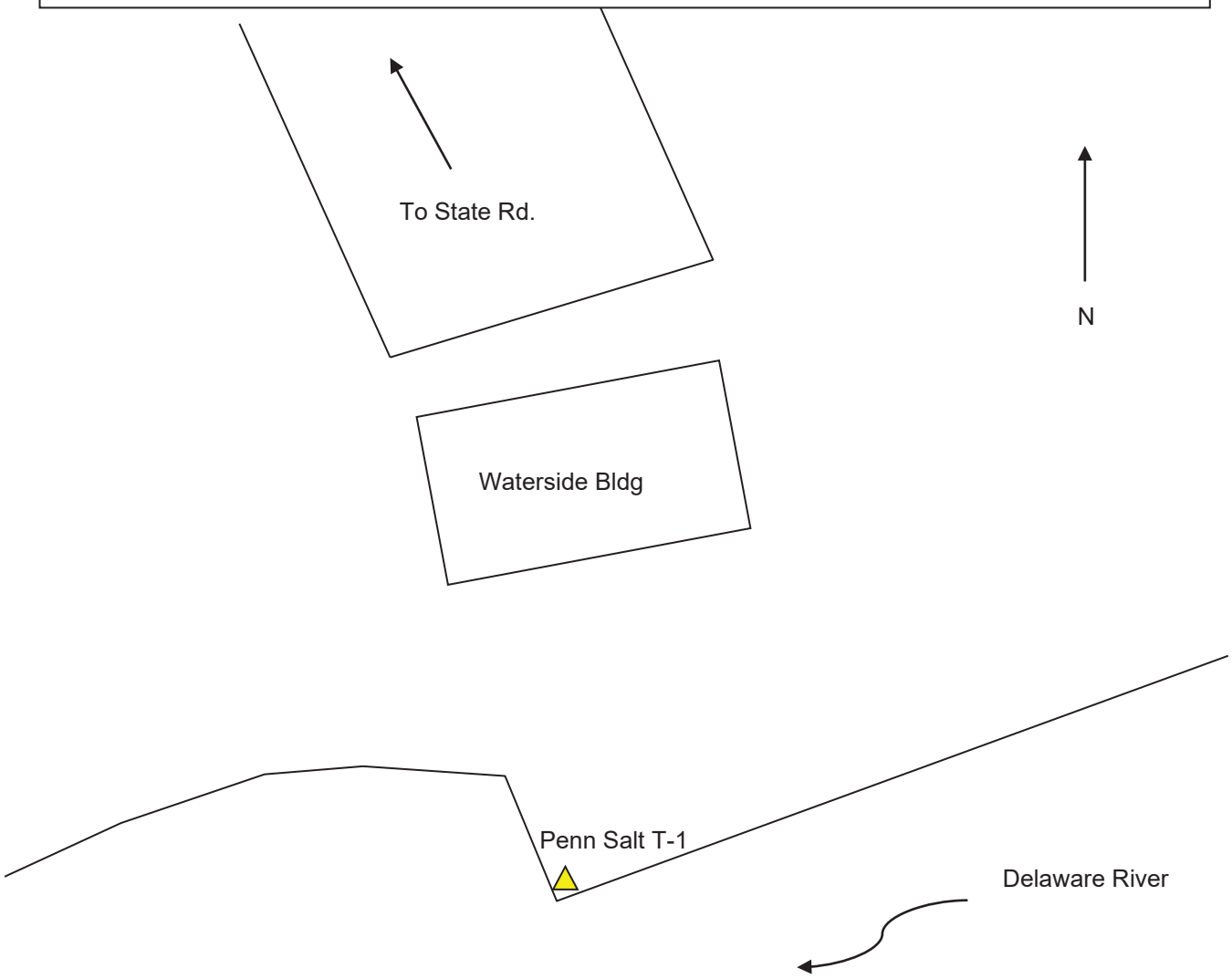
COUNTRY	TYPE OF MARK	STATION	
USA	Disk	Penn Salt T-1	
LOCALITY Bensalem, PA	STAMPING ON MARK Penn Salt T-1 1996	AGENCY (CAST IN MARKS) *Corps of Engineers*	ELEVATION (FT) 8.530
LATITUDE	LONGITUDE	DATUM NAD 83 (2011)	DATUM NAVD 88
(NORTHING) (FT) 280206.585	**(EASTING) (FT)** 2755218.488	GRID AND ZONE 3702 PA S	ESTABLISHED BY (AGENCY) USACE
(NORTHING) (FT) 450040.532 (ft)	**(EASTING) (FT)** 369373.383 (ft)	GRID AND ZONE NJ 2900	DATE / ORDER 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)
	° ' "	° ' "		

Mark is located at Waterside Real Estate just off State Road in Bensalem, PA. It is in a concrete block on the edge of the Delaware River



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

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

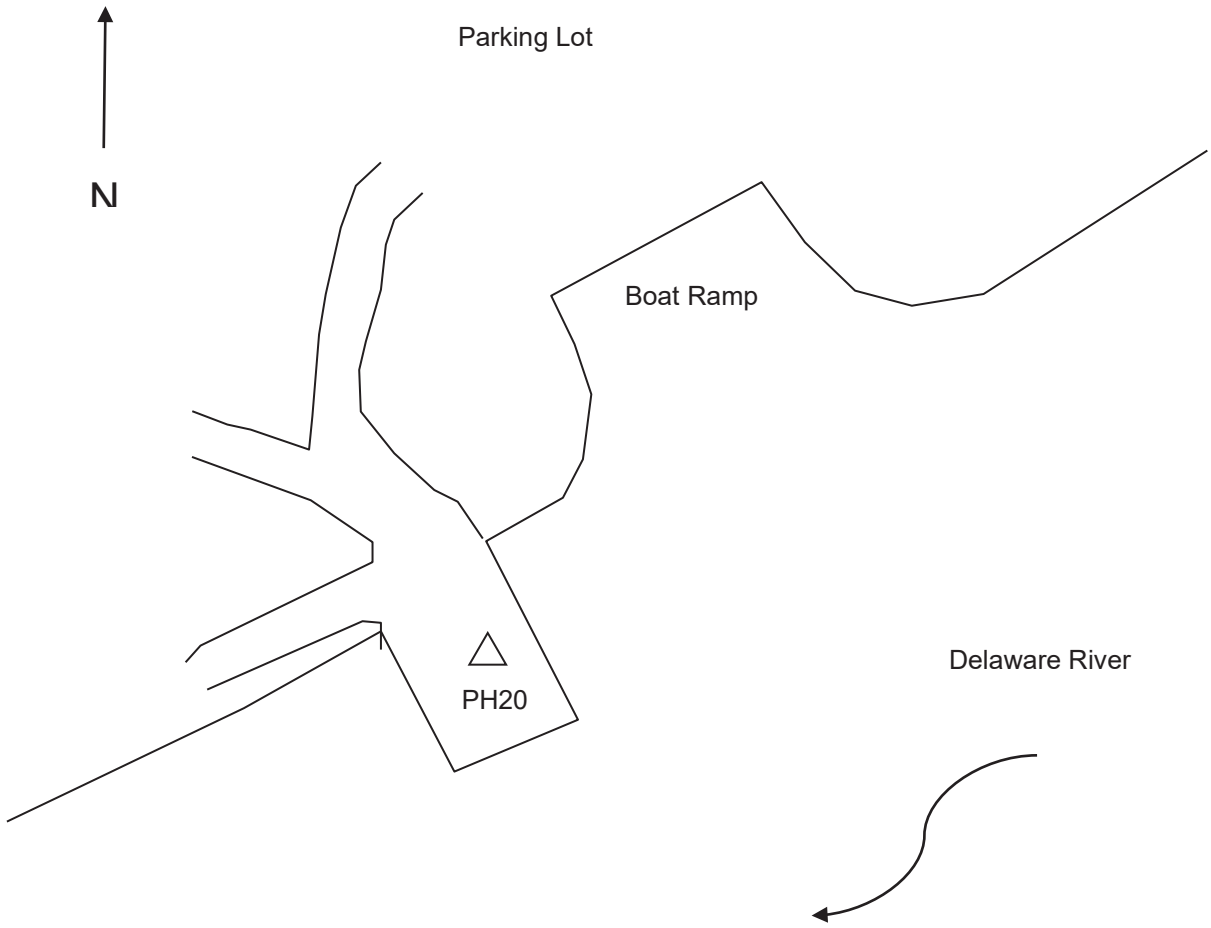
COUNTRY	TYPE OF MARK	STATION	
USA	Disk	Pleasant Hill 20	
LOCALITY Philadelphia, PA	STAMPING ON MARK	AGENCY (CAST IN MARKS) *Corps of Engineers*	ELEVATION (FT) 4.780 (ft)
LATITUDE	LONGITUDE	DATUM NAD 83 (2011)	DATUM NAVD 88
(NORTHING) (FT) 269725.125 (ft)	(EASTING) (FT) 2740625.200 (ft)	GRID AND ZONE 3702 PA S	ESTABLISHED BY (AGENCY) USACE
(NORTHING) (FT) 440103.118 (ft)	(EASTING) (FT) 354405.741 (ft)	GRID AND ZONE NJ 2900	DATE 2020 / ORDER

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)
	° ' "	° ' "		

The disk is located in the center of an observatory deck at Pleasant Hill Park just east of I-95 in North Philadelphia.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

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

COUNTRY	TYPE OF MARK	STATION	
USA	BRASS DISK	RIVERTON WHF. 2 NO 2	
LOCALITY Riverton, NJ	STAMPING ON MARK	AGENCY (CAST IN MARKS) *Corps of Engineers*	ELEVATION (FT) 5.423
LATITUDE	LONGITUDE	DATUM NAD 83 (2011)	DATUM NAVD 88
(NORTHING) **(FT)** (M)	**(EASTING)** **(FT)** (M)	GRID AND ZONE	ESTABLISHED BY (AGENCY) USACE
(NORTHING) **(FT)** 430690.189	**(EASTING)** **(FT)** 347206.642	GRID AND ZONE NJ 2900	DATE 2006 / ORDER 3RD

TO OBTAIN AZIMUTH GRID AZIMUTH, ADD ° ' " TO THE GEODETIC

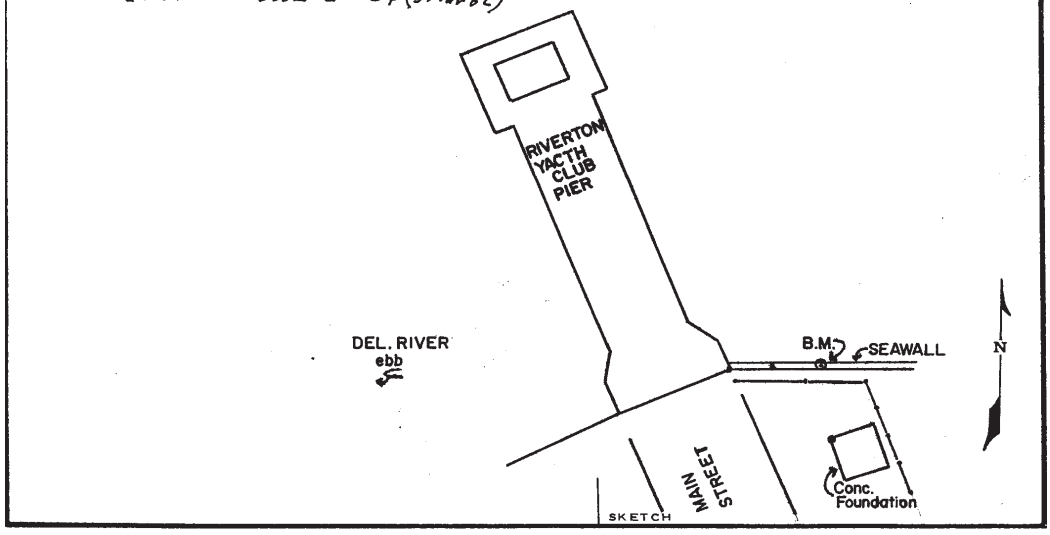
TO OBTAIN AZIMUTH GRID AZ. (ADD) (SUB) ° ' " TO THE GEODETIC

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

MLLW ELEVATION =

B.M. RIVERTON WHF 2 No. 2 1935 is a U.S.C.&G.S. Reference Disk in the top of a stone seawall at the northwest (Delaware River) end of Main Street, in Riverton, NJ. It is 14.2' outshore of the downstream outshore corner of the concrete foundation for the Riverton Yacht Club Plaque, 11.5' upstream of the upstream inshore end of Yacht Club Pier and 5' upstream of a (+) in top of stone sea wall.

Levels in Field Book 2-104.
Recovered Dec 76 DMC
Recovered May 77 LAP
Recovered SEPT 79 DMC
Recovered Mar 82 by PHC
New Levels in Field Book 2-124 (3 Mar 82)



SKETCH

DA FORM 1959 1 OCT 64 REPLACES DA FORMS 1959 AND 1960, 1FEB 57, WHICH ARE OBSOLETE.

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

COUNTRY	TYPE OF MARK	STATION	
USA	STANDARD DISK	TERMINAL	
LOCALITY TRENTON NJ	STAMPING ON MARK	AGENCY (CAST IN MARKS) *Corps of Engineers*	ELEVATION (FT) 11.342
LATITUDE	LONGITUDE	DATUM NAD 83 (2011)	DATUM NAVD 88
(NORTHING) (FT)	**(EASTING) (FT)**	GRID AND ZONE	ESTABLISHED BY (AGENCY) USACE
(NORTHING) (FT) 493856.286	**(EASTING) (FT)** 420742.981	GRID AND ZONE NJ 2900	DATE NOV 2006 / ORDER 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)
	° ' "	° ' "		

MLLW ELEVATION =

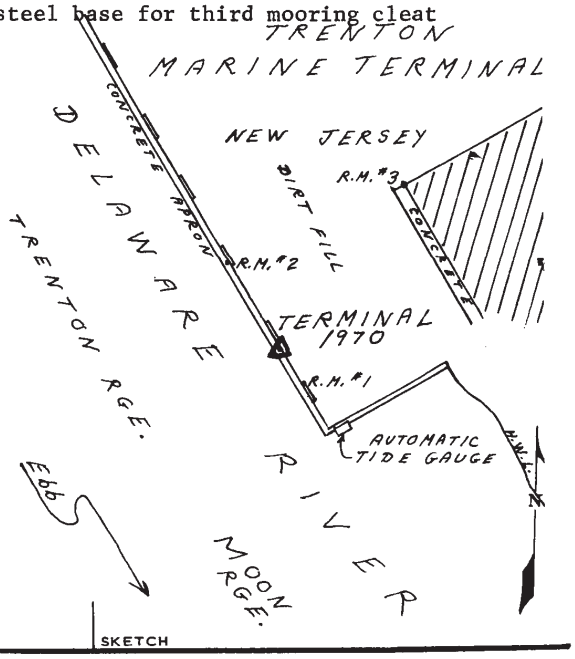
Station is 3-3/4" disk set flush in concrete apron bordering Trenton Marine Terminal dock and is near the lower end of it. Disk is ± 2' downstream of second mooring cleat from lower end of dock, and is near inshore edge of 3' wide concrete apron. 12" X 12" timber is along outer edge of dock in this area. Station is in front of, and near upper end of large corrogated steel building.

R.M.#1 is + cut at center of upper edge of steel base for last mooring cleat downstream. It is 57.09' from station.

R.M.#2 is +cut at center of lower edge of steel base for third mooring cleat from lower end of dock. It is 62.50' from station.

R.M.#3 is bottom of upstream, outer corner of large corrogated steel building at lower end of dock. It is 52.80' from station.

R.M.#4 is + cut on cleat base just upstream, lower side. It is 0.95' from station.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1FEB 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.

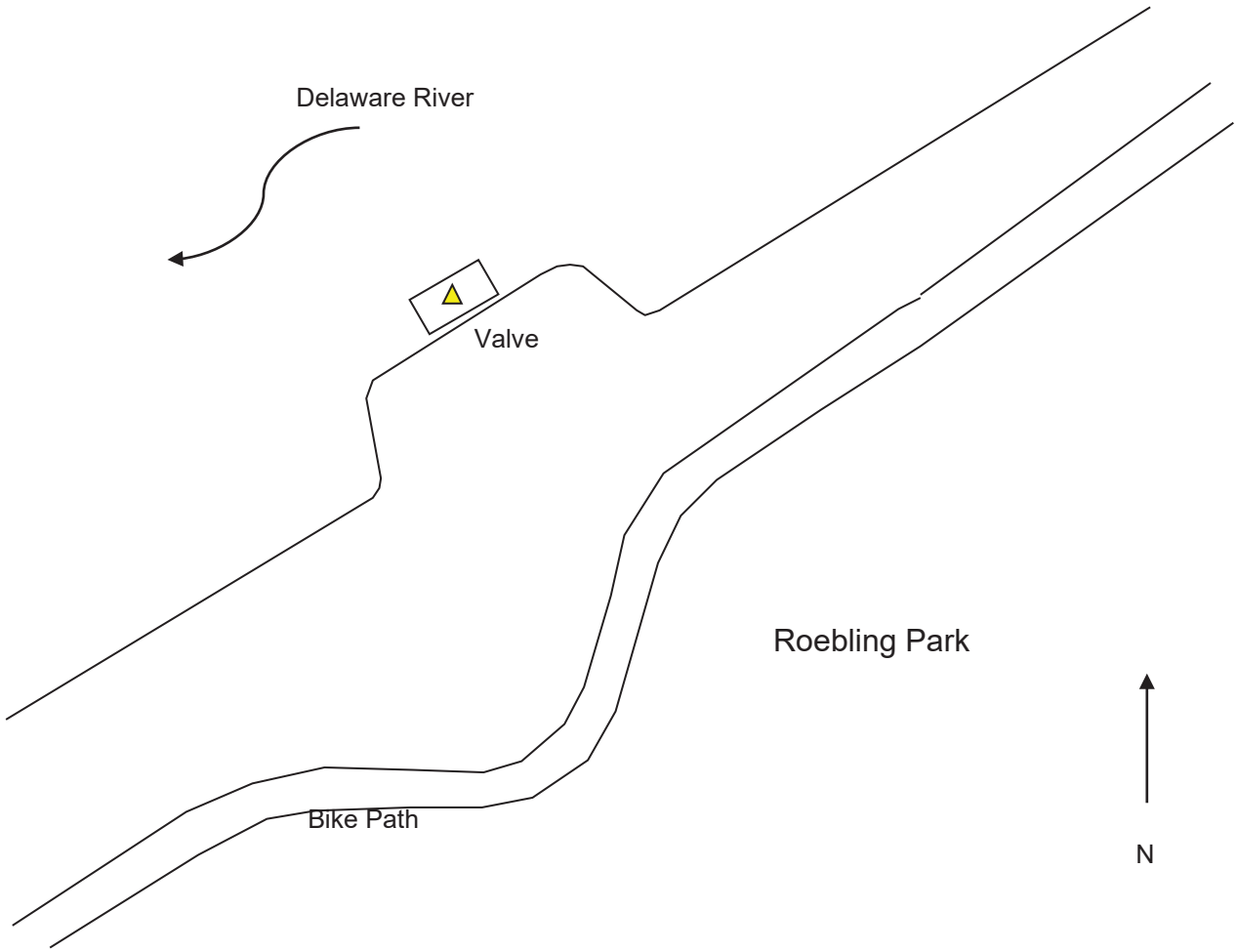
COUNTRY	TYPE OF MARK	STATION	
USA	Disk	Valve	
LOCALITY Roebling, NJ	STAMPING ON MARK	AGENCY (CAST IN MARKS) *Corps of Engineers*	ELEVATION (FT) 7.608
LATITUDE	LONGITUDE	DATUM NAD 83 (2011)	DATUM NAVD 88
(NORTHING) (FT) 469532.827	**(EASTING) (FT)** 414424.919	GRID AND ZONE 2900 NJ	ESTABLISHED BY (AGENCY) USACE
(NORTHING) (FT) (M)	**(EASTING) (FT)** (M)	GRID AND ZONE	DATE / ORDER

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)
	° ' "	° ' "		

Disk is located in Roebling Park at the edge of the water. It is flush in a block of concrete where a valve is set.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

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

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APPENDIX B40

ABSTRACT OF BOTTOM SAMPLES

ABSTRACT OF BOTTOM SAMPLES				DATE OF SAMPLING: 5-Oct-2021				CONDITIONS: Calm				SAMPLING BY: Cherneski				
PROJECT: Delaware River Philadelphia to Trenton				LOCATION: Various/Port of Bucks				VERTICAL DATUM: NAVD88 HORIZONTAL DATUM: NAD83				DENSITIES BY: E. Orticelle				
NUMBER	EASTING (X)	NORTHING (Y)	MACHINE SOUNDING	LEAD LINES LIGHT	LEAD LINES HEAVY	HARPOON DEPTH	TIME OF SAMPLE	TIDE READING	REDUCED MACH. SDG	REDUCED LEAD LINES LIGHT	REDUCED LEAD LINES HEAVY	REDUCED HARPOON	SAMPLE RETAINED	BOTTLE DEPTH	DENSITY (g/L)	REMARKS
3 TOP	421198.41	474808.62	34.3				1037	1.11	38.60						1260	Sampled with Harpoon. Dark brown SILT, little organics, trace fine sand, trace clay
3 BOTTOM	421198.41	474808.62	35.4				1048	0.65	39.04						1151	Sampled with Harpoon. Dark brown SILT, trace fine sand, trace clay, trace organics
1	420774.03	475029.23	34.7				1107	-0.22	37.47						1150	Grab Sample. Dark brown SILT, little fine sand, little organics, trace clay
2	420793.58	474613.14	38.4				1117	-0.81	40.58						1206	Grab Sample. Dark brown SILT, little organics, trace fine sand, trace clay,
																At Locations 1 and 2 the harpoon was unable to penetrate the bottom properly, therefore grab samples had to be taken. At Location 3 the harpoon was able to penetrate the bottom and recover roughly 2 feet of material. Sample 3 TOP was taken from the upper 1 foot of the 2 foot sample and Sample 3 BOTTOM was taken from the lower 1 foot of the 2 foot sample.

NADP FORM
Jan-68 786 REPLACES EDITION OF 1 FEB 57, WHICH IS OBSOLETE

APPENDIX B41

SEDIMENT CORE LOGS

AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client :	Tetra Tech, Inc.		Project :	Delaware River - Phila. To Trenton		Logger: PW	
Job#:	43-023	Date:	2/23/23	Time: 1428	Crew:	AZ	
Coordinates:	N	432307.3	E	345518.1	Vessel:	Prattis	
Core # : S1	Zone: NJ	Datum NAD 83			Deploy:	1	2	3
Project Depth [PD] [ft] MLW::		-6.0		Core Penetration Length (ft.):		9.5		
Measured Water Depth [MWD] [ft.]:		42.5		Recovered Core Length (ft.):		8.2		
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]:		4.7		Sample Length Retained (ft.):		-		
Corrected Depth @ MLLW [ft.]:		37.8		Core Volume Retained (gal.):		-		
+ MLW Adjustment [ft.}				Collected to Project Depth:		Y / N		
Corrected Depth @ MLW [ft.]:								
Required Sample Core Length [SCL] [ft.]:								

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
		S1: 0-1 ft: brown, fine SAND; 1-2 ft: SILT and fine Sand; 2-3 ft: Brown, SILT; 3-4 ft: Brown, SILT, 4-5 ft: f-m SAND; 5-6 ft: SILT and f-m Sand
Bottom		

# of containers:					Core Volumes
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter — EST. Volume
Conditions:					3.0" — .25 gal/ft
					3.5" 8.0" — .33 gal/ft
Comments: Core to client.					4.0" — .50 gal/ft
					Liner Type: Soft Hard
					Vibracorer: P3 P5 VT6 Other

Live Organisms Present	Y	N
Oil Present	Y	N
Odor Present	Y	N
Debris Present	Y	N
Within 10% of Req'd Core Length	Y	N
Photo	Y	N

Pushcorer	Slambar
Eckman	Ponar: Standard / Petite
Box Core	

MLW #td ver 030615

AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Tetra Tech, Inc.			Project : Delaware River - Phila. To Trenton			Logger: AZ	
Job#: 43-023		Date: 2/23/23		Time: 1019	Crew:	PW	
Coordinates:	N 448217.0		E 367905.2		Vessel:	Prattis	
Core # : S2	Zone: NJ	Datum NAD 83			Deploy:	1	2	3
Project Depth [PD] [ft] MLW::		-6.0	Core Penetration Length (ft.):			5.0	6.2	
Measured Water Depth [MWD] [ft.]:		36.3	Recovered Core Length (ft.):			3.6	3.3	
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]:		0.1	Sample Length Retained (ft.):			-	-	
Corrected Depth @ MLLW [ft.]:		36.2	Core Volume Retained (gal.):			-	-	
+ MLW Adjustment [ft.}			Collected to Project Depth:			Y / N		
Corrected Depth @ MLW [ft.]:								
Required Sample Core Length [SCL] [ft.]:								

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
		S2: 0-1 ft: brown, SILT, some organic leafy debris; 1-2 ft: SILT, some fine Sand, organic debris; 2-3 ft: fine SAND and Silt, some organic debris; 3-4 ft: fine SAND and Silt; two cores collected
Bottom		

# of containers:				
Type of container:	bucket	hardliner	cup	other

Conditions:

Comments: Core to client.

Core Volumes

Nominal core-barrel diameter		EST. Volume
3.0"		.25 gal/ft
3.5"	8.0"	.33 gal/ft
4.0"		.50 gal/ft

Liner Type: Soft / Hard

Vibracorer: P3 / P5 VT6 Other

Live Organisms Present	Y	N
Oil Present	Y	N
Odor Present	Y	N
Debris Present	Y	N
Within 10% of Req'd Core Length	Y	N
Photo	Y	N

Pushcorer Slambar

Eckman Ponar: Standard / Petite

Box Core

MLW #td ver 030615

AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Tetra Tech, Inc.			Project : Delaware River - Phila. To Trenton			Logger: AZ	
Job#: 43-023		Date: 2/23/23		Time: 0934	Crew:	PW	
Coordinates:	N 451467.4		E 377549.5		Vessel:	Prattis	
Core # : S3	Zone: NJ	Datum NAD 83			Deploy:	1	2	3
Project Depth [PD] [ft] MLW::		-6.0	Core Penetration Length (ft.):			6.5	7.0	
Measured Water Depth [MWD] [ft.]:		40.3	Recovered Core Length (ft.):			5.0	5.4	
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]:		1.8	Sample Length Retained (ft.):			-	-	
Corrected Depth @ MLLW [ft.]:		38.5	Core Volume Retained (gal.):			-	-	
+ MLW Adjustment [ft.}			Collected to Project Depth:			Y / N		
Corrected Depth @ MLW [ft.]:								
Required Sample Core Length [SCL] [ft.]:								

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
		S3: 0-1 ft: brown, fine SAND, little organic debris, trace Silt; 1-2 ft: fine SAND, some organic debris; 2-3 ft: organic debris, some fine SAND; 3-4.5 ft mulchy debris, wood/leaves, 4.5-5.5 ft: fine SAND and organic debris
Bottom		

# of containers:				
Type of container:	bucket	hardliner	cup	other

Conditions:

Comments: Cores to client.

Core Volumes

Nominal core-barrel diameter		EST. Volume
3.0"		.25 gal/ft
3.5"	8.0"	.33 gal/ft
4.0"		.50 gal/ft

Liner Type: Soft / Hard

Vibracorer: P3 P5 VT6 Other

Live Organisms Present	Y	N
Oil Present	Y	N
Odor Present	Y	N
Debris Present	Y	N
Within 10% of Req'd Core Length	Y	N
Photo	Y	N

Pushcorer Slambar

Eckman Ponar: Standard / Petite

Box Core

MLW #td ver 030615

AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Tetra Tech, Inc.			Project : Delaware River - Phila. To Trenton			Logger: PW	
Job#: 43-023		Date: 2/23/23		Time: 1056	Crew:	AZ	
Coordinates:	N 454235.1		E 385782.8		Vessel:	Prattis	
Core # : S4	Zone: NJ	Datum NAD 83			Deploy:	1	2	3
Project Depth [PD] [ft] MLW::		-6.0		Core Penetration Length (ft.):		4.0	4.0	4.5
Measured Water Depth [MWD] [ft.]:		39.1		Recovered Core Length (ft.):		1.4	2.1	3.0
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]:		0.0		Sample Length Retained (ft.):		-	-	-
Corrected Depth @ MLLW [ft.]:		39.1		Core Volume Retained (gal.):		-	-	-
+ MLW Adjustment [ft.}				Collected to Project Depth:		Y / N		
Corrected Depth @ MLW [ft.]:								
Required Sample Core Length [SCL] [ft.]:								

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		Deploy 3: N 454226.6, E 385793.9
		S4: 0-3 ft, light grey, very dense, fine SAND and Clay, trace shells; three cores collected
Bottom		

# of containers:				
Type of container:	bucket	hardliner	cup	other

Conditions:

Comments: Cores to client.

Core Volumes

Nominal core-barrel diameter		EST. Volume
3.0"		.25 gal/ft
3.5"	8.0"	.33 gal/ft
4.0"		.50 gal/ft

Liner Type: Soft / Hard

Vibracorer: P3 P5 VT6 Other

Live Organisms Present	Y	N
Oil Present	Y	N
Odor Present	Y	N
Debris Present	Y	N
Within 10% of Req'd Core Length	Y	N
Photo	Y	N

Pushcorer Slambar

Eckman Ponar: Standard / Petite

Box Core

MLW #td ver 030615

AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Tetra Tech, Inc.			Project : Delaware River - Phila. To Trenton			Logger: AZ	
Job#: 43-023		Date: 2/23/23		Time: 1235	Crew:	PW	
Coordinates:	N 462336.6		E 397277.6		Vessel:	Prattis	
Core # : S5	Zone: NJ	Datum NAD 83			Deploy:	1	2	3
Project Depth [PD] [ft] MLW::		-6.0	Core Penetration Length (ft.):			9.0	5.0	
Measured Water Depth [MWD] [ft.]:		35.8	Recovered Core Length (ft.):			7.1	3.0	
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]:		0.0	Sample Length Retained (ft.):			-	-	
Corrected Depth @ MLLW [ft.]:		35.8	Core Volume Retained (gal.):			-	-	
+ MLW Adjustment [ft.}			Collected to Project Depth:			Y / N		
Corrected Depth @ MLW [ft.]:								
Required Sample Core Length [SCL] [ft.]:								

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
		S5: 0-2 ft: dark brown, leaf/debris and Silt, high water content; 2-3 ft: SILT, trace Sand, soft; 3-4 ft: SILT, some organic debris; 4-5 ft: SILT, some fine SAND and organic debris; 5-6 ft: SILT and f-m SAND
Bottom		

# of containers:				
Type of container:	bucket	hardliner	cup	other

Conditions:

Comments: Cores to client.

Core Volumes

Nominal core-barrel diameter		EST. Volume
3.0"		.25 gal/ft
3.5"	8.0"	.33 gal/ft
4.0"		.50 gal/ft

Liner Type: Soft / Hard

Vibracorer: P3 P5 VT6 Other

Live Organisms Present	Y	N
Oil Present	Y	N
Odor Present	Y	N
Debris Present	Y	N
Within 10% of Req'd Core Length	Y	N
Photo	Y	N

Pushcorer Slambar

Eckman Ponar: Standard / Petite

Box Core

MLW #td ver 030615

AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Tetra Tech, Inc.			Project : Delaware River - Phila. To Trenton			Logger: AZ	
Job#: 43-023		Date: 2/21/23	Time: 0934		Crew:	PW, MD	
Coordinates:	N 470487.1		E 401134.5		Vessel:	Prattis	
Core # : S6	Zone: NJ	Datum NAD 83			Deploy:	1	2	3
Project Depth [PD] [ft] MLW::		-6.0	Core Penetration Length (ft.):			3.0	7.0	
Measured Water Depth [MWD] [ft.]:		28.5	Recovered Core Length (ft.):			2.0	5.5	
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]:		0.3	Sample Length Retained (ft.):			-	-	
Corrected Depth @ MLLW [ft.]:		28.2	Core Volume Retained (gal.):			-	-	
+ MLW Adjustment [ft.}			Collected to Project Depth:			Y / N		
Corrected Depth @ MLW [ft.]:								
Required Sample Core Length [SCL] [ft.]:								

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
		S6: 0-2 ft: brown, leaves/organic debris and some Silt; 2-3 ft: brown, SILT, some organic debris; 3-4 ft: leaves/organic debris and sandy Silt; 4-4.5 ft: brown, fine SAND and Silt, some organic debris; two cores collected
Bottom		

# of containers:				
Type of container:	bucket	hardliner	cup	other

Conditions:

Comments: Cores to client.

Core Volumes

Nominal core-barrel diameter		EST. Volume
3.0"		.25 gal/ft
3.5"	8.0"	.33 gal/ft
4.0"		.50 gal/ft

Liner Type: Soft / Hard

Vibracorer: P3 P5 VT6 Other

Live Organisms Present	Y	N
Oil Present	Y	N
Odor Present	Y	N
Debris Present	Y	N
Within 10% of Req'd Core Length	Y	N
Photo	Y	N

Pushcorer Slambar

Eckman Ponar: Standard / Petite

Box Core

MLW #td ver 030615

AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Tetra Tech, Inc.			Project : Delaware River - Phila. To Trenton			Logger: AZ	
Job#: 43-023		Date: 2/21/23	Time: 1049		Crew:	PW, MD	
Coordinates:	N 469227.8		E 410630.3		Vessel:	Prattis	
Core # : S7	Zone: NJ	Datum NAD 83			Deploy:	1	2	3
Project Depth [PD] [ft] MLW::		-6.0	Core Penetration Length (ft.):			4.0	3.2	3.5
Measured Water Depth [MWD] [ft.]:		44.7	Recovered Core Length (ft.):			3.2	2.0	2.2
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]:		0.1	Sample Length Retained (ft.):			-	-	-
Corrected Depth @ MLLW [ft.]:		44.6	Core Volume Retained (gal.):			-	-	-
+ MLW Adjustment [ft.}			Collected to Project Depth:			Y / N		
Corrected Depth @ MLW [ft.]:								
Required Sample Core Length [SCL] [ft.]:								

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
		S7: 0-2 ft: brown, SILT; 2-3 ft: brown, SILT and organic debris/leaf material, little Sand; three cores collected
Bottom		

# of containers:				
Type of container:	bucket	hardliner	cup	other

Conditions:

Comments: Cores to client.

Core Volumes

Nominal core-barrel diameter		EST. Volume
3.0"		.25 gal/ft
3.5"	8.0"	.33 gal/ft
4.0"		.50 gal/ft

Liner Type: Soft / Hard

Vibracorer: P3 P5 VT6 Other

Live Organisms Present	Y	N
Oil Present	Y	N
Odor Present	Y	N
Debris Present	Y	N
Within 10% of Req'd Core Length	Y	N
Photo	Y	N

Pushcorer Slambar

Eckman Ponar: Standard / Petite

Box Core

MLW #td ver 030615

AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Tetra Tech, Inc.			Project : Delaware River - Phila. To Trenton			Logger: AZ	
Job#: 43-023		Date: 2/21/23	Time: 1226		Crew:	PW, MD	
Coordinates:	N 472552.6		E 417701.7		Vessel:	Prattis	
Core # : S8	Zone: NJ	Datum NAD 83			Deploy:	1	2	3
Project Depth [PD] [ft] MLW::		-6.0	Core Penetration Length (ft.):			7.0	7.0	
Measured Water Depth [MWD] [ft.]:		38.5	Recovered Core Length (ft.):			5.2	5.0	
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]:		3.6	Sample Length Retained (ft.):			-	-	
Corrected Depth @ MLLW [ft.]:		34.9	Core Volume Retained (gal.):			-	-	
+ MLW Adjustment [ft.}			Collected to Project Depth:			Y / N		
Corrected Depth @ MLW [ft.]:								
Required Sample Core Length [SCL] [ft.]:								

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
		S8: 0-5.4 ft: dark brown, SILT and leaf material/organic debris
Bottom		

# of containers:				
Type of container:	bucket	hardliner	cup	other

Conditions:

Comments: Cores to client.

Core Volumes		
Nominal core-barrel diameter		EST. Volume
3.0"		.25 gal/ft
3.5"	8.0"	.33 gal/ft
4.0"		.50 gal/ft
Liner Type: Soft Hard		
Vibracorer: P3 P5 VT6 Other		

Live Organisms Present	Y	N
Oil Present	Y	N
Odor Present	Y	N
Debris Present	Y	N
Within 10% of Req'd Core Length	Y	N
Photo	Y	N

Pushcorer	Slambar
Eckman	Ponar: Standard / Petite
Box Core	

MLW #td ver 030615

AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Tetra Tech, Inc.			Project : Delaware River - Phila. To Trenton			Logger: MD	
Job#: 43-023		Date: 2/21/23		Time: 1342	Crew:	AZ, PW	
Coordinates:	N 474014.5		E 423613.3		Vessel:	Prattis	
Core # : S9	Zone: NJ	Datum NAD 83			Deploy:	1	2	3
Project Depth [PD] [ft] MLW::		-6.0	Core Penetration Length (ft.):			5.0	6.0	
Measured Water Depth [MWD] [ft.]:		36.5	Recovered Core Length (ft.):			4.5	3.6	
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]:		6.6	Sample Length Retained (ft.):			-	-	
Corrected Depth @ MLLW [ft.]:		29.9	Core Volume Retained (gal.):			-	-	
+ MLW Adjustment [ft.}			Collected to Project Depth:			Y / N		
Corrected Depth @ MLW [ft.]:								
Required Sample Core Length [SCL] [ft.]:								

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
		S9: 0-3 ft: tan-grey, f-m SAND, clean, two cores collected
Bottom		

# of containers:				
Type of container:	bucket	hardliner	cup	other

Conditions:

Comments: Cores to client.

Core Volumes

Nominal core-barrel diameter		EST. Volume
3.0"		.25 gal/ft
3.5"	8.0"	.33 gal/ft
4.0"		.50 gal/ft

Liner Type: Soft / Hard

Vibracorer: P3 P5 VT6 Other

Live Organisms Present	Y	N
Oil Present	Y	N
Odor Present	Y	N
Debris Present	Y	N
Within 10% of Req'd Core Length	Y	N
Photo	Y	N

Pushcorer Slambar

Eckman Ponar: Standard / Petite

Box Core

MLW #td ver 030615

AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Tetra Tech, Inc.			Project : Delaware River - Phila. To Trenton			Logger: AZ	
Job#: 43-023		Date: 2/21/23		Time: 1431	Crew:	MD, PW	
Coordinates:	N 475060.2		E 420940.1		Vessel:	Prattis	
Core # : S10	Zone: NJ	Datum NAD 83			Deploy:	1	2	3
Project Depth [PD] [ft] MLW::		-6.0	Core Penetration Length (ft.):			2.0	4.0	5.0
Measured Water Depth [MWD] [ft.]:		52.0	Recovered Core Length (ft.):			1.5	2.5	3.5
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]:		8.0	Sample Length Retained (ft.):			-	-	-
Corrected Depth @ MLLW [ft.]:		44.0	Core Volume Retained (gal.):			-	-	-
+ MLW Adjustment [ft.}			Collected to Project Depth:			Y / N		
Corrected Depth @ MLW [ft.]:								
Required Sample Core Length [SCL] [ft.]:								

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
		S10: 0-3 ft: brown, SILT, some organic debris, odor; three cores collected
Bottom		

# of containers:				
Type of container:	bucket	hardliner	cup	other

Conditions:

Comments: Cores to client.

Core Volumes

Nominal core-barrel diameter		EST. Volume
3.0"		.25 gal/ft
3.5"	8.0"	.33 gal/ft
4.0"		.50 gal/ft

Liner Type: Soft / Hard

Vibracorer: P3 / P5 VT6 Other

Live Organisms Present	Y	N
Oil Present	Y	N
Odor Present	Y	N
Debris Present	Y	N
Within 10% of Req'd Core Length	Y	N
Photo	Y	N

Pushcorer Slambar

Eckman Ponar: Standard / Petite

Box Core

MLW #td ver 030615

S1: 0-1 ft: brown, fine SAND; 1-2 ft: SILT and fine Sand; 2-3 ft: Brown, SILT; 3-4 ft: Brown, SILT, 4-5 ft: f-m SAND; 5-6 ft: SILT and f-m Sand

S2: 0-1 ft: brown, SILT, some organic leafy debris; 1-2 ft: SILT, some fine Sand, organic debris; 2-3 ft: fine SAND and Silt, some organic debris; 3-4 ft: fine SAND and Silt; two cores collected

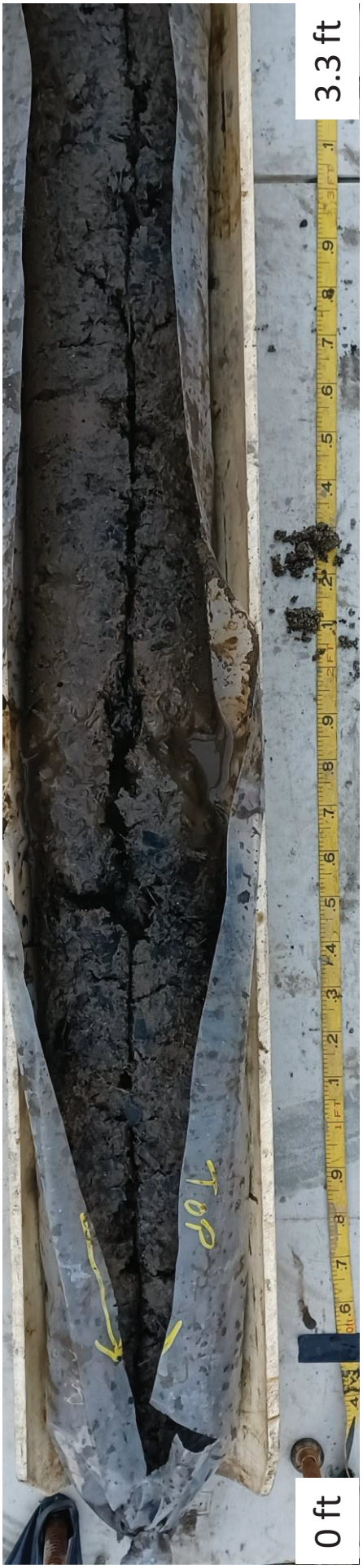
S3: 0-1 ft: brown, fine SAND, little organic debris, trace Silt; 1-2 ft: fine SAND, some organic debris; 2-3 ft: organic debris, some fine SAND; 3-4.5 ft mulchy debris, wood/leaves, 4.5-5.5 ft: fine SAND and organic debris; two cores collected

S4: 0-3 ft, light grey, very dense, fine SAND and Clay, trace shells; three cores collected

S5: 0-2 ft: dark brown, leaf/debris and Silt, high water content; 2-3 ft: SILT, trace Sand, soft; 3-4 ft: SILT, some organic debris; 4-5 ft: SILT, some fine SAND and organic debris; 5-6 ft: SILT and f-m SAND

S6: 0-2 ft: brown, leaves/organic debris and some Silt; 2-3 ft: brown, SILT, some organic debris; 3-4 ft: leaves/organic debris and sandy Silt; 4-4.5 ft: brown, fine SAND and Silt, some organic debris; two cores collected

S7: 0-2 ft: brown, SILT; 2-3 ft: brown, SILT and organic debris/leaf material, little Sand; three cores collected



S8: 0-5.4 ft: dark brown, SILT and leaf material/organic debris

S9: 0-3 ft: tan-grey, f-m SAND, clean, two cores collected

S10: 0-3 ft: brown, SILT, some organic debris, odor; three cores collected

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APPENDIX C51

CENTERLINE AND EDGE COORDINATES AND CHANNEL SKETCHES

(40' CHANNEL)

DELAWARE RIVER
PHILADELPHIA TO TRENTON
NAD 83 - CENTERLINE COORDINATES

IFB W912BU23B0003

RANGE	HARBOR	**LATITUDE**		**DEPARTURE**
STATION	0+000	416262.9687		325346.5655
TO	**AZIMUTH**	**UP** = 80°58'00.9"	**LENGTH** =	4,274.7647'
STATION	4+274.76	416934.1277		329568.3138
RANGE	FISHER	**LATITUDE**		**DEPARTURE**
STATION	4+274.76	416934.1277		329568.3138
TO	**AZIMUTH**	**UP** = 69°42'14.7"	**LENGTH** =	1,863.7761'
STATION	6+138.54	417580.6136		331316.3748
RANGE	DRAW	**LATITUDE**		**DEPARTURE**
STATION	6+138.54	417580.6136		331316.3748
TO	**AZIMUTH**	**UP** = 41°28'00.4"	**LENGTH** =	4,512.8271'
STATION	10+651.37	420962.2543		334304.7046
RANGE	DELAIR	**LATITUDE**		**DEPARTURE**
STATION	10+651.37	420962.2543		334304.7046
TO	**AZIMUTH**	**UP** = 18°07'59.4"	**LENGTH** =	5,965.6968'
STATION	16+617.06	426631.6695		336161.3869
RANGE	BRIDESBURG	**LATITUDE**		**DEPARTURE**
STATION	16+617.06	426631.6695		336161.3869
TO	**AZIMUTH**	**UP** = 38°53'24.7"	**LENGTH** =	1,860.5370'
STATION	18+477.60	428079.8196		337329.4876
RANGE	FRANKFORD	**LATITUDE**		**DEPARTURE**
STATION	18+477.60	428079.8196		337329.4876
TO	**AZIMUTH**	**UP** = 61°14'58.3"	**LENGTH** =	6,399.6852'
STATION	24+877.29	431158.0435		342940.2369

**** NEW JERSEY STATE PLANE - ZONE 2900 - U.S.FOOT**

(40' Channel)

DELAWARE RIVER
PHILADELPHIA TO TRENTON
NAD 83 - CENTERLINE COORDINATES

IFB W912BU23B0003

RANGE	TACONY	LATITUDE	DEPARTURE
STATION	24+877.29	431158.0435	342940.2369
TO	AZIMUTH UP = 70°01'59.6"	LENGTH =	7,120.7578'
STATION	31+998.04	433589.6066	349632.9712

RANGE	TORRESDALE	LATITUDE	DEPARTURE
STATION	31+998.04	433589.6066	349632.9712
TO	AZIMUTH UP = 42°17'54.8"	LENGTH =	8,440.4502'
STATION	40+438.49	439832.5697	355313.3420

RANGE	MUD ISLAND	LATITUDE	DEPARTURE
STATION	40+438.49	439832.5697	355313.3420
TO	AZIMUTH UP = 52°37'37.2"	LENGTH =	10,163.2553'
STATION	50+601.75	446001.6813	363390.0877

RANGE	ENTERPRISE	LATITUDE	DEPARTURE
STATION	50+601.75	446001.6813	363390.0877
TO	AZIMUTH UP = 61°27'08.3"	LENGTH =	10,384.7743'
STATION	60+986.52	450964.4641	372512.2763

RANGE	BEVERLY	LATITUDE	DEPARTURE
STATION	60+986.52	450964.4641	372512.2763
TO	AZIMUTH UP = 91°32'58.7"	LENGTH =	3,948.3383'
STATION	64+934.86	450857.6901	376459.1706

RANGE	EDGEWATER	LATITUDE	DEPARTURE
STATION	64+934.86	450857.6901	376459.1706
TO	AZIMUTH UP = 69°52'54.1"	LENGTH =	8,328.2885'
STATION	73+263.15	453722.2862	384279.3035

**** NEW JERSEY STATE PLANE - ZONE 2900 - U.S.FOOT**

DELAWARE RIVER
PHILADELPHIA TO TRENTON
NAD 83 - CENTERLINE COORDINATES

RANGE	DEVLIN	**LATITUDE**	**DEPARTURE**
STATION	73+263.15	453722.2862	384279.3035
TO	**AZIMUTH UP** = 78°17'08.2"	**LENGTH** = 6,245.1882'	
STATION	79+508.34	454990.2677	390394.4158
RANGE	LEHIGH	**LATITUDE**	**DEPARTURE**
STATION	79+508.34	454990.2677	390394.4158
TO	**AZIMUTH UP** = 28°41'02.1"	**LENGTH** = 3,994.8264'	
STATION	83+503.17	458494.8531	392311.8410
RANGE	CANAL	**LATITUDE**	**DEPARTURE**
STATION	83+503.17	458494.8531	392311.8410
TO	**AZIMUTH UP** = 47°15'31.3"	**LENGTH** = 1,156.8215'	
STATION	84+659.99	459279.9754	393161.4402
RANGE	BRISTOL	**LATITUDE**	**DEPARTURE**
STATION	84+659.99	459279.9754	393161.4402
TO	**AZIMUTH UP** = 61°16'48.7"	**LENGTH** = 3,887.5315'	
STATION	88+547.52	461148.0382	396570.7278
RANGE	KEYSTONE	**LATITUDE**	**DEPARTURE**
STATION	88+547.52	461148.0382	396570.7278
TO	**AZIMUTH UP** = 39°10'41.7"	**LENGTH** = 2,550.2852'	
STATION	91+097.80	463124.9792	398181.8327
RANGE	LANDRETH	**LATITUDE**	**DEPARTURE**
STATION	91+097.80	463124.9792	398181.8327
TO	**AZIMUTH UP** = 18°11'39.9"	**LENGTH** = 7,373.4414'	
STATION	98+471.25	470129.7673	400484.1319

***** NEW JERSEY STATE PLANE - ZONE 2900 - U.S.FOOT***

(40' Channel)

DELAWARE RIVER
PHILADELPHIA TO TRENTON
NAD 83 - CENTERLINE COORDINATES

IFB W912BU23B0003

RANGE	RIVERVIEW	LATITUDE	DEPARTURE
STATION	98+471.25	470129.7673	400484.1319
TO	AZIMUTH UP = 41°27'11.3"	LENGTH = 1,214.3117'	
STATION	99+685.56	471039.8909	401288.0149

RANGE	FOUNDRY	LATITUDE	DEPARTURE
STATION	99+685.56	471039.8909	401288.0149
TO	AZIMUTH UP = 62°35'46.0"	LENGTH = 1,352.6474'	
STATION	101+038.20	471662.4605	402488.8738

RANGE	CHURCH	LATITUDE	DEPARTURE
STATION	101+038.20	471662.4605	402488.8738
TO	AZIMUTH UP = 85°27'51.2"	LENGTH = 1,139.7129'	
STATION	102+177.92	471752.5911	403625.0173

RANGE	FLORENCE	LATITUDE	DEPARTURE
STATION	102+177.9175	471752.5911	403625.0173
TO	AZIMUTH UP = 111°19'15.6"	LENGTH = 8,166.6134'	
STATION	110+344.53	468783.2710	411232.6919

RANGE	ROEBLING	LATITUDE	DEPARTURE
STATION	110+344.5309	468783.2710	411232.6919
TO	AZIMUTH UP = 79°50'19.7"	LENGTH = 2,086.4159'	
STATION	112+430.95	469151.3530	413286.3829

RANGE	KINKORA	LATITUDE	DEPARTURE
STATION	112+430.95	469151.3530	413286.3829
TO	AZIMUTH UP = 50°20'03.2"	LENGTH = 6,969.9059'	
STATION	119+400.85	473600.2994	418651.6847

***** NEW JERSEY STATE PLANE - ZONE 2900 - U.S.FOOT***

(40' Channel)

IFB W912BU23B0003

DELAWARE RIVER
PHILADELPHIA TO TRENTON
NAD 83 - CENTERLINE COORDINATES

RANGE	PENN	***LATITUDE***	***DEPARTURE***
STATION	119+400.85	473600.2994	418651.6847
TO	***AZIMUTH UP*** = 70°25'17.6"	***LENGTH*** = 2,106.3409'	
STATION	121+507.19	474306.1284	420636.2445

RANGE	NEWBOLD	***LATITUDE***	***DEPARTURE***
STATION	121+507.19	474306.1284	420636.2445
TO	***AZIMUTH UP*** = 95°23'24.1"	***LENGTH*** = 3,169.5700'	
STATION	124+676.76	474008.3947	423791.7998

End of 40' Project Depth

RANGE		***LATITUDE***	***DEPARTURE***
STATION			
TO	***AZIMUTH UP*** =	***LENGTH*** =	
STATION			

RANGE		***LATITUDE***	***DEPARTURE***
STATION			
TO	***AZIMUTH UP*** =	***LENGTH*** =	
STATION			

RANGE		***LATITUDE***	***DEPARTURE***
STATION			
TO	***AZIMUTH UP*** =	***LENGTH*** =	
STATION			

RANGE		***LATITUDE***	***DEPARTURE***
STATION			
TO	***AZIMUTH UP*** =	***LENGTH*** =	
STATION			

***** NEW JERSEY STATE PLANE - ZONE 2900 - U.S.FOOT***

(25' Channel)

DELAWARE RIVER
PHILADELPHIA TO TRENTON
NAD 83 - CENTERLINE COORDINATES

IFB W912BU23B0003

RANGE	BLAKE	**LATITUDE**	**DEPARTURE**
STATION	124+676.76	474008.3947	423791.7998
TO	**AZIMUTH UP =** 74°15'41.4"	**LENGTH =** 1,016.0274'	
STATION	125+692.79	474283.9893	424769.7360
RANGE	WHITEHILL	**LATITUDE**	**DEPARTURE**
STATION	125+692.79	474283.9893	424769.7360
TO	**AZIMUTH UP =** 49°58'57.8"	**LENGTH =** 6,258.4509'	
STATION	131+951.24	478308.2900	429562.7738
RANGE	RARITAN	**LATITUDE**	**DEPARTURE**
STATION	131+951.24	478308.2900	429562.7738
TO	**AZIMUTH UP =** 23°01'57.3"	**LENGTH =** 1,489.5221'	
STATION	133+440.76	479679.0711	430145.5563
RANGE	BORDENTOWN	**LATITUDE**	**DEPARTURE**
STATION	133+440.76	479679.0711	430145.5563
TO	**AZIMUTH UP =** 359°00'35.1"	**LENGTH =** 3,941.1088'	
STATION	137+381.87	483619.5913	430077.4447
RANGE	DUCK ISLAND	**LATITUDE**	**DEPARTURE**
STATION	137+381.87	483619.5913	430077.4447
TO	**AZIMUTH UP =** 324°39'07.6"	**LENGTH =** 7,628.0769'	
STATION	145+009.95	489841.4656	425664.3010
RANGE	PERRIWIG	**LATITUDE**	**DEPARTURE**
STATION	145+009.95	489841.4656	425664.3010
TO	**AZIMUTH UP =** 307°28'45.3"	**LENGTH =** 1,452.3166'	
STATION	146+462.27	490725.1629	424511.7809

**** NEW JERSEY STATE PLANE - ZONE 2900 - U.S.FOOT**

(25' Channel)

DELAWARE RIVER
PHILADELPHIA TO TRENTON
NAD 83 - CENTERLINE COORDINATES

IFB W912BU23B0003

RANGE	BILES ISLAND	LATITUDE	DEPARTURE
STATION	146+462.27	490725.1629	424511.7809
TO	AZIMUTH UP = 289°12'45.0"	LENGTH = 2,313.9589'	
STATION	148+776.23	491486.6236	422326.6988

RANGE	COCHRAN	LATITUDE	DEPARTURE
STATION	148+776.23	491486.6236	422326.6988
TO	AZIMUTH UP = 312°30'52.3"	LENGTH = 1,892.8978'	
STATION	150+669.12	492765.8008	420931.4326

RANGE	MOON	LATITUDE	DEPARTURE
STATION	150+669.12	492765.8008	420931.4326
TO	AZIMUTH UP = 334°44'57.1"	LENGTH = 1,148.9284'	
STATION	151+818.05	493804.9481	420441.3210

RANGE	TRENTON (25')	LATITUDE	DEPARTURE
STATION	151+818.05	493804.9481	420441.3210
TO	AZIMUTH UP = 348°17'41.7"	LENGTH = 1,222.6375'	
STATION	153+040.69	495002.1606	420193.2797
C.L. Parallel to Edges	*153+040.69*	*494990.5813*	*420137.3929*

RANGE		LATITUDE	DEPARTURE
STATION	End of 25' Project Depth		
TO	AZIMUTH UP =	LENGTH =	
STATION			

RANGE		LATITUDE	DEPARTURE
STATION			
TO	AZIMUTH UP =	LENGTH =	
STATION			

** NEW JERSEY STATE PLANE - ZONE 2900 - U.S.FOOT

(12' Channel)

DELAWARE RIVER
PHILADELPHIA TO TRENTON
NAD 83 - CENTERLINE COORDINATES

IFB W912BU23B0003

RANGE	TRENTON (12')	LATITUDE	DEPARTURE
STATION	153+040.69	495002.1606	420193.2797
TO	AZIMUTH UP = 348°17'37.8"	LENGTH = 2,005.3469'	
STATION	155+046.04	496965.7983	419786.4094

RANGE	LALOR	LATITUDE	DEPARTURE
STATION	155+046.04	496965.7983	419786.4094
TO	AZIMUTH UP = 339°57'51.6"	LENGTH = 972.3996'	
STATION	156+018.44	497879.3478	419453.2605

RANGE	LANDING	LATITUDE	DEPARTURE
STATION	156+018.44	497879.3478	419453.2605
TO	AZIMUTH UP = 328°10'04.6"	LENGTH = 1,206.7408	
STATION	157+225.18	498904.5920	418816.7876

RANGE	AMERICAN	LATITUDE	DEPARTURE
STATION	157+225.18	498904.5920	418816.7876
TO	AZIMUTH UP = 327°21'55.8"	LENGTH = 1,256.0597	
STATION	158+481.24	499962.3547	418139.4222

RANGE	FEDERAL	LATITUDE	DEPARTURE
STATION	158+481.24	499962.3547	418139.4222
TO	AZIMUTH UP = 330°41'03.6"	LENGTH = 552.6054'	
STATION	159+033.84	500444.1910	417868.8551

RANGE	BRIDGE	LATITUDE	DEPARTURE
STATION	159+033.84	500444.1910	417868.8551
TO	AZIMUTH UP = 336°05'38.4"	LENGTH = 501.2669'	
STATION	159+535.11	500902.4550	417665.7230

End of Project

**** NEW JERSEY STATE PLANE - ZONE 2900 - U.S.FOOT**

SURVEY 4-930609-4-0609 08-26-1994 8:05 AM Page 3
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\0000.DAT

Job: NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot
Philadelphia to Sea
HARBOR RANGE Station 0+000

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 0+000		416262.96870	325346.56552	
2	West Edge 0+000		416462.13665	325314.89672	
3	East Edge 0+000		416063.80075	325378.23432	

File: 0000.DAT
Session terminated at 8:06 AM on 08-26-1994

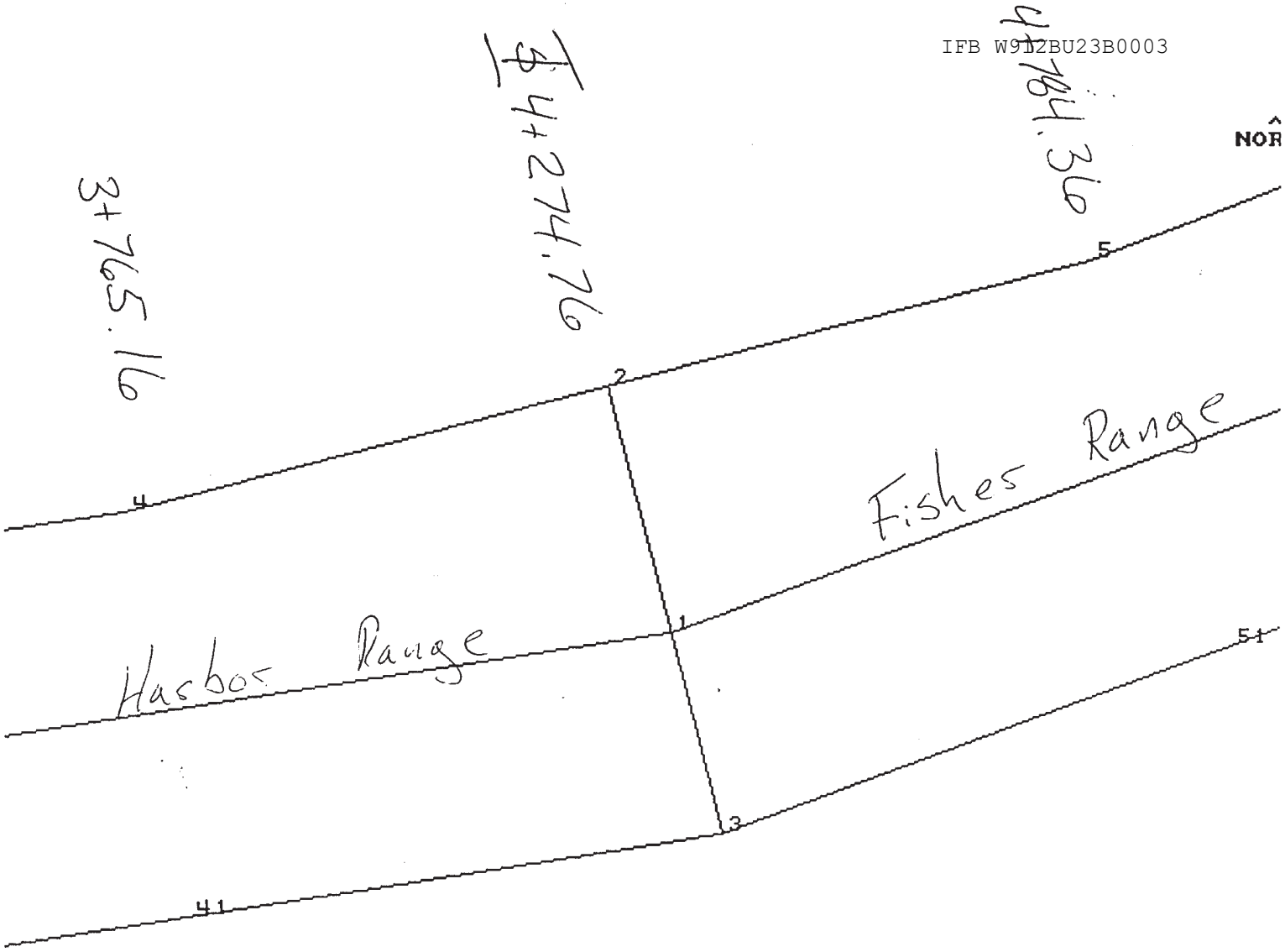

0+000
NOR
2
To Trenton
To Sea
200'
Range
Harbor
1
200'
3
0000
08-26-1994
8:05 AM

SURVEY 4-930609-4-0609 08-30-1994 8:09 AM Page 1
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\HARBFISH.DAT

Job: HARBOR & FISHER RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 4+274.76		416934.12770	329568.31380	
2	West Edge Intersection		417175.05621	329505.26691	
3	East Edge Intersection		416739.70621	329619.19059	
4	West Edge Knuckle 3+765.16		417051.63765	329033.63299	
41	Break Point 3+765.16		416656.60034	329096.43459	
5	West Edge Knuckle 4+784.36		417298.47478	329976.90084	
51	Break Point 4+784.36		416923.31105	330115.64772	



HARBFISH 08-30-1994 8:10 AM

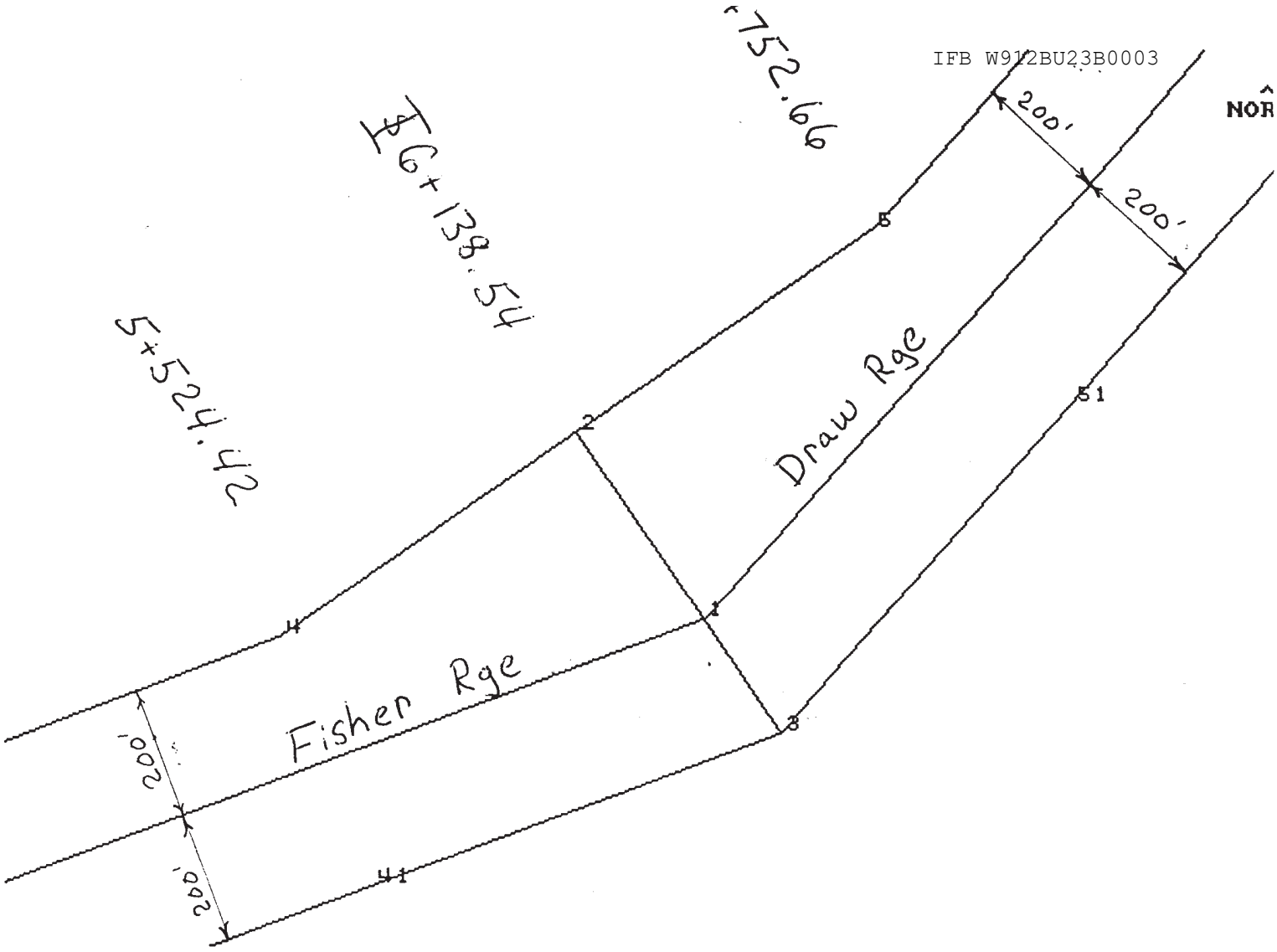
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\FISHDRAW.DAT

Job: FISHER & DRAW RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 6+138.54		417580.61360	331316.37480	
2	West Edge Intersection		417864.20587	331122.08918	
3	East Edge Intersection		417410.48070	331432.93078	
4	West Edge Knuckle 5+524.42		417555.17795	330671.01138	
41	Break Point 5+524.42		417180.01249	330809.75890	
5	West Edge Knuckle 6+752.66		418173.23380	331573.16697	
51	Break Point 6+752.66		417908.35953	331872.90290	

File: FISHDRAW.DAT
Session terminated at 8:37 AM on 08-31-1994



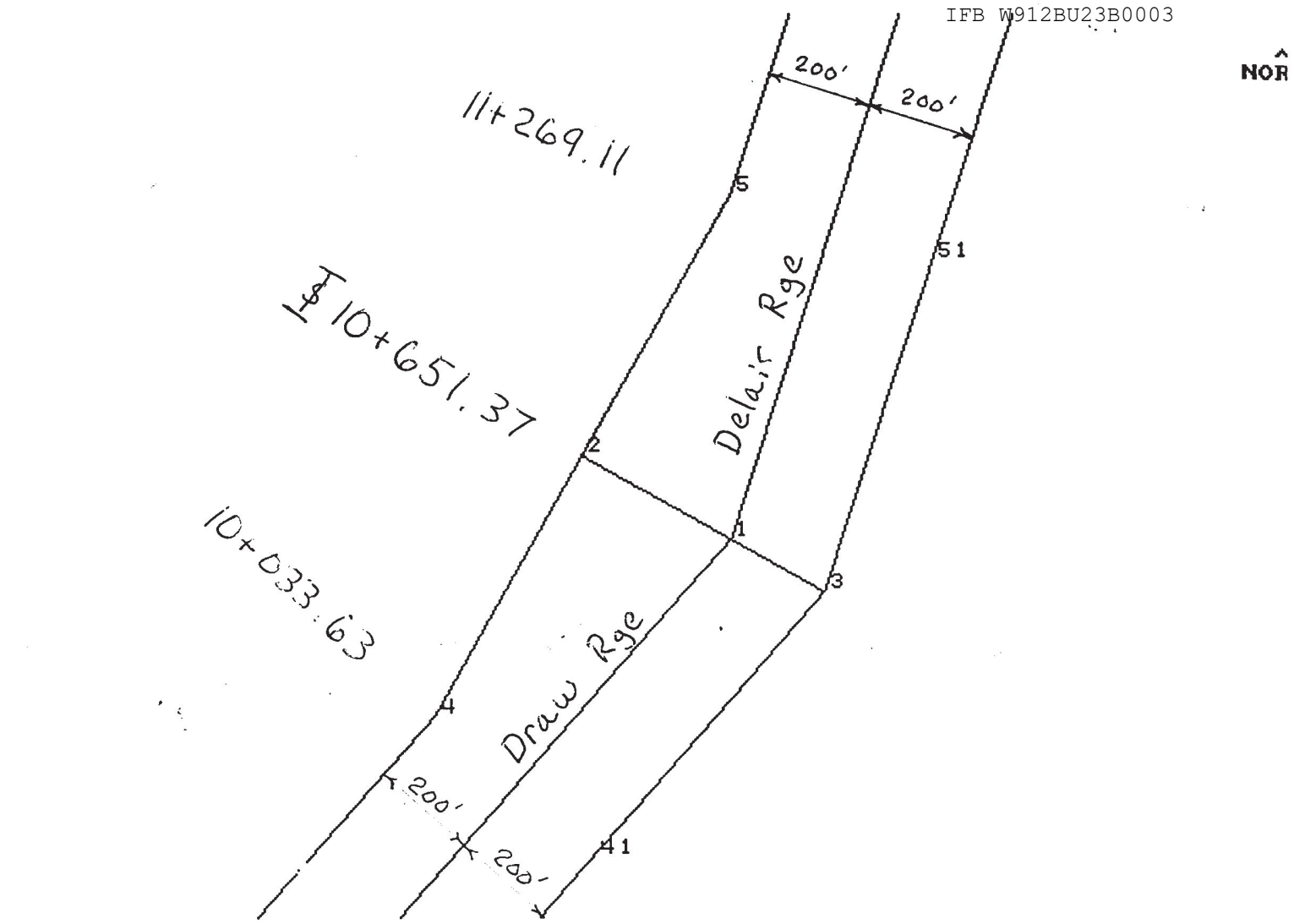
FISHDRAW 08-31-1994 8:36 AM

Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\DRADELAR.DAT

Job: DRAW & DELAIR RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 10+651.37		420962.25430	334304.70460	
2	West Edge Intersection		421121.67674	334026.33702	
3	East Edge Intersection		420860.76482	334481.91542	
4	West Edge Knuckle 10+033.63		420631.79726	333745.78072	
41	Break Point 10+033.63		420366.92299	334045.51664	
5	West Edge Knuckle 11+269.11		421611.55621	334306.89333	
51	Break Point 11+269.11		421487.06557	334687.02762	



DRADELAR 08-31-1994 8:39 AM

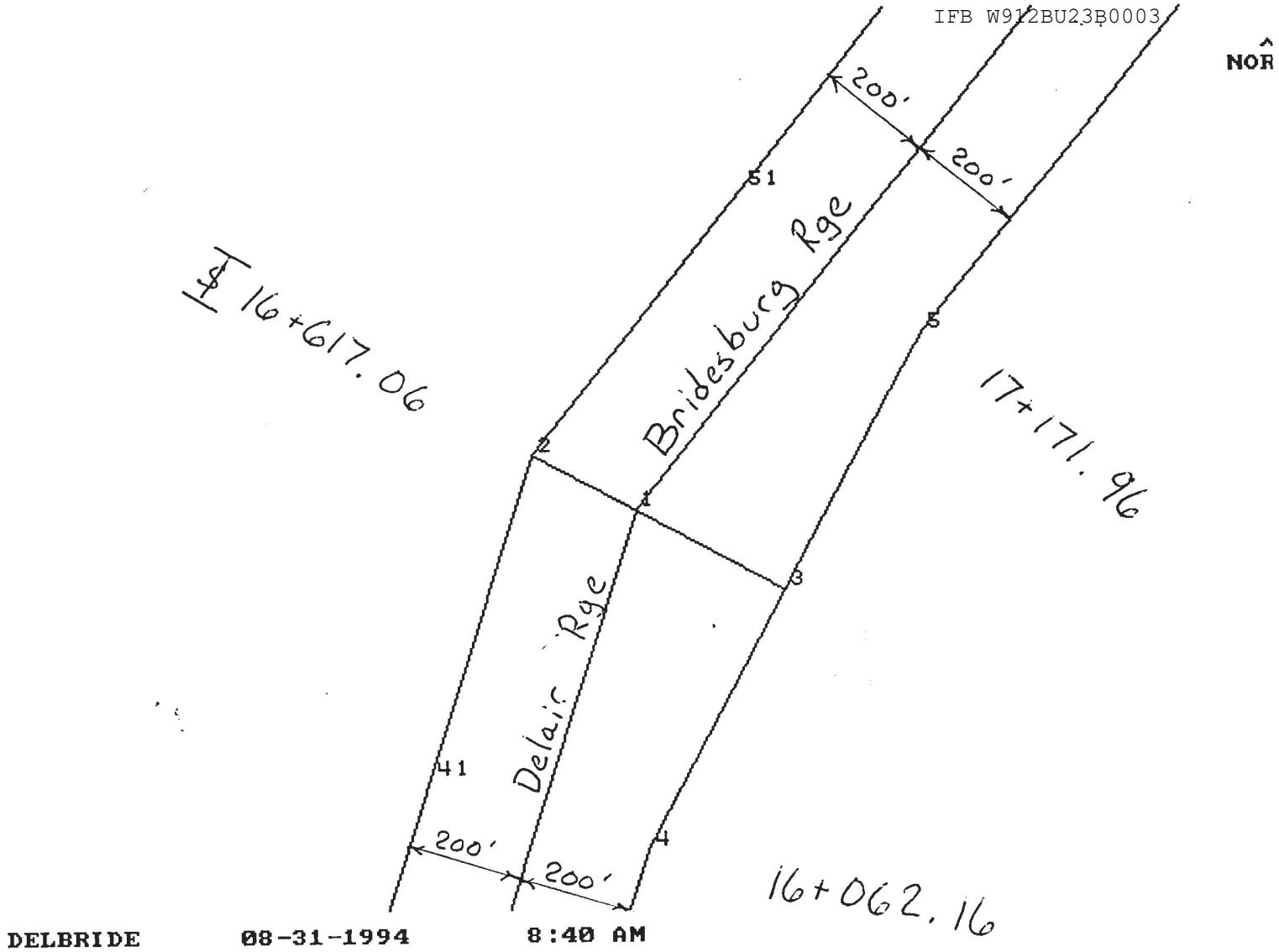
SURVEY 4-930609-4-0609
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\DELBRIDE.DAT

Job: DELAIR & BRIDESBURG RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 16+617.06		426631.66950	336161.38690	
2	West Edge Intersection		426728.71960	335982.72973	
3	East Edge Knuckle		426490.04658	336422.09711	
4	East Edge Knuckle 16+062.16		426042.08288	336178.75441	
41	Break Point 16+062.16		426166.57352	335798.62011	
5	East Edge Knuckle 17+171.96		426938.01028	336665.43981	
51	Break Point 17+171.96		427189.14222	336354.09957	

File: DELBRIDE.DAT
Session terminated at 9:18 AM on 08-31-1994

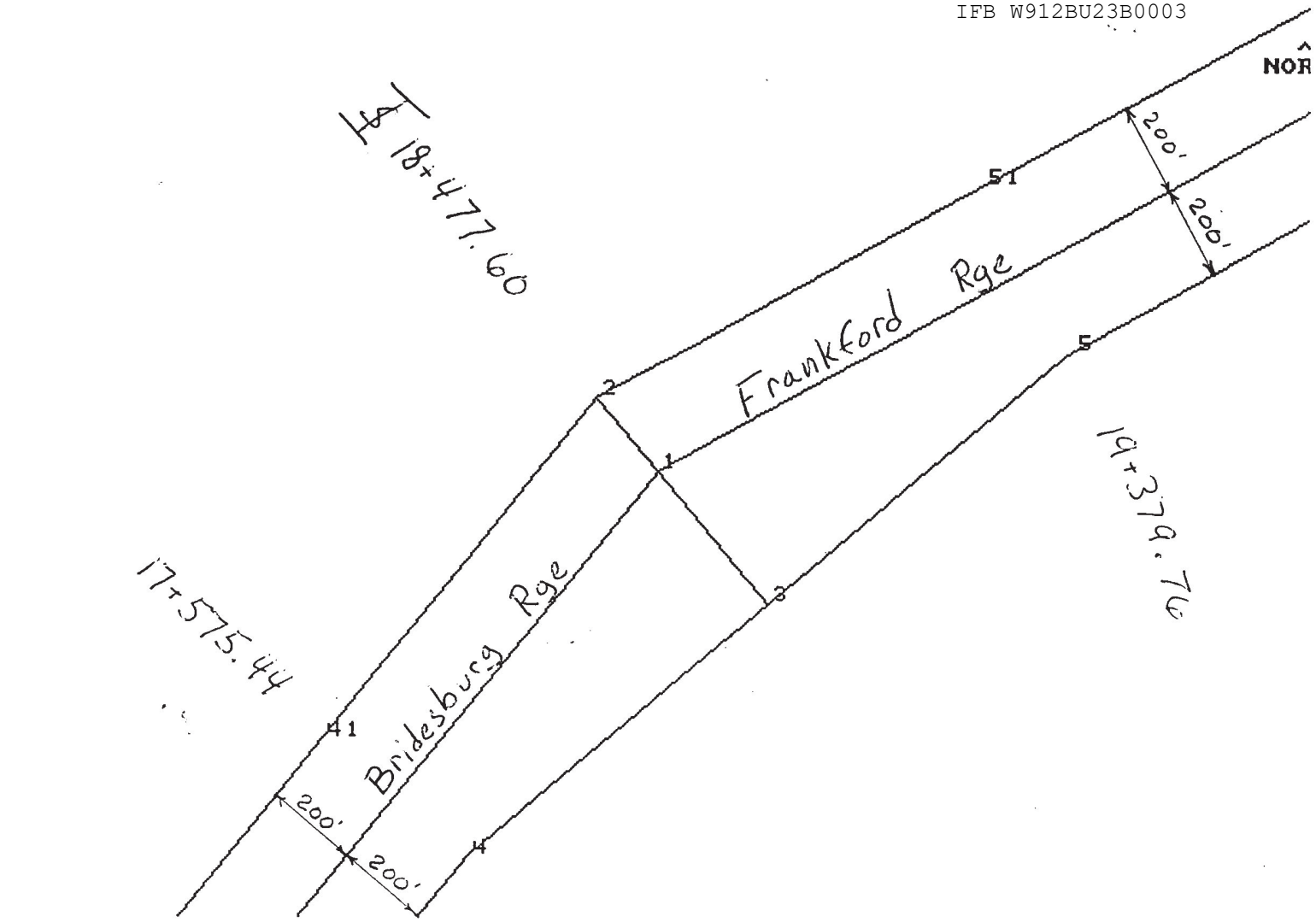

NOR
200'
200'
51
Bridesburg Rge
16+617.06
5
17+171.96
2
1
3
Delair Rge
41
200'
200'
4
16+062.16
DELBRIDE
08-31-1994
8:40 AM

Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\BRIFRANK.DAT

Job: BRIDESBURG & FRANKFORD RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 18+477.60		428079.81960	337329.48760	
2	West Edge Intersection		428236.15085	337198.63460	
3	East Edge Intersection		427795.23362	337567.69288	
4	East Edge Knuckle 17+575.44		427252.05684	336918.75473	
41	Break Point 17+575.44		427503.18879	336607.41449	
5	East Edge Knuckle 19+379.76		428338.41039	338216.63103	
51	Break Point 19+379.76		428689.09950	338024.23263	



BRIFRANK 08-31-1994 9:16 AM

SURVEY 4-930609-4-0609
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\T-P!BRDG.DAT

08-31-1994 8:32 AM Page 3

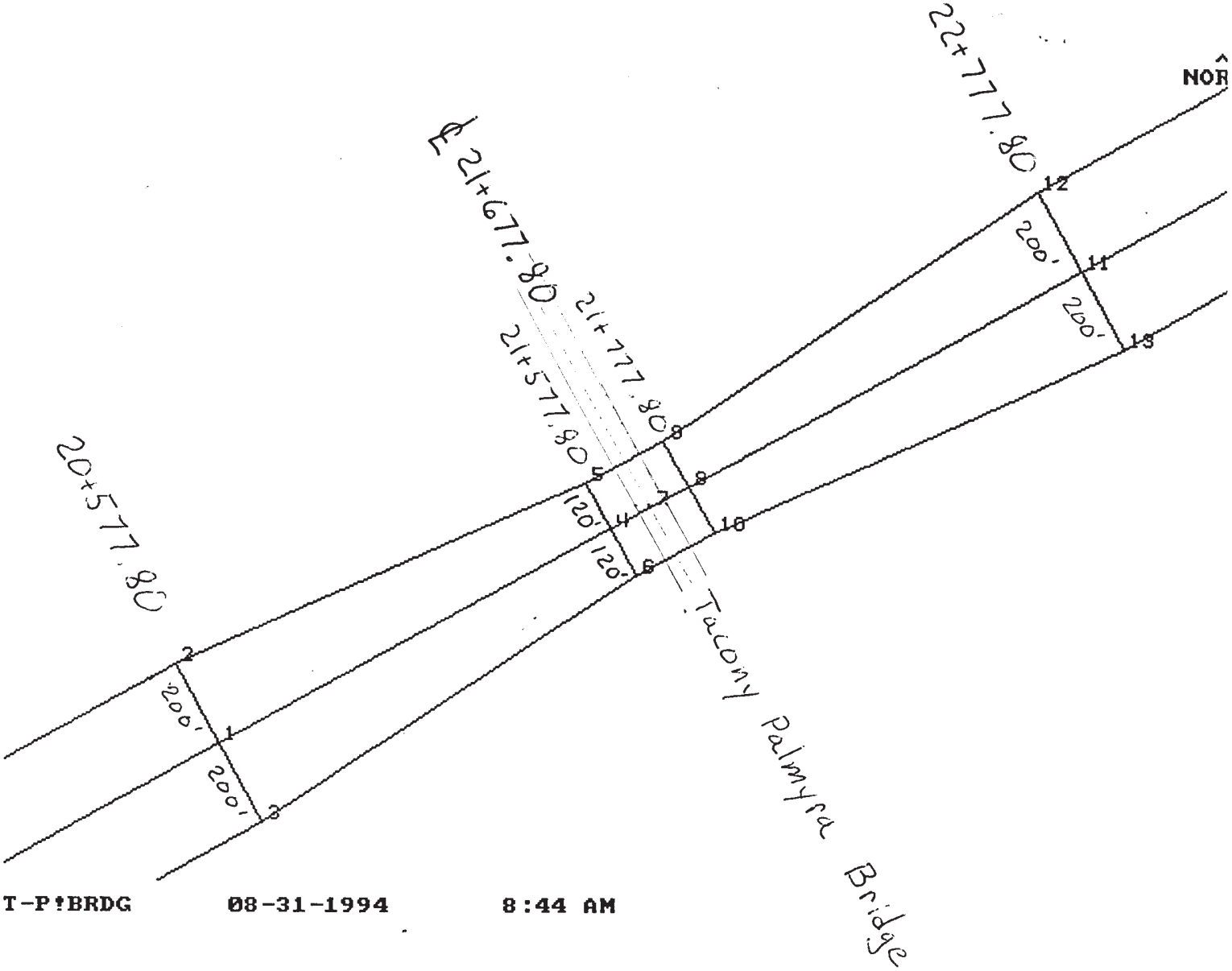
Job: FRANKFORD RANGE AT TACONY PALMYRA BRIDGE
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
7	C.L. @ TACONY PALMYRA BRIDGE		429619.10298	340135.17588	
1	CENTERLINE 20+577.80		429090.00739	339170.78081	
2	W.E. 20+577.80		429265.35195	339074.58161	
3	E.E. 20+577.80		428914.66283	339266.98001	
4	CENTERLINE 21+577.80		429571.00338	340047.50360	
5	W.E. 21+577.8		429676.21012	339989.78408	
6	E.E. 21+577.80		429465.79665	340105.22312	
8	CENTERLINE 21+777.80		429667.20258	340222.84816	
9	W.E. 21+777.80		429772.40932	340165.12864	
10	E.E. 21+777.80		429561.99585	340280.56768	
11	CENTERLINE 22+777.80		430148.19858	341099.57095	
12	W.E. 22+777.80		430323.54313	341003.37175	
13	E.E. 22+777.80		429972.85402	341195.77015	

File: T-P!BRDG.DAT
Session terminated at 8:33 AM on 08-31-1994

Frankford Range



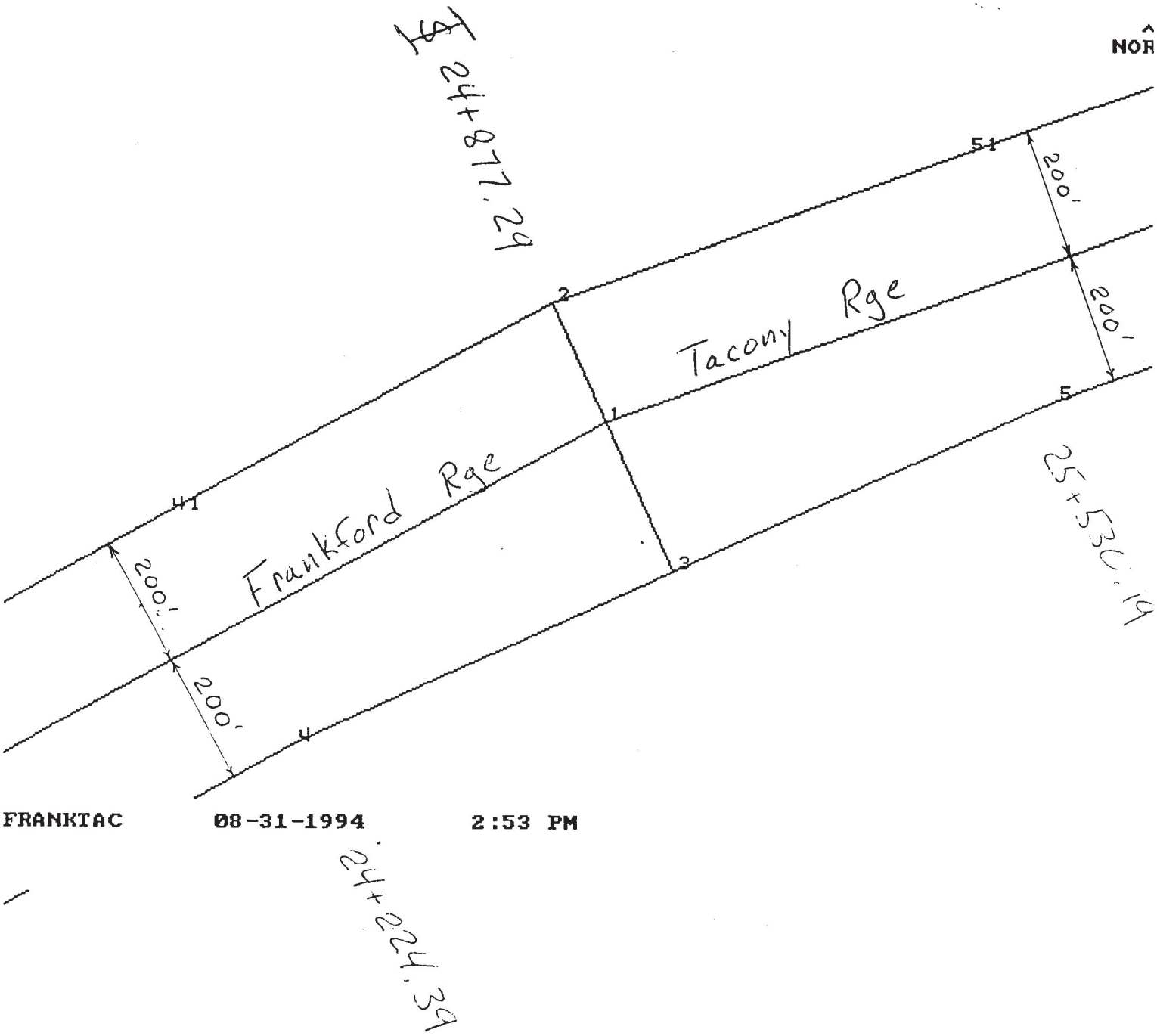
SURVEY 4-930609-4-0609 08-31-1994 2:54 PM Page 4
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\FRANKTAC.DAT

Job: FRANKFORD & TACONY RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 24+877.29		431158.04350	342940.23690	
2	West Edge Intersection		431340.77913	342857.50340	
3	East Edge Intersection		430930.83060	343043.09420	
4	East Edge Knuckle 24+224.39		430668.65666	342464.02379	
41	Break Point 24+224.39		431019.34577	342271.62539	
5	East Edge Knuckle 25+530.19		431193.01451	343622.18663	
51	Break Point 25+530.19		431568.97083	343485.59655	

File: FRANKTAC.DAT
Session terminated at 2:54 PM on 08-31-1994


NOR
24+877.29
51
200'
200'
2
Tacony Rge
1
5
25+530.19
41
Frankford Rge
200'
3
200'
4
FRANKTAC 08-31-1994 2:53 PM
24+224.39

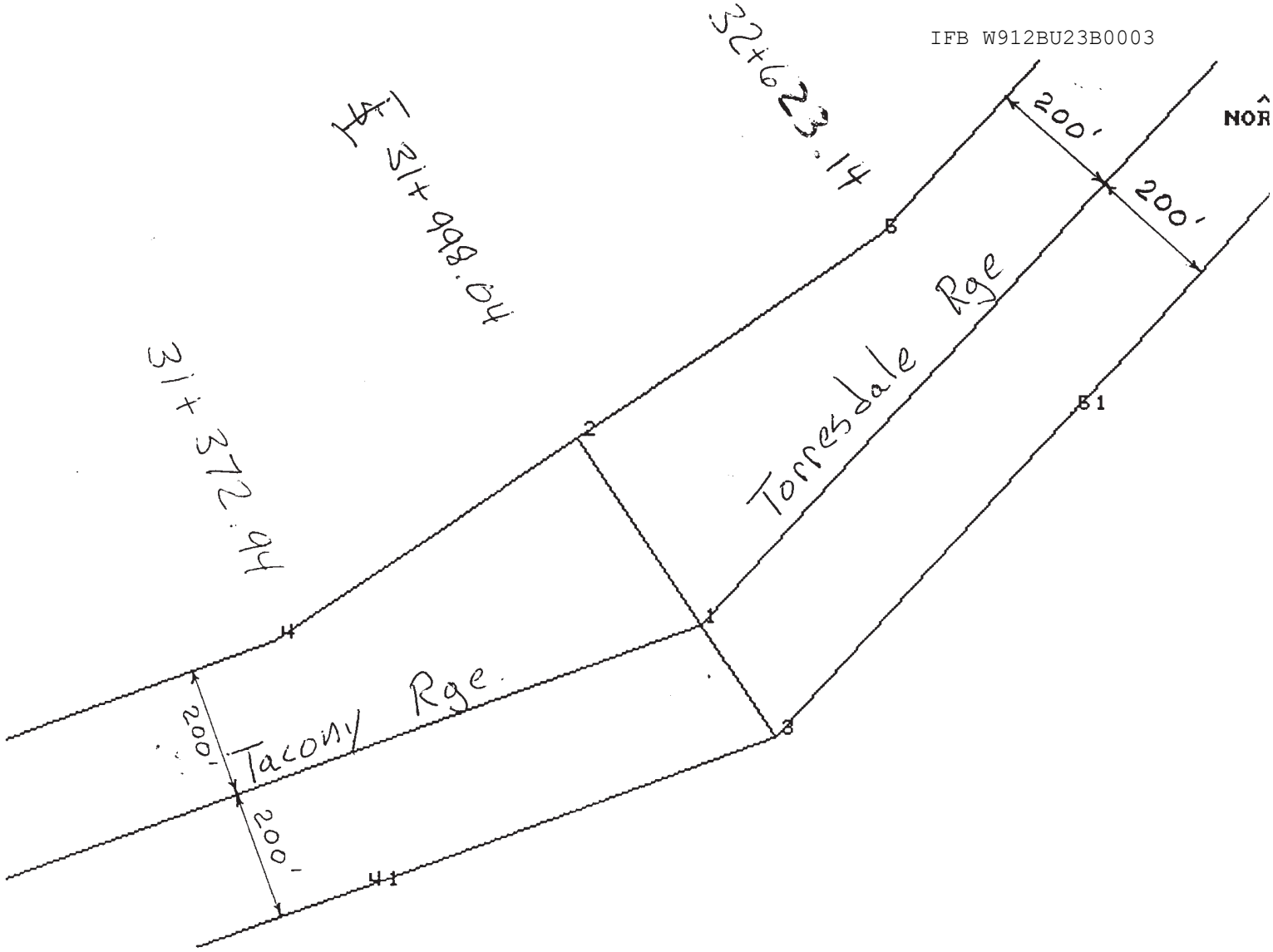
SURVEY 4-930609-4-0609 09-01-1994 9:01 AM Page 3
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\TACOTORR.DAT

Job: TACONY & TORRESDALE RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 31+998.04		433589.60660	349632.97120	
2	West Edge Intersection		433875.33934	349441.43332	
3	East Edge Intersection		433418.48682	349747.67951	
4	West Edge Knuckle 31+372.94		433564.12860	348977.15043	
41	Break Point 31+372.94		433188.17229	349113.74052	
5	West Edge Knuckle 32+623.14		434186.55938	349905.73005	
51	Break Point 32+623.14		433917.36183	350201.58928	

File: TACOTORR.DAT
Session terminated at 9:02 AM on 09-01-1994



TACOTORR 09-01-1994 9:01 AM

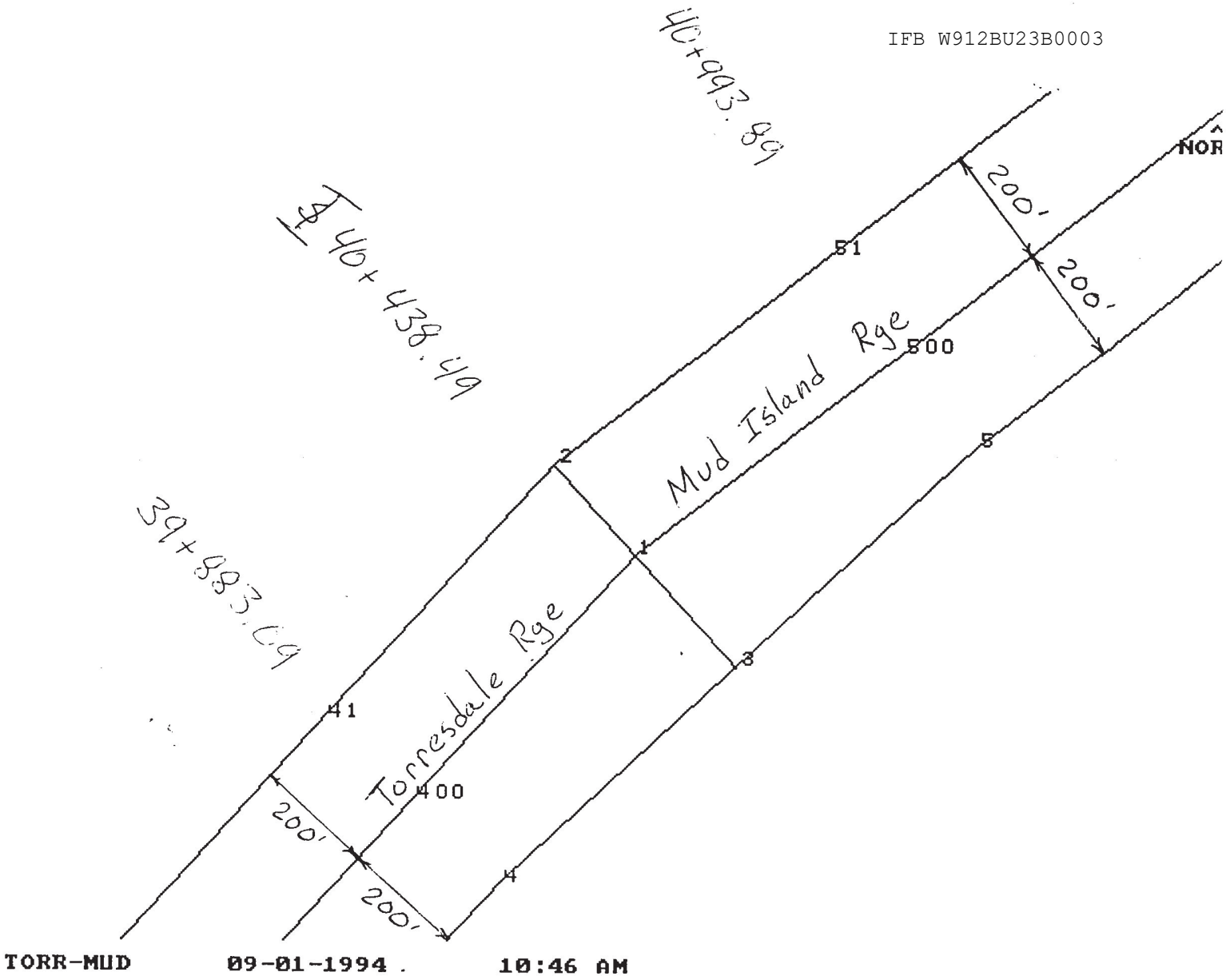
SURVEY 4-930609-4-0609 09-01-1994 10:38 AM Page 4
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\TORR-MUD.DAT

Job: TORRESDALE & MUD ISLAND INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 40+438.49		439832.56970	355313.34200	
2	West Edge Intersection		439980.54089	355177.57443	
3	East Edge Intersection		439648.96426	355481.80495	
4	East Edge Knuckle 39+883.09		439287.17039	355087.49082	
400	C.L. 39+883.09		439421.76917	354939.56121	
41	Break Point 39+883.09		439556.36794	354791.63159	
5	East Edge Knuckle 40+993.89		440010.75813	355876.11908	
500	C.L. 40+993.89		440169.69828	355754.71880	
51	Break Point 40+993.89		440328.63844	355633.31851	

File: TORR-MUD.DAT
Session terminated at 10:39 AM on 09-01-1994


40+993.89
40+438.49
39+883.69
NOR
51
500
Mud Island Rge
200'
200'
2
1
5
3
41
Torresdale Rge
400
200'
200'
4
TORR-MUD
09-01-1994
10:46 AM

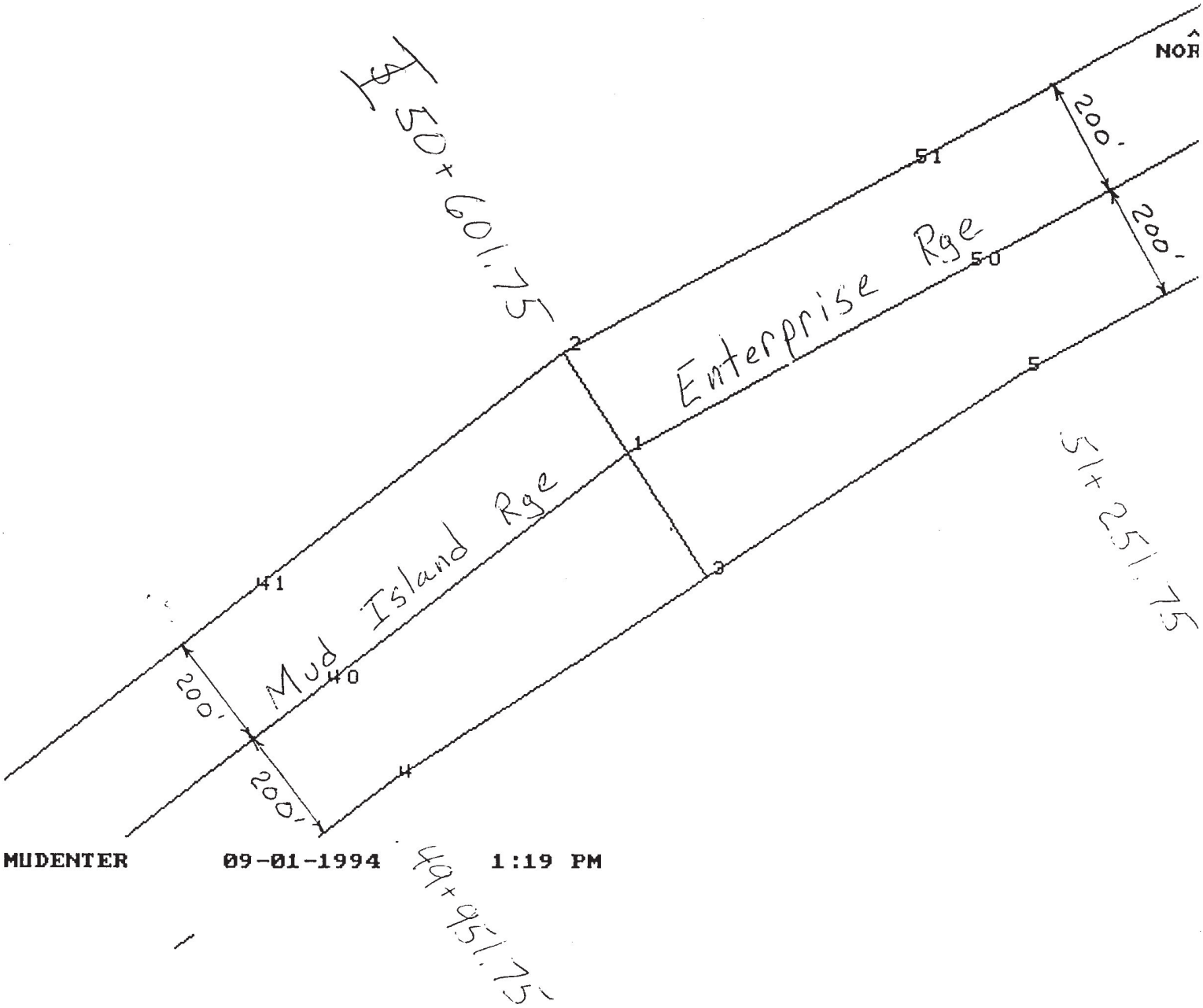
SURVEY 4-930609-4-0609 09-01-1994 1:19 PM
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\MUDENTER.DAT

Job: MUD ISLAND & ENTERPRISE RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 50+601.75		446001.68130	363390.08770	
2	West Edge Intersection		446169.98611	363280.95481	
3	East Edge Intersection		445792.40810	363525.78548	
4	East Edge Knuckle 49+951.75		445448.19023	362994.93249	
40	C.L. 49+951.75		445607.13038	362873.53221	
41	Break Point 49+951.75		445766.07053	362752.13193	
5	East Edge Knuckle 51+601.75		446136.62597	364056.63847	
50	C.L. 51+251.75		446312.30989	363961.06045	
51	Break Point 51+601.75		446487.99382	363865.48242	

File: MUDENTER.DAT
Session terminated at 1:20 PM on 09-01-1994


NOR
50+601.75
51
200'
200'
50
Enterprise Rge
2
5
1
51+251.75
Mud Island Rge
41
3
40
200'
200'
4
MUDENTER 09-01-1994 1:19 PM
49+951.75

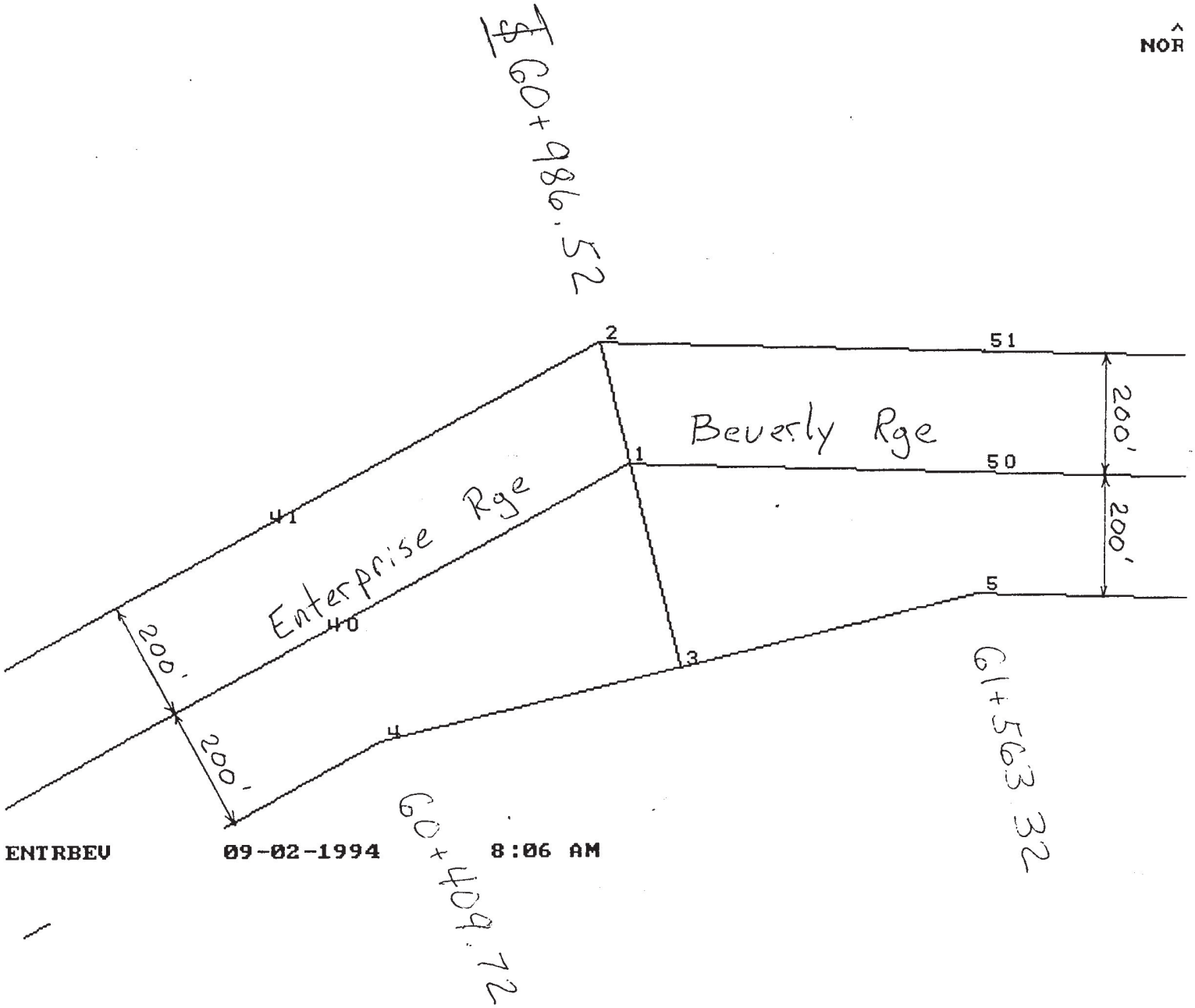
SURVEY 4-930609-4-0609 09-02-1994 8:06 AM Page 3
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\ENTRBEV.DAT

Job: ENTERPRISE & BEVERLY RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 60+986.52		450964.46410	372512.27630	
2	West Edge Intersection		451165.84187	372463.93339	
3	East Edge Intersection		450631.03599	372592.31932	
4	East Edge Knuckle 60+409.72		450513.13314	372101.18190	
40	C.L. 60+409.72		450688.81706	372005.60387	
41	Break Point 60+409.72		450864.50099	371910.02584	
5	East Edge Knuckle 61+563.32		450748.93884	373083.45675	
50	C.L. 61+563.32		450948.86570	373088.86535	
51	Break Point 61+563.32		451148.79255	373094.27395	

File: ENTRBEV.DAT
Session terminated at 8:07 AM on 09-02-1994


NOR
60+986.52
2
51
Beverly Rge
200'
1
50
200'
41
Enterprise Rge
5
40
200'
3
61+563.32
200'
4
60+409.72
ENTRBEV
09-02-1994
8:06 AM

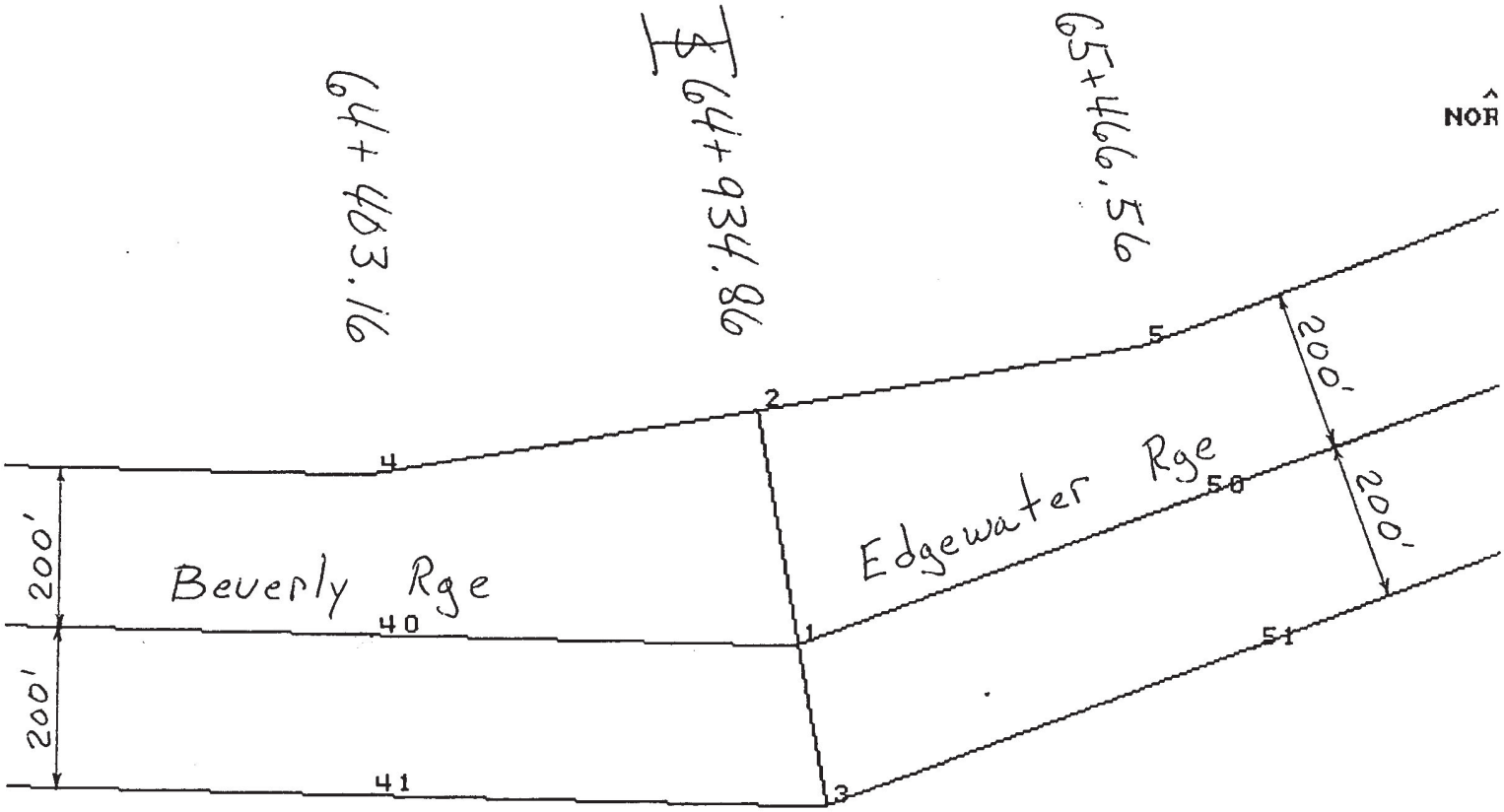
SURVEY 4-930609-4-0609 09-07-1994 1:00 PM Page 2
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\BEVREDGE.DAT

Job: BEVERLY & EDGEWATER INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 64+934.86		450857.69010	376459.17060	
2	West Edge Intersection		451150.18304	376411.35516	
3	East Edge Intersection		450656.71616	376492.02492	
4	West Edge Knuckle 64+403.16		451071.99572	375933.07366	
40	C.L. 64+403.16		450872.06886	375927.66506	
41	Break Point 64+403.16		450672.14201	375922.25646	
5	West Edge Knuckle 65+466.56		451228.37036	376889.63667	
50	C.L. 65+466.56		451040.57348	376958.42861	
51	Break Point 65+466.56		450852.77660	377027.22055	

File: BEVREDGE.DAT
Session terminated at 1:01 PM on 09-07-1994



BEVREDGE 09-07-1994 1:00 PM

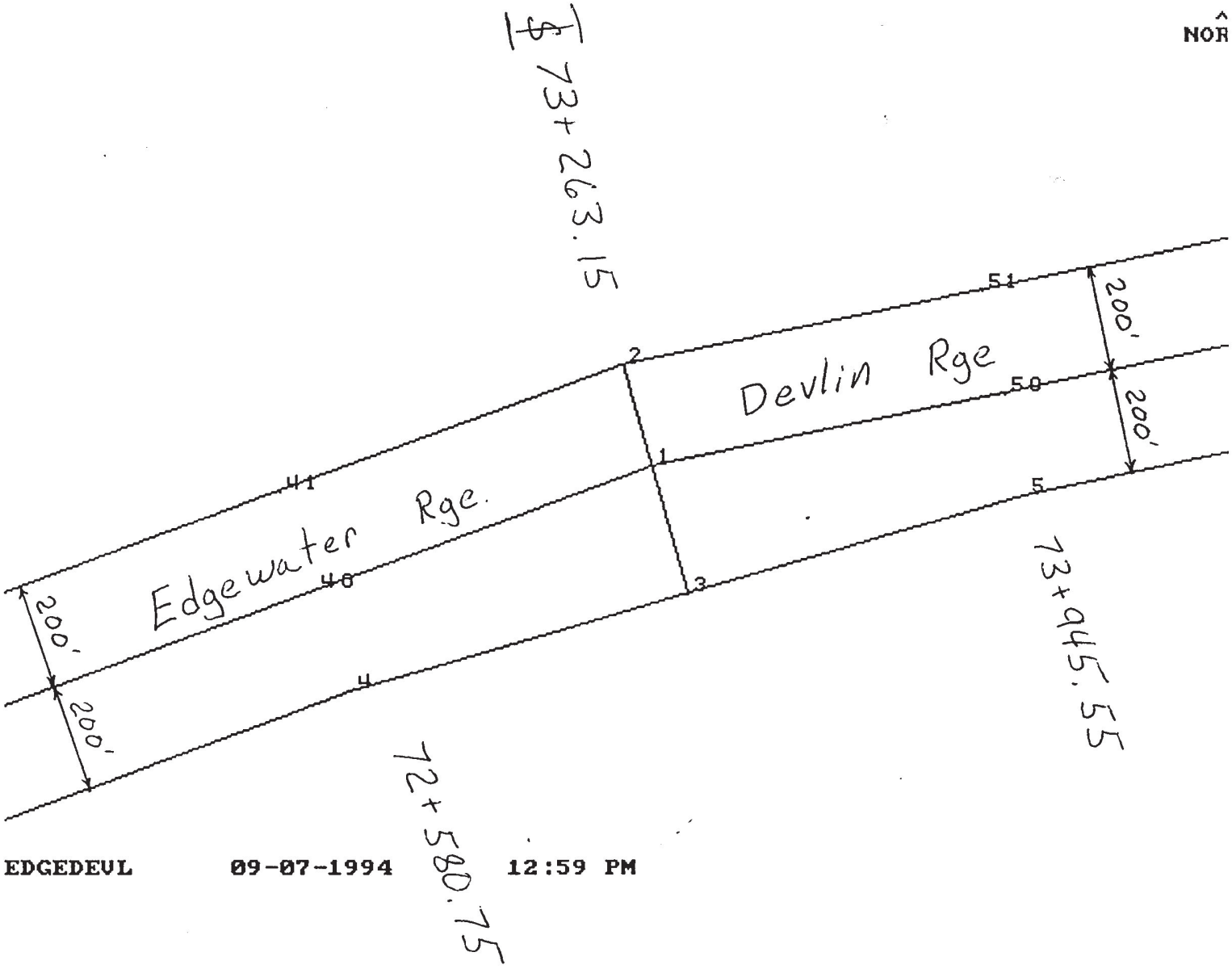
SURVEY 4-930609-4-0609 09-07-1994 12:59 PM Page 2
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\EDGEDEVL.DAT

Job: EDGEWATER & DEVLIN RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 73+263.15		453722.28620	384279.30350	
2	West Edge Intersection		453915.14213	384224.30755	
3	East Edge Intersection		453482.38645	384347.71475	
4	East Edge Knuckle 72+580.75		453299.77121	383707.33248	
40	CENTERLINE 72+580.75		453487.56809	383638.54054	
41	Break Point 72+580.75		453675.36498	383569.74860	
5	East Edge Knuckle 73+945.55		453665.00169	384988.09701	
50	C.L. 73+945.55		453860.83606	384947.49037	
51	Break Point 73+945.55		454056.67043	384906.88373	

File: EDGEDEVL.DAT
Session terminated at 12:59 PM on 09-07-1994



EDGEDEVL 09-07-1994 12:59 PM

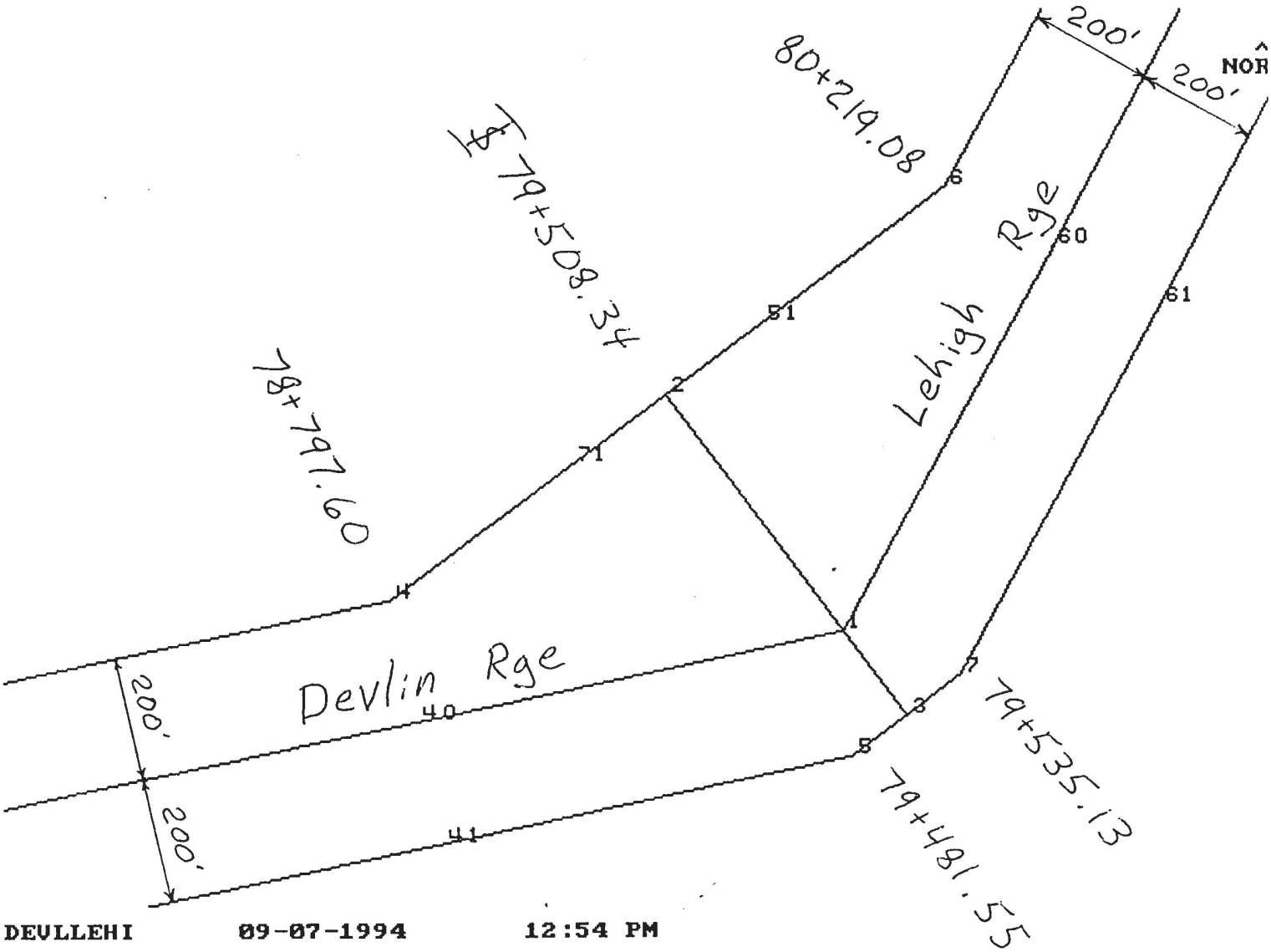
SURVEY 4-930609-4-0609 09-07-1994 12:57 PM Page 3
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\DEVLLEHI.DAT

Job: DEVLIN & LEHIGH RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 79+508.34		454990.26770	390394.41580	
2	West Edge Intersection		455375.79104	390108.98485	
3	East Edge Intersection		454853.38366	390495.76100	
4	West Edge Knuckle 78+797.60		455041.79764	389657.86962	
40	C.L. 78+797.60		454845.96327	389698.47626	
41	Break Point 78+797.60		454650.12890	389739.08290	
5	East Edge Knuckle 79+481.55		454788.99448	390408.79239	
50	C.L. 79+481.55		454984.82885	390368.18574	
51	Break Point 79+481.55		455490.12446	390263.41171	
6	West Edge Knuckle 80+219.08		455709.78443	390560.10009	
60	C.L. 80+219.08		455613.78898	390735.55628	
61	Break Point 80+219.08		455517.79353	390911.01246	
7	East Edge Knuckle 79+535.13		454917.77285	390582.72962	
70	C.L. 79+535.13		455013.76830	390407.27343	
71	Break Point 79+535.13		455261.45761	389954.55800	

File: DEVLLEHI.DAT
Session terminated at 12:58 PM on 09-07-1994


200'
200'
NOR
80+219.08
79+508.34
78+797.60
Lehigh Rge
Devlin Rge
79+535.13
79+481.55
200'
200'
6
60
61
51
2
71
4
1
7
3
5
40
41
DEVLLEHI 09-07-1994 12:54 PM

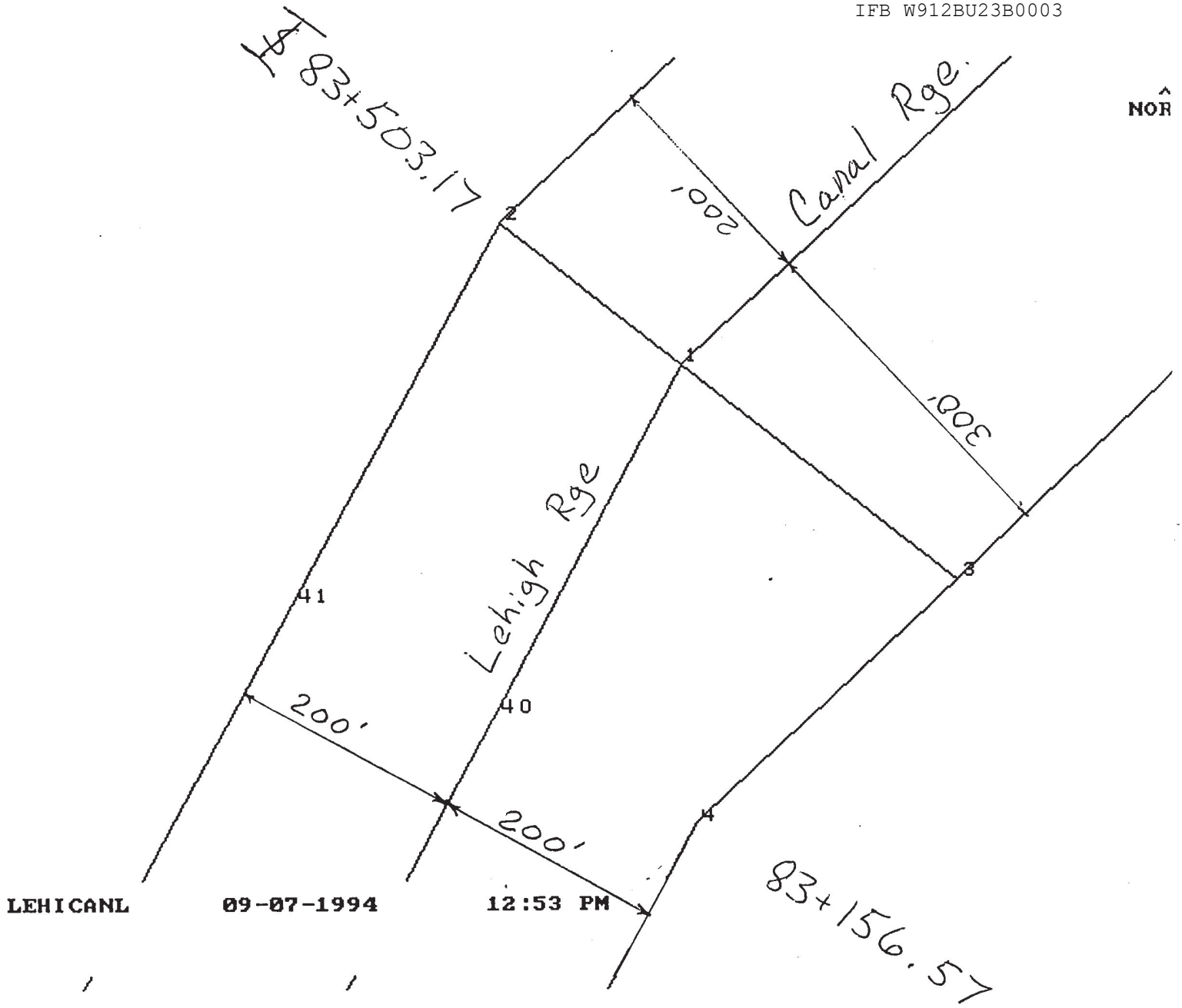
SURVEY 4-930609-4-0609 09-07-1994 12:53 PM Page 2
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\LEHICANL.DAT

Job: LEHIGH & CANAL INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 83+503.17		458494.85310	392311.84100	
2	West Edge Intersection		458619.54227	392152.08129	
3	East Edge Intersection		458307.82704	392551.47071	
4	East Edge Knuckle 83+156.57		458094.79208	392320.93707	
40	C.L. 83+156.57		458190.78753	392145.48088	
41	Break Point 83+156.57		458286.78298	391970.02470	

File: LEHICANL.DAT
Session terminated at 12:53 PM on 09-07-1994


83+503.17
Canal Rge.
NOR
200'
300'
Lehigh Rge
41
40
200'
200'
83+156.57
LEHICANL
09-07-1994
12:53 PM

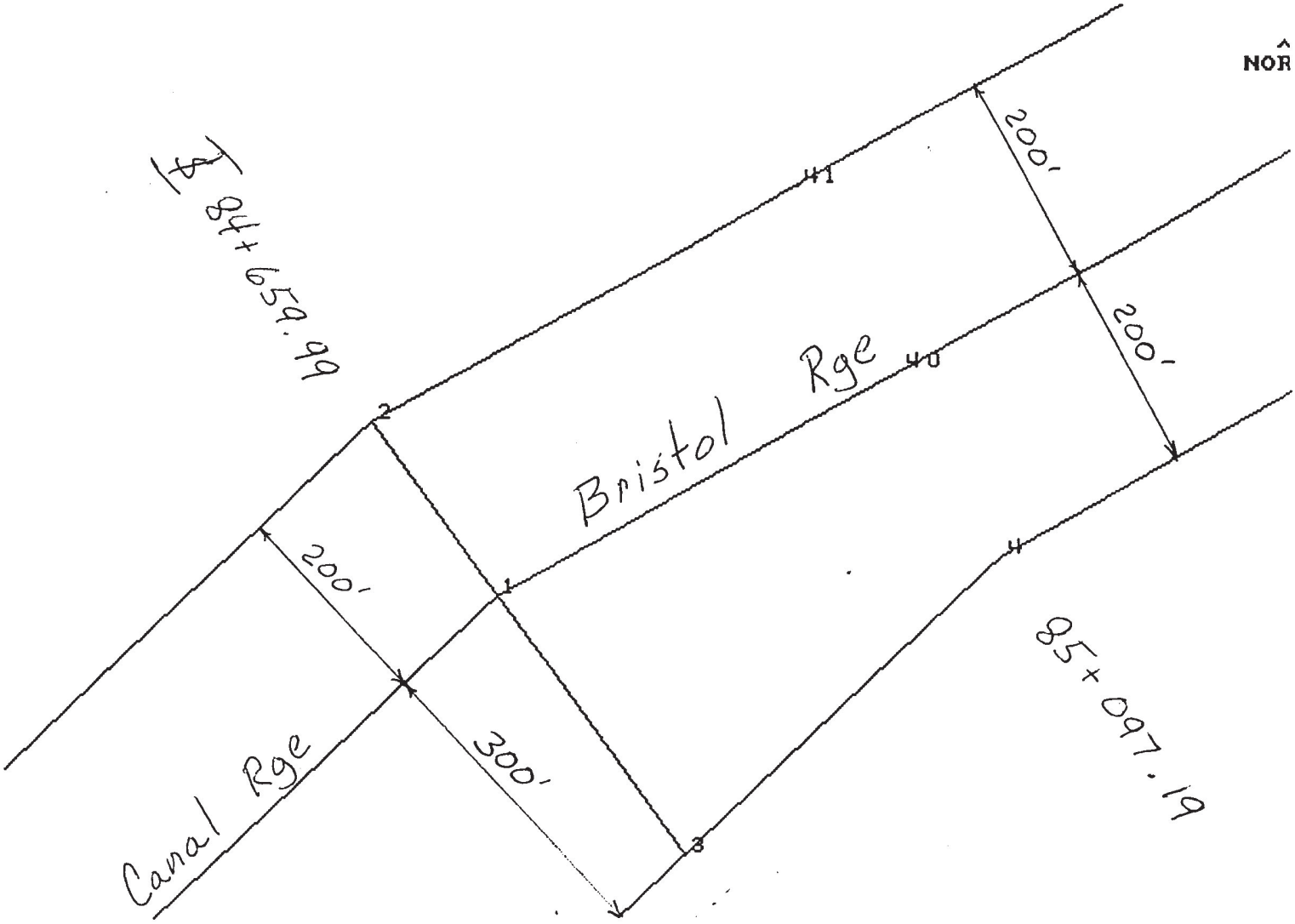
SURVEY 4-930609-4-0609 09-07-1994 12:52 PM Page 2
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\CANLBRIS.DAT

Job: CANAL & BRISTOL RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 84+659.99		459279.97540	393161.44020	
2	West Edge Intersection		459443.55001	393043.76759	
3	East Edge Intersection		459034.63504	393337.93361	
4	East Edge Knuckle 85+097.19		459314.66564	393640.96124	
40	C.L. 85+097.19		459490.06166	393544.85590	
41	Break Point 85+097.19		459665.45768	393448.75057	

File: CANLBRIS.DAT
Session terminated at 12:52 PM on 09-07-1994



CANLBRIS 09-07-1994 12:52 PM

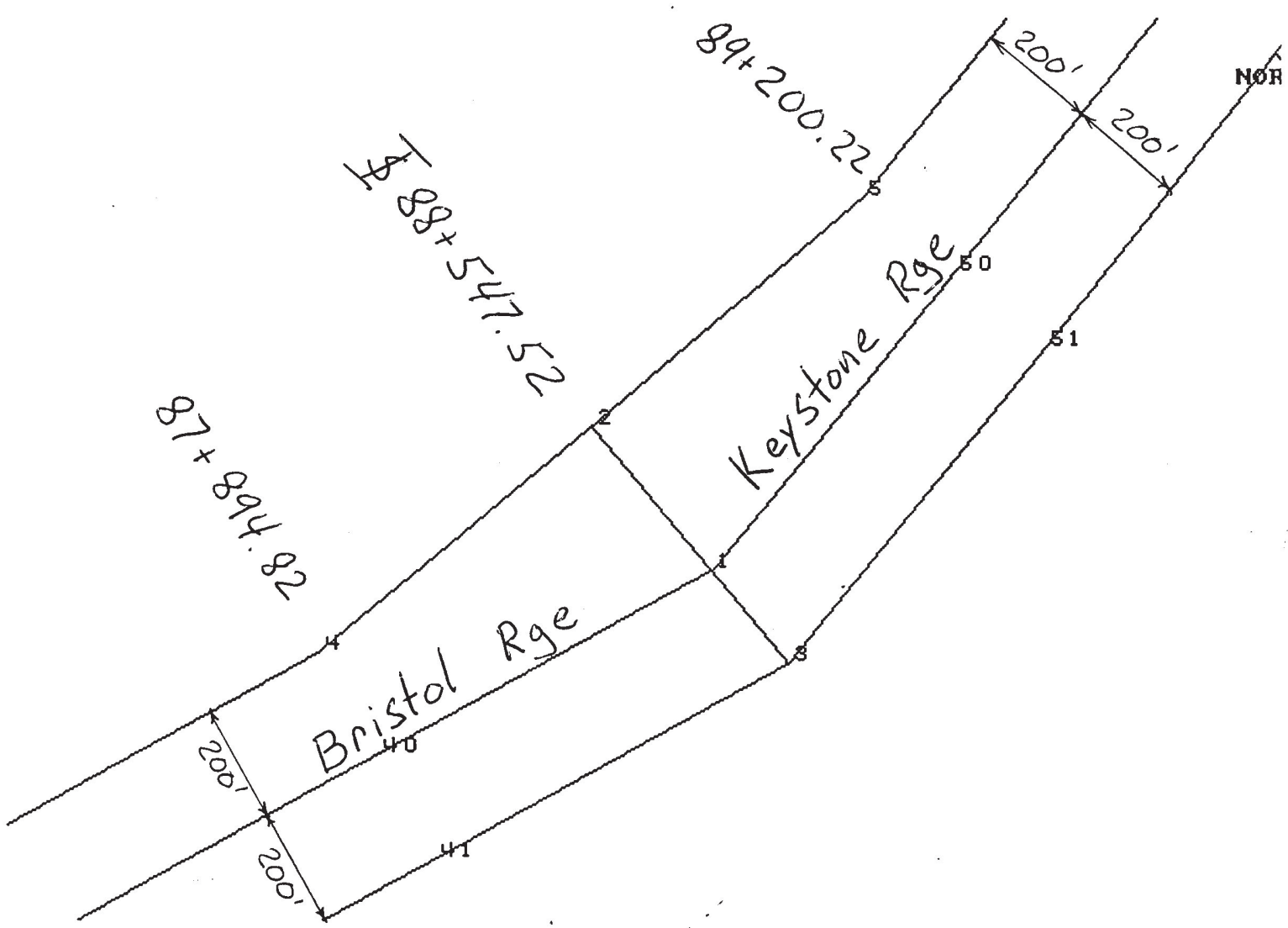
SURVEY 4-930609-4-0609 09-07-1994 12:51 PM Page 2
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\BRISTKEY.DAT

Job: BRISTOL & KEYSTONE RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 88+547.52		461148.03820	396570.72780	
2	West Edge Intersection		461395.07125	396365.12098	
3	East Edge Intersection		460991.41842	396701.08321	
4	West Edge Knuckle 87+894.82		461009.79446	395902.21755	
40	C.L. 87+894.82		460834.39844	395998.32288	
41	Break Point 87+894.82		460659.00242	396094.42822	
5	West Edge Knuckle 89+200.22		461780.34805	396828.02442	
50	C.L. 89+200.22		461654.00103	396983.06129	
51	Break Point 89+200.22		461527.65401	397138.09816	

File: BRISTKEY.DAT
Session terminated at 12:51 PM on 09-07-1994



BRISTKEY 09-07-1994 12:50 PM

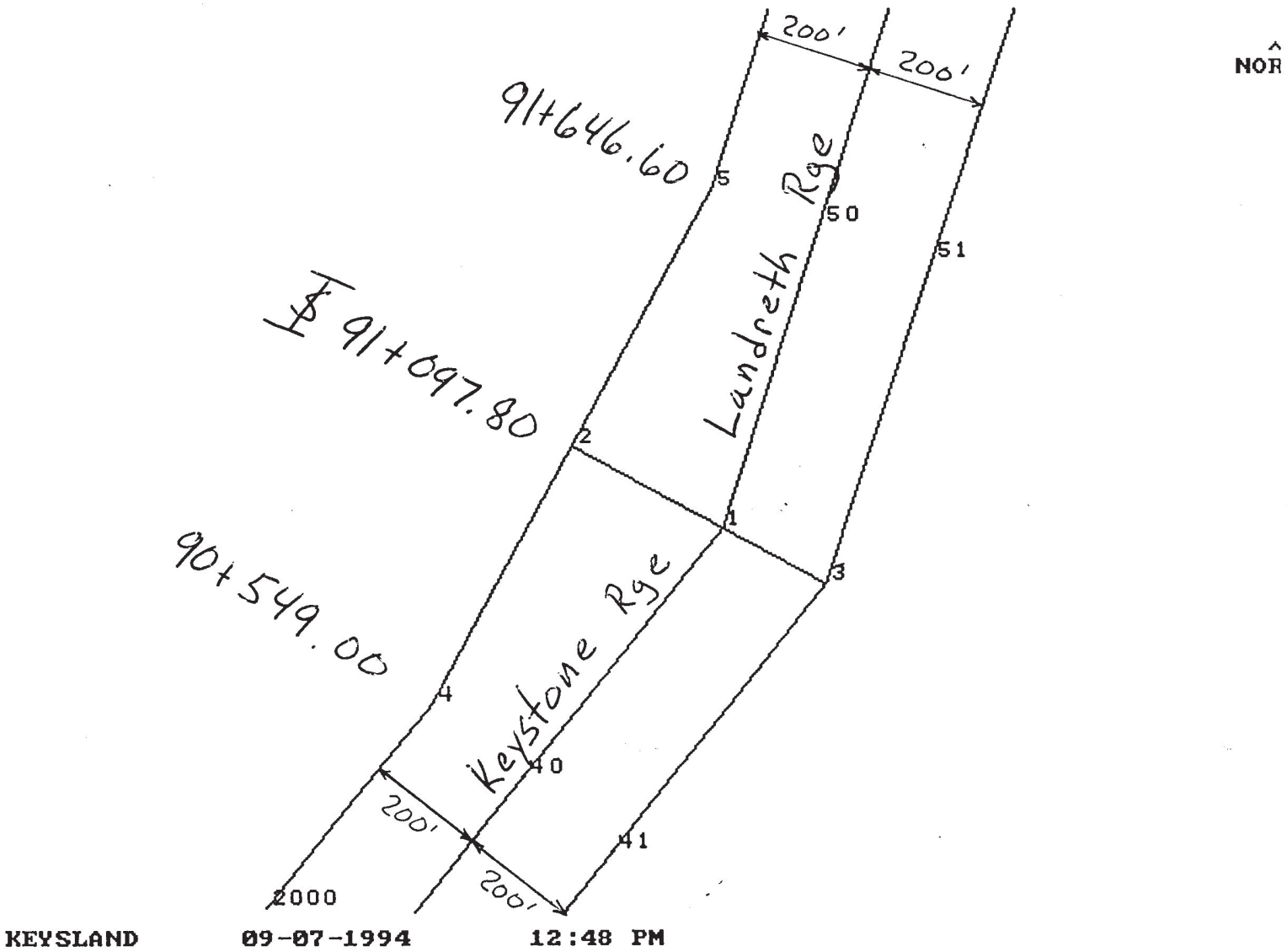
SURVEY 4-930609-4-0609 09-07-1994 12:48 PM Page 2
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\KEYSLAND.DAT

Job: KEYSTONE & LANDRETH INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 91+097.80		463124.97920	398181.83270	
2	West Edge Intersection		463267.34704	397921.64521	
3	East Edge Intersection		463027.34865	398360.25958	
4	West Edge Knuckle 90+549.00		462825.90504	397680.09962	
40	C.L. 90+549.00		462699.55802	397835.13649	
41	Break Point 90+549.00		462573.21101	397990.17336	
5	West Edge Knuckle 91+646.60		463708.78903	398163.19080	
50	C.L. 91+646.60		463646.34056	398353.19130	
51	Break Point 91+646.60		463583.89209	398543.19180	

File: KEYSLAND.DAT
Session terminated at 12:50 PM on 09-07-1994


200'
200'
NOR
91+646.60
5
50
51
Landreth Rge
℄ 91+097.80
2
1
3
90+549.00
4
Keystone Rge
40
41
200'
200'
2000
KEYSLAND
09-07-1994
12:48 PM

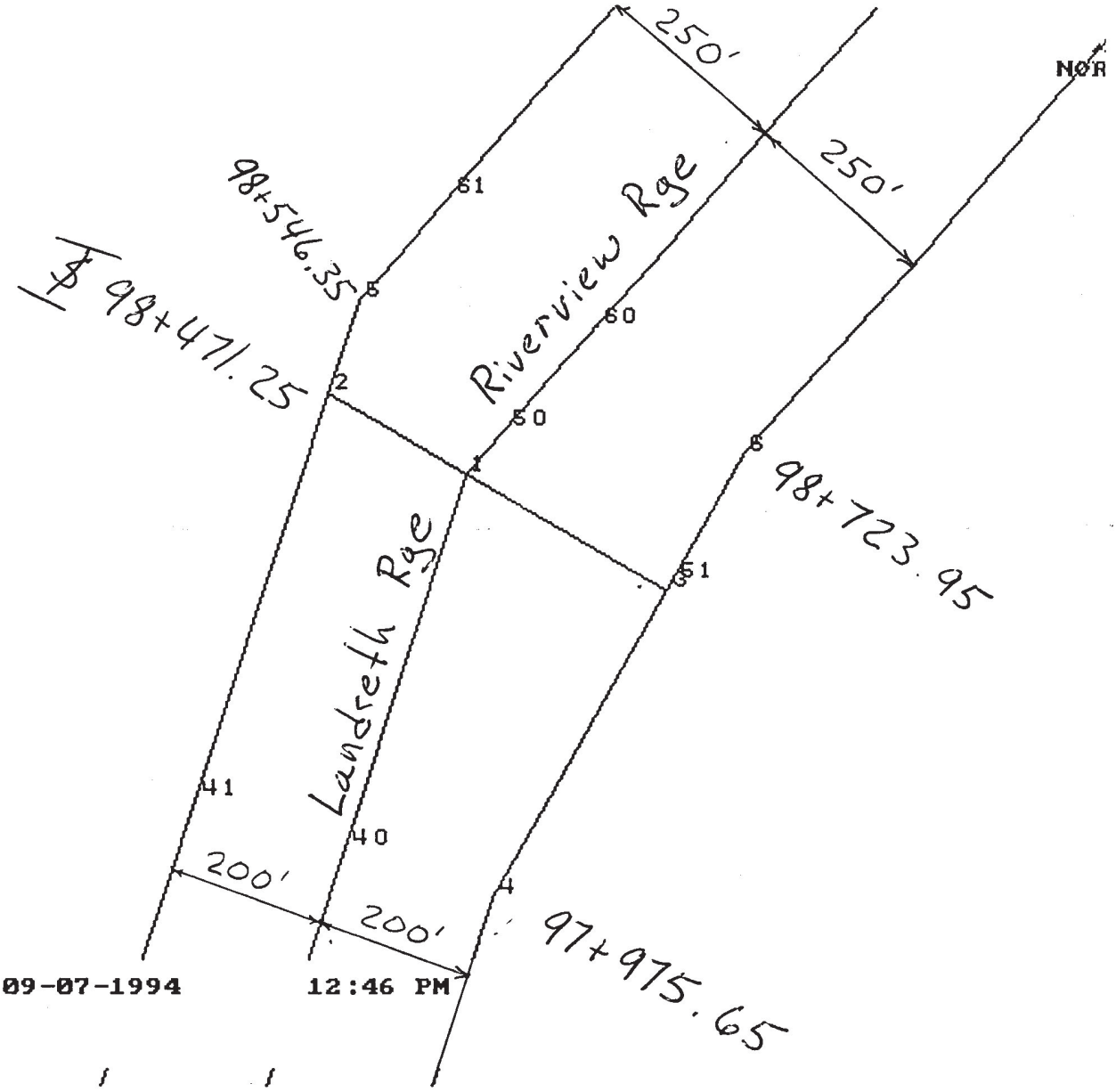
SURVEY 4-930609-4-0609 09-07-1994 12:46 PM Page 2
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\LANDRIVR.DAT

Job: LANDRETH & RIVERVIEW INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 98+471.25		470129.76730	400484.13190	
2	West Edge Intersection		470231.32985	400306.96423	
3	East Edge Intersection		469982.65379	400740.75955	
4	East Edge Knuckle 97+975.65		469596.49760	400519.38509	
40	C.L. 97+975.65		469658.94607	400329.38459	
41	Break Point 97+975.65		469721.39454	400139.38410	
5	West Edge Knuckle 98+546.35		470351.55637	400346.47429	
50	C.L. 98+546.35		470186.05456	400533.84865	
51	Break Point 98+546.35		469996.35765	400748.61568	
6	East Edge Knuckle 98+723.95		470153.66348	400838.79549	
60	C.L. 98+723.95		470319.16530	400651.42114	
61	Break Point 98+723.95		470484.66711	400464.04678	

File: LANDRIVR.DAT
Session terminated at 12:47 PM on 09-07-1994



LANDRIVR 09-07-1994 12:46 PM

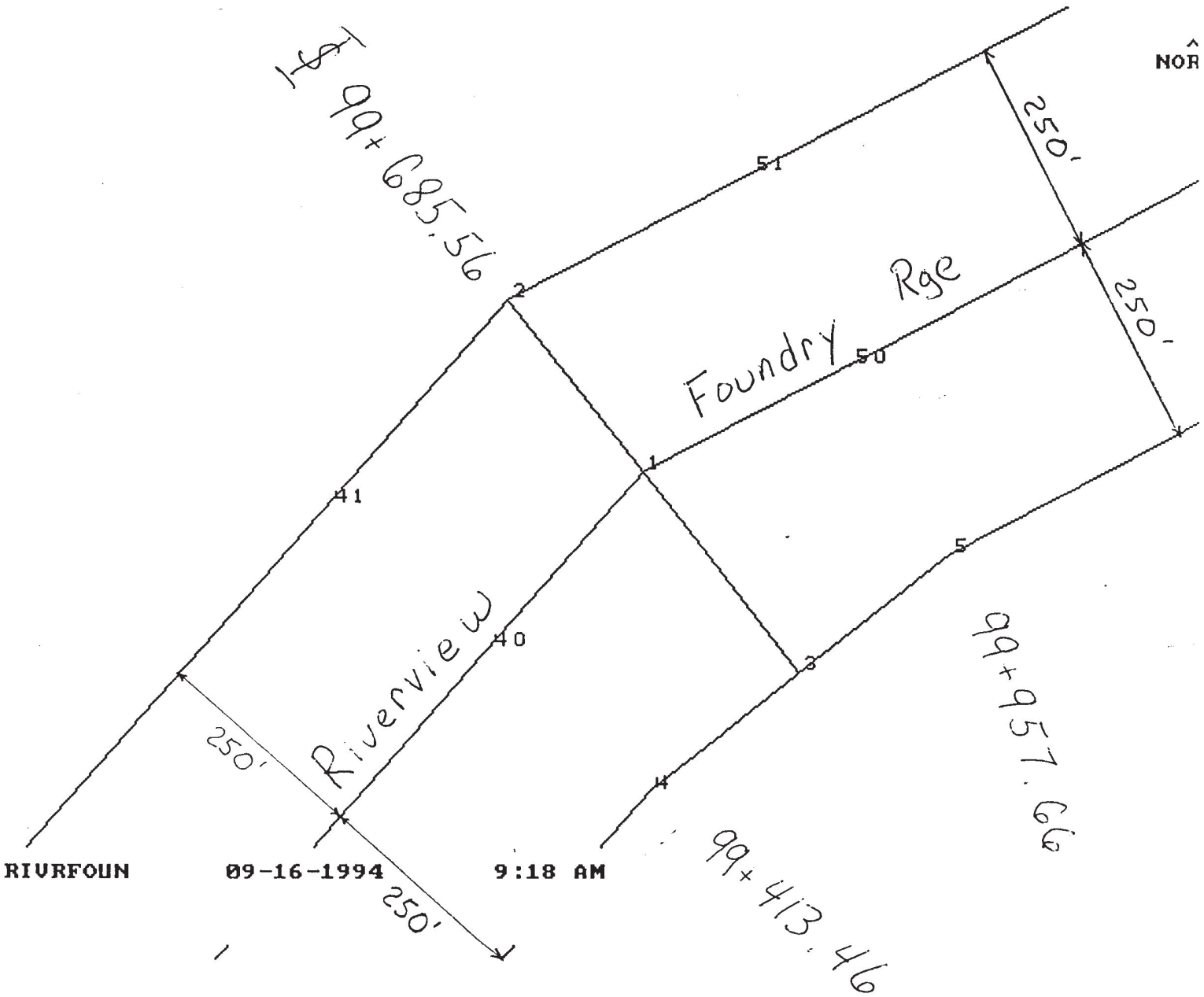
SURVEY 4-930609-4-0609 09-16-1994 9:19 AM Page 2
Reg. to: U.S. Army Corps of Engineers
File Name: B:\PHL2TREN\RIVRFOUN.DAT

Job: RIVERVIEW & FOUNDRY INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 99+685.56		471039.89090	401288.01490	
2	West Edge Intersection		471240.36687	401131.52462	
3	East Edge Intersection		470806.81623	401469.95153	
4	East Edge Knuckle 99+413.46		470670.45084	401295.25708	
40	C.L. 99+413.46		470835.95265	401107.88272	
41	Break Point 99+413.46		471001.45447	400920.50837	
5	East Edge Knuckle 99+957.66		470943.18162	401644.64598	
50	C.L. 99+957.66		471165.12766	401529.58097	
51	Break Point 99+957.66		471387.07369	401414.51596	

File: RIVRFOUN.DAT
Session terminated at 9:19 AM on 09-16-1994


NOR
99+685.56
51
250'
250'
Foundry Rge
2
50
1
41
5
Riverview
40
3
99+957.66
250'
4
99+413.46
250'
RIVRFOUN
09-16-1994
9:18 AM

SURVEY 4-930609-4-0609
Reg. to: U.S. Army Corps of Engineers
File Name: B:\PHL2TREN\FOUNCHUR.DAT

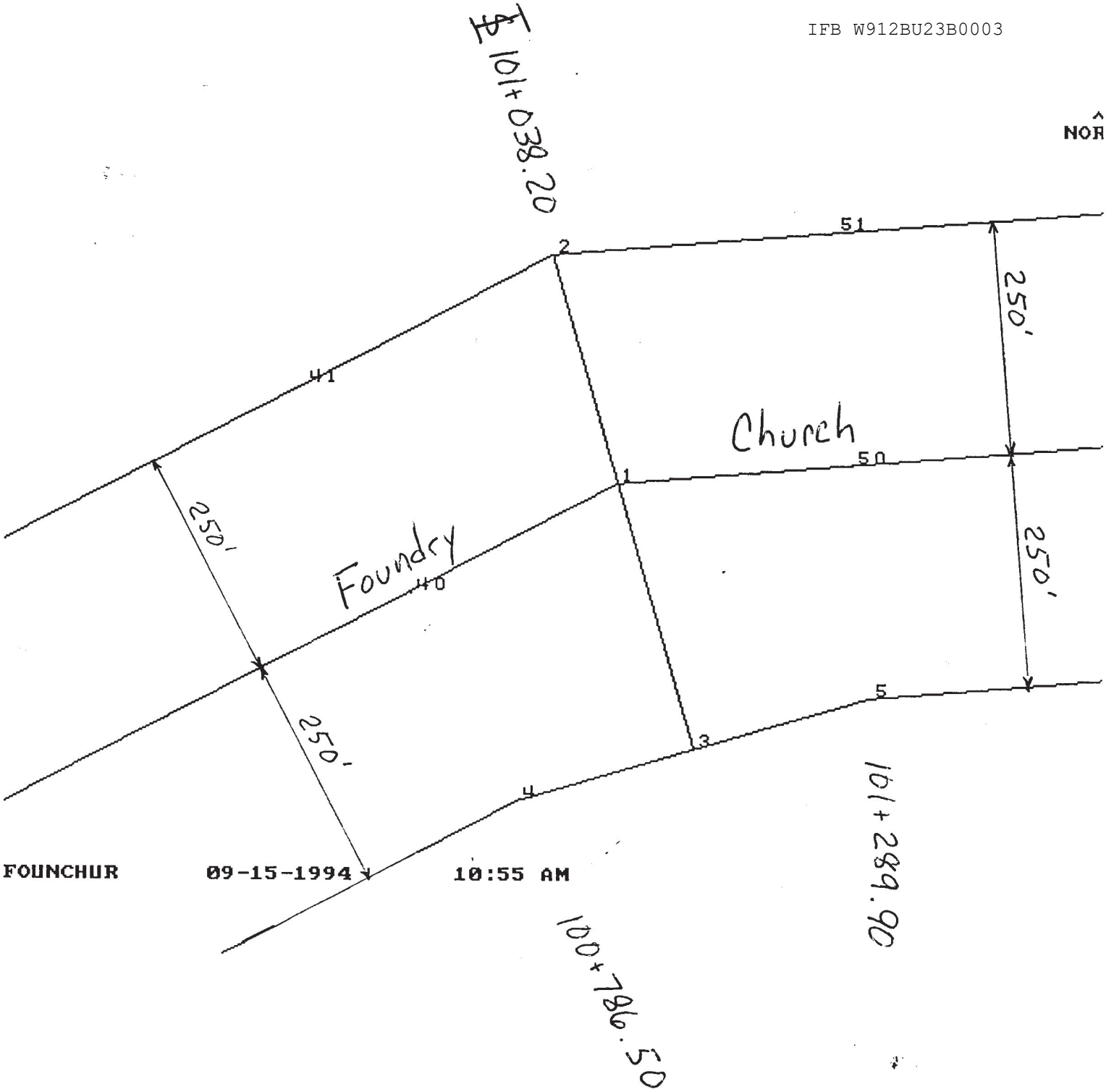
09-15-1994 10:55 AM Page 2

Job: FOUNDRY & CHURCH RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 101+038.20		471662.46050	402488.87380	
2	West Edge Intersection		471907.69020	402418.69503	
3	East Edge Intersection		471378.90766	402570.01973	
4	East Edge Knuckle 100+786.50		471324.66701	402380.48354	
40	C.L. 100+786.50		471546.61305	402265.41853	
41	Break Point 100+786.50		471768.55908	402150.35352	
5	East Edge Knuckle 101+289.90		471433.14830	402759.55591	
50	C.L. 101+289.90		471682.36534	402739.78551	
51	Break Point 101+289.90		471931.58237	402720.01511	

File: FOUNCHUR.DAT
Session terminated at 10:56 AM on 09-15-1994


101+038.20
NOR
51
2
250'
Church
50
1
250'
41
250'
Foundry
40
5
3
250'
4
101+289.90
100+786.50
FOUNCHUR
09-15-1994
10:55 AM

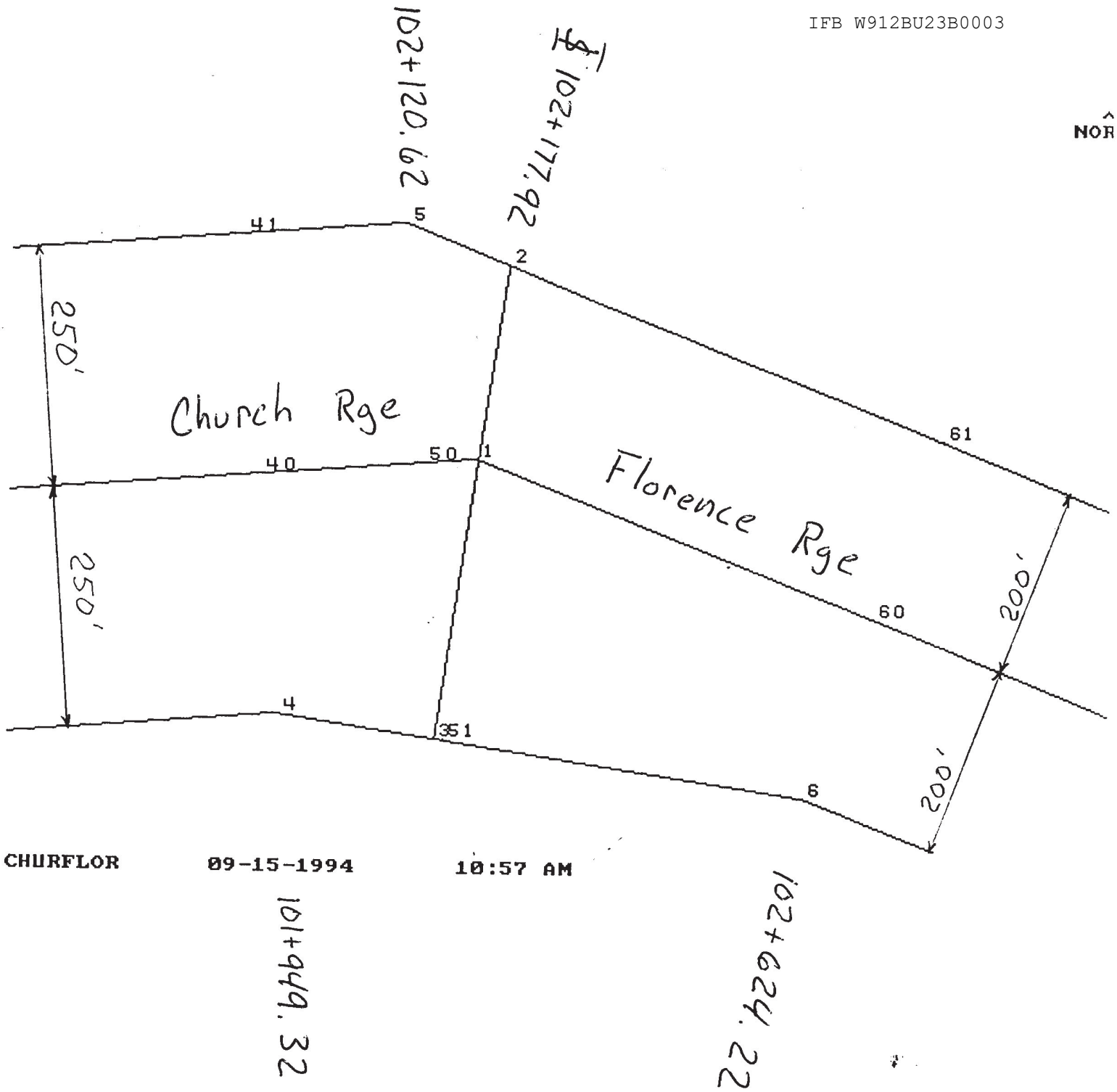
SURVEY 4-930609-4-0609 09-15-1994 10:57 AM Page 2
Reg. to: U.S. Army Corps of Engineers
File Name: B:\PHL2TREN\CHURFLOR.DAT

Job: CHURCH & FLORENCE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 102+177.92		471752.59110	403625.01730	
2	West Edge Intersection		471955.56551	403655.00383	
3	East Edge Intersection		471460.95624	403581.93247	
4	East Edge Knuckle 101+949.32		471485.29601	403416.90364	
40	C.L. 101+949.32		471734.51305	403397.13324	
41	Break Point 101+949.32		471983.73008	403377.36284	
5	West Edge Knuckle 102+120.62		471997.27676	403548.12636	
50	C.L. 102+120.62		471748.05972	403567.89676	
51	Break Point 102+120.62		471459.65189	403590.77616	
6	East Edge Knuckle 102+624.22		471404.00808	403968.05311	
60	C.L. 102+624.22		471590.31968	404040.77165	
61	Break Point 102+624.22		471776.63129	404113.49018	

File: CHURFLOR.DAT
Session terminated at 10:58 AM on 09-15-1994


102+120.62
102+177.92
NOR
41
5
2
250'
Church Rge
61
40
50
1
Florence Rge
250'
60
200'
4
3
51
6
200'
CHURFLOR
09-15-1994
10:57 AM
101+949.32
102+624.22

SURVEY 4-930609-4-0609
Reg. to: U.S. Army Corps of Engineers
File Name: B:\PHL2TREN\FLORROEB.DAT

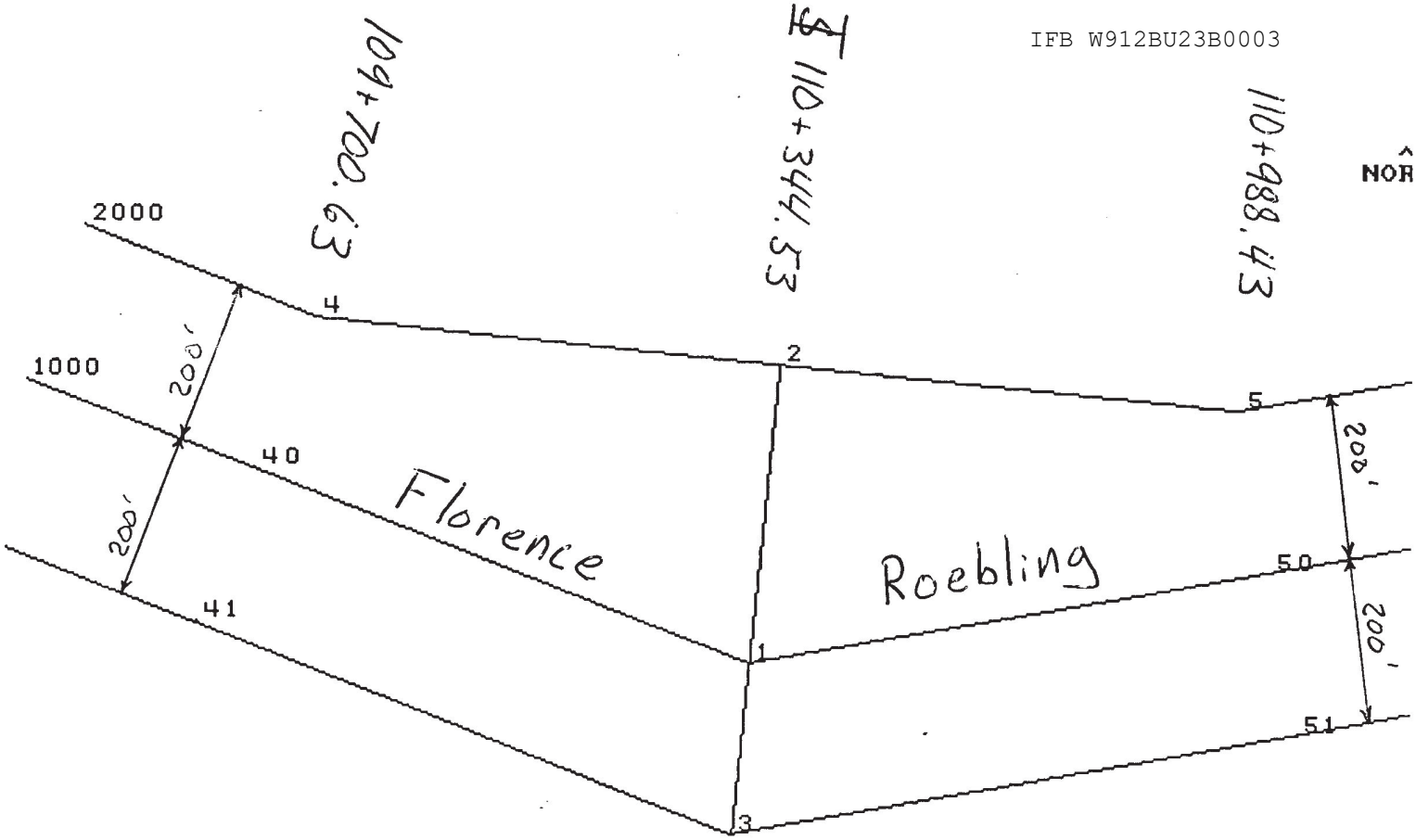
09-15-1994 11:01 AM Page 2

Job: FLORENCE & ROEBLING RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 110+344.53		468783.27100	411232.69190	
2	West Edge Intersection		469148.71481	411268.39457	
3	East Edge Intersection		468576.44344	411212.48552	
4	West Edge Knuckle 109+700.63		469203.69994	410705.58022	
40	C.L. 109+700.63		469017.38833	410632.86169	
41	Break Point 109+700.63		468831.07673	410560.14315	
5	West Edge Knuckle 110+988.43		469093.72969	411831.20891	
50	C.L. 110+988.43		468896.86663	411866.49253	
51	Break Point 110+988.43		468700.00356	411901.77616	

File: FLORROEB.DAT
Session terminated at 11:01 AM on 09-15-1994



FLORROEB 09-15-1994 11:00 AM

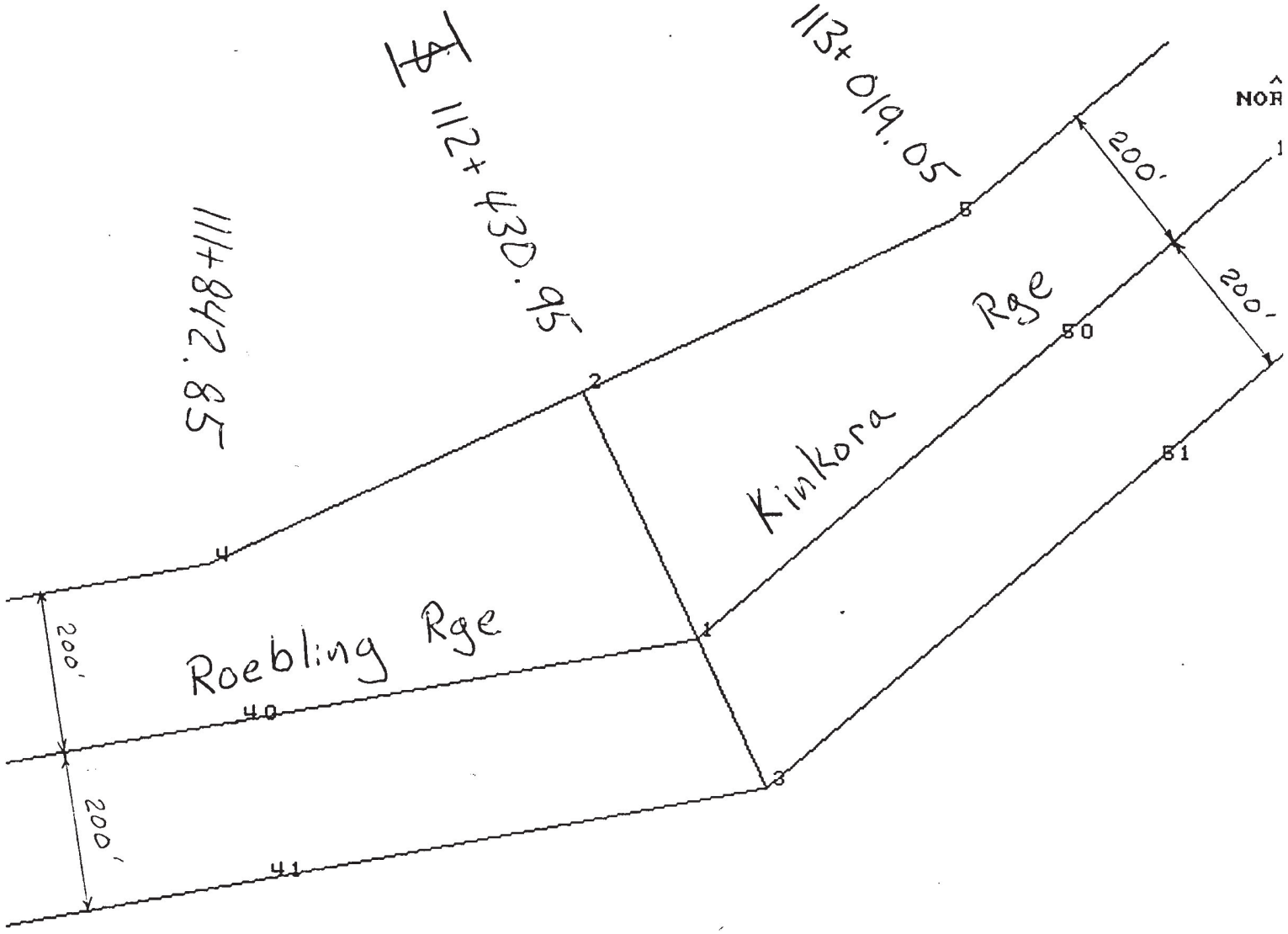
SURVEY 4-930609-4-0609 09-15-1994 2:46 PM Page 2
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\ROEBKINK.DAT

Job: ROEBLING & KINKORA INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 112+430.95		469151.35300	413286.38290	
2	West Edge Intersection		469462.58139	413141.82644	
3	East Edge Intersection		468963.77786	413373.50605	
4	West Edge Knuckle 111+842.85		469244.46457	412672.22344	
40	C.L. 111+842.85		469047.60150	412707.50706	
41	Break Point 111+842.85		468850.73844	412742.79068	
5	West Edge Knuckle 113+019.05		469680.69821	413611.42945	
50	C.L. 113+019.05		469526.74202	413739.09108	
51	Break Point 113+019.05		469372.78583	413866.75271	

File: ROEBKINK.DAT
Session terminated at 2:47 PM on 09-15-1994



ROEBKINK 09-15-1994 2:46 PM

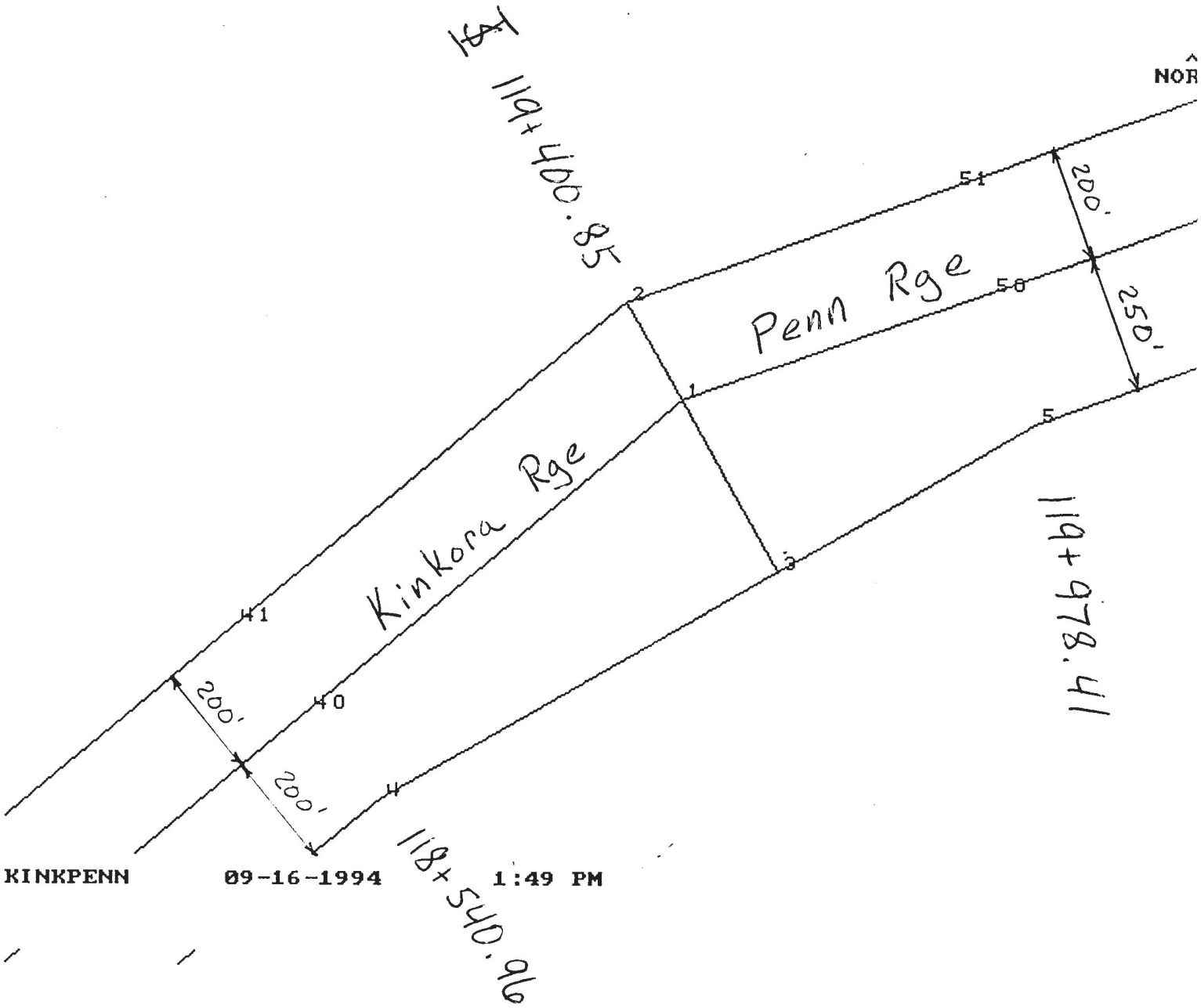
SURVEY 4-930609-4-0609
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\KINKPENN.DAT

Job: KINKORA & PENN INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 119+400.85		473600.29940	418651.68470	
2	West Edge Intersection		473776.85950	418551.29446	
3	East Edge Intersection		473298.74111	418823.14762	
4	East Edge Knuckle 118+540.96		472897.46842	418117.41939	
40	C.L. 118+540.96		473051.42461	417989.75776	
41	Break Point 118+540.96		473205.38080	417862.09613	
5	East Edge Knuckle 119+978.41		473558.29220	419279.62654	
50	C.L. 119+978.41		473793.83810	419195.85225	
51	Break Point 119+978.41		473982.27482	419128.83283	

File: KINKPENN.DAT
Session terminated at 1:50 PM on 09-16-1994


NOR
119+400.85
51
200'
Penn Rge
50
250'
2
1
5
Kinkora Rge
3
119+978.41
41
200'
40
200'
4
118+540.96
KINKPENN 09-16-1994 1:49 PM

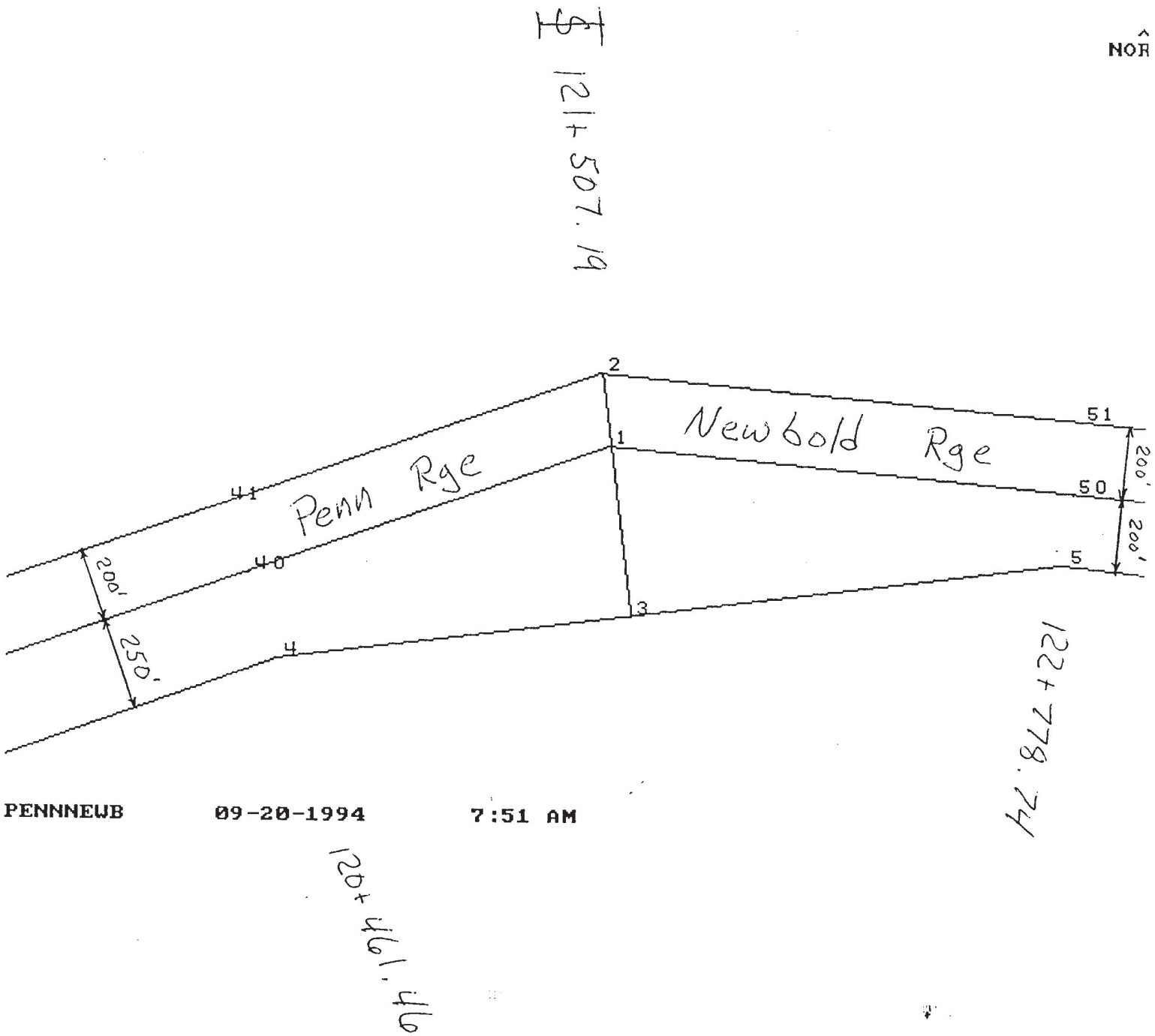
SURVEY 4-930609-4-0609 09-20-1994 7:52 AM Page 1
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\PENNNEWB.DAT

Job: PENN & NEWBOLD INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 121+507.19		474306.12840	420636.24450	
2	West Edge Intersection		474509.41564	420610.94465	
3	East Edge Intersection		473839.58313	420694.30778	
4	East Edge Knuckle 120+461.46		473720.16138	419734.74914	
40	C.L. 120+461.46		473955.70728	419650.97486	
41	Break Point 120+461.46		474144.14400	419583.95543	
5	East Edge Knuckle 122+778.74		473987.56964	421883.38512	
50	C.L. 122+778.74		474186.68530	421902.17212	
51	Break Point 122+778.74		474385.80097	421920.95913	

File: PENNNEWB.DAT
Session terminated at 7:53 AM on 09-20-1994



PENNNEWB 09-20-1994 7:51 AM

SURVEY 4-930609-4-0609 09-26-1994 11:25 AM Page 1
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\NEWBLAKE.DAT

Job: (40') NEWBOLD & (25') BLAKE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 124+676.76		474008.39470	423791.79980	
2	West Edge Intersection (40')		474211.01413	423773.45190	
3	East Edge Intersection (40')		473805.77527	423810.14770	
22	West Edge Intersection (25')		474204.95788	423774.00031	
33	East Edge Intersection (25')		473856.43012	423805.56073	
List					
5	East Edge Knuckle 124+907.59		473830.37928	424081.78773	
50	C.L. 124+907.59		474071.00671	424013.97591	
51	Break Point 124+907.59		474222.85761	423971.18243	
4	West Edge Knuckle 124+949.28		474226.69146	424013.41585	
40	C.L. 124+949.28		474082.31501	424054.10294	
41	Break Point 124+949.28		473841.68758	424121.91476	

File: NEWBLAKE.DAT
Session terminated at 11:28 AM on 09-26-1994


124+676.76
124+949.28
NOF
150'
200'
Newbold (40')
Blake (25')
250'
200'
124+907.59
NEWBLAKE 09-26-1994 10:45 AM

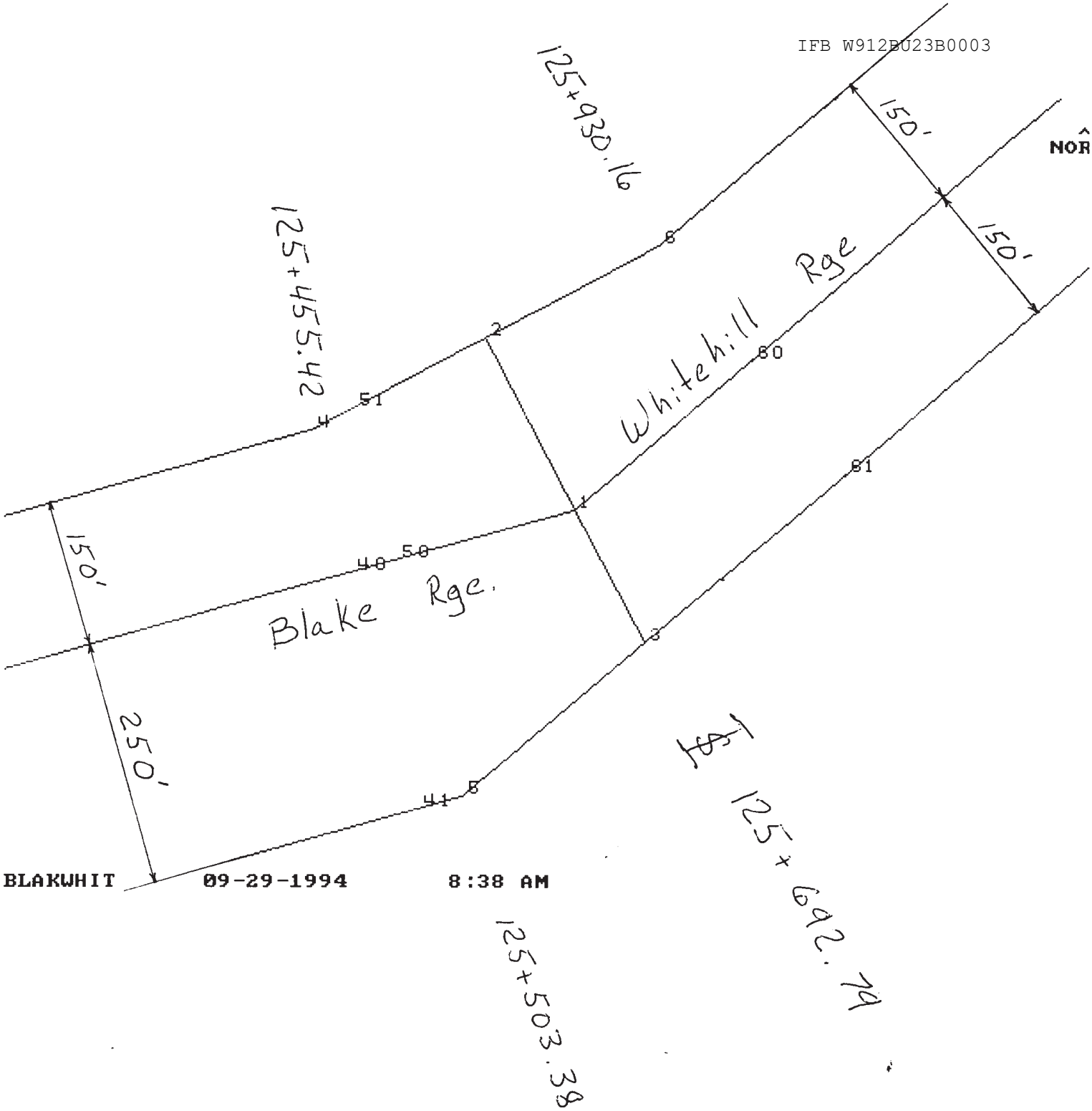
SURVEY 4-930609-4-0609 09-29-1994 8:56 AM Page 5
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\BLAKWHIT.DAT

Job: BLAKE & WHITEHILL INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 125+692.79		474283.98930	424769.73600	
2	West Edge Intersection		474457.74000	424677.82557	
3	East Edge Intersection		474148.36090	424841.48054	
4	West Edge Knuckle 125+455.42		474363.97979	424500.57798	
40	C.L. 125+455.42		474219.60334	424541.26507	
41	Break Point 125+455.42		473978.97591	424609.07689	
5	East Edge Knuckle 125+503.38		473991.98493	424655.23885	
50	C.L. 125+503.38		474232.61236	424587.42704	
51	Break Point 125+503.38		474386.91828	424543.94170	
6	West Edge Knuckle 125+930.16		474551.50021	424855.07316	
60	C.L. 125+930.16		474436.62262	424951.52595	
61	Break Point 125+930.16		474321.74504	425047.97874	

File: BLAKWHIT.DAT
Session terminated at 8:57 AM on 09-29-1994


125+930.16
150'
150'
NOR
125+455.42
8
2
Whitehill Rge
60
51
4
61
1
150'
48 50
Blake Rge.
3
250'
41 5
125+692.79
125+503.39
BLAKWHIT 09-29-1994 8:38 AM

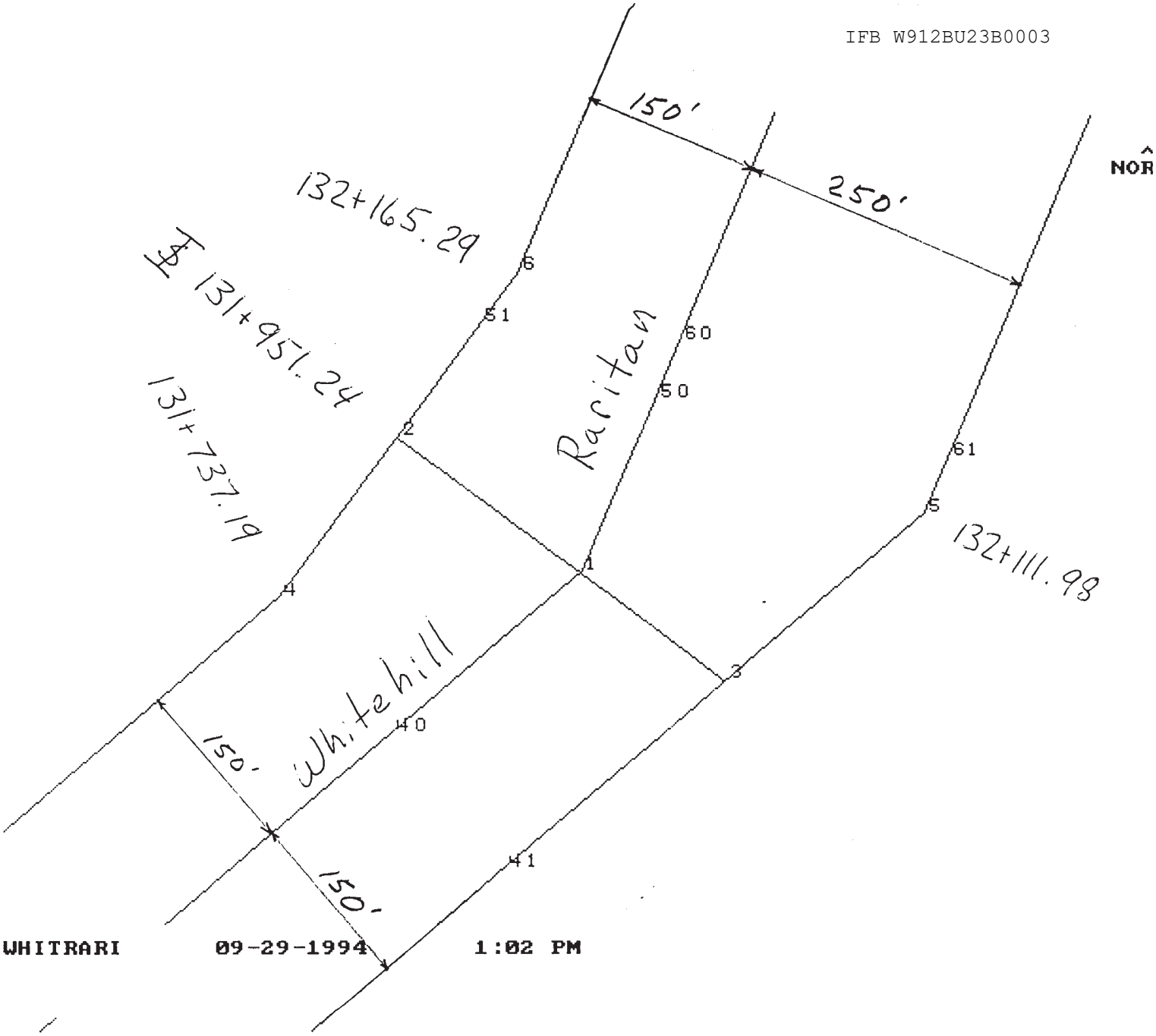
SURVEY 4-930609-4-0609 09-29-1994 1:19 PM Page 5
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\WHITRARI.DAT

Job: WHITEHILL & RARITAN INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 131+951.24		478308.29000	429562.77380	
2	West Edge Intersection		478424.74705	429405.43508	
3	East Edge Intersection		478216.52412	429686.75364	
4	West Edge Knuckle 131+737.19		478285.52946	429302.39070	
40	C.L. 131+737.19		478170.65187	429398.84348	
41	Break Point 131+737.19		478055.77429	429495.29627	
5	East Edge Knuckle 132+111.98		478358.40257	429855.73468	
50	C.L. 132+111.98		478456.21621	429625.66406	
51	Break Point 132+111.98		478519.90230	429475.86593	
6	West Edge Knuckle 132+165.29		478563.96465	429508.47946	
60	C.L. 132+165.29		478505.27647	429646.52184	
61	Break Point 132+165.29		478407.46283	429876.59246	

File: WHITRARI.DAT
Session terminated at 1:20 PM on 09-29-1994


150'
250'
NOR
132+165.29
131+951.24
131+737.19
6
51
60
50
2
Raritan
61
5
132+111.98
1
4
3
Whitehill
40
150'
41
150'
WHITRARI 09-29-1994 1:02 PM

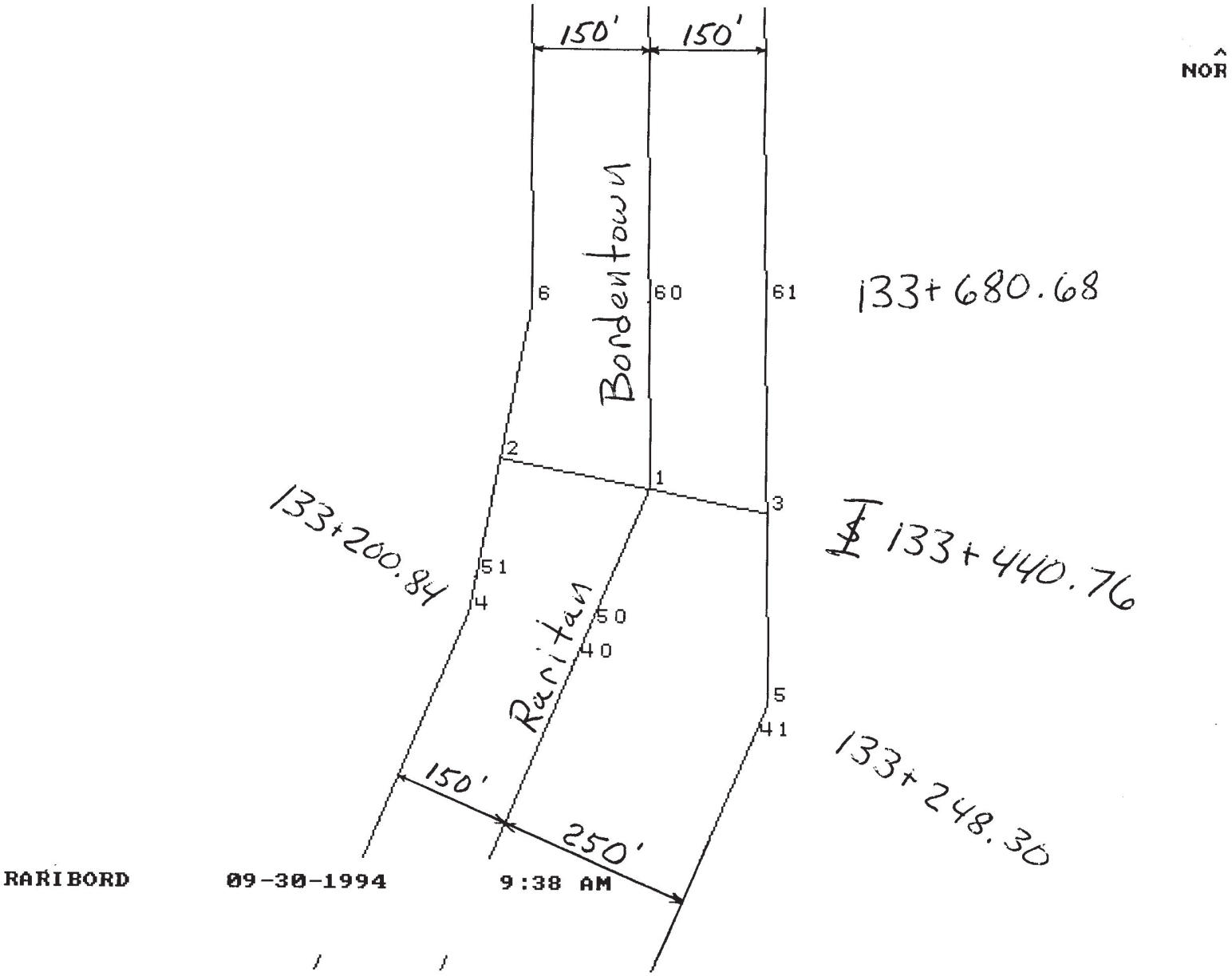
SURVEY 4-930609-4-0609 09-30-1994 9:40 AM Page 4
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\RARIBORD.DAT

Job: RARITAN & BORDENTOWN INTERSECTION
Philadelpia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 133+440.76		479679.07110	430145.55630	
2	West Edge Intersection		479716.66397	429952.53823	
3	East Edge Intersection		479649.75401	430296.08294	
4	West Edge Knuckle 133+200.84		479516.96510	429913.64413	
40	C.L. 133+200.84		479458.27692	430051.68651	
41	Break Point 133+200.84		479360.46329	430281.75714	
5	East Edge Knuckle 133+248.30		479404.13989	430300.32608	
50	C.L. 133+248.30		479501.95353	430070.25545	
51	Break Point 133+248.30		479564.59253	429922.92023	
6	West Edge Knuckle 133+680.68		479916.36293	429991.43234	
60	C.L. 133+680.68		479918.95527	430141.40994	
61	Break Point 133+680.68		479921.54761	430291.38754	

File: RARIBORD.DAT
Session terminated at 9:40 AM on 09-30-1994


150'
150'
NOR
Bordentown
6
60
61
133+680.68
2
1
3
133+200.84
℄ 133+440.76
51
4
50
40
Raritan
5
41
133+248.30
150'
250'
RARIBORD
09-30-1994
9:38 AM

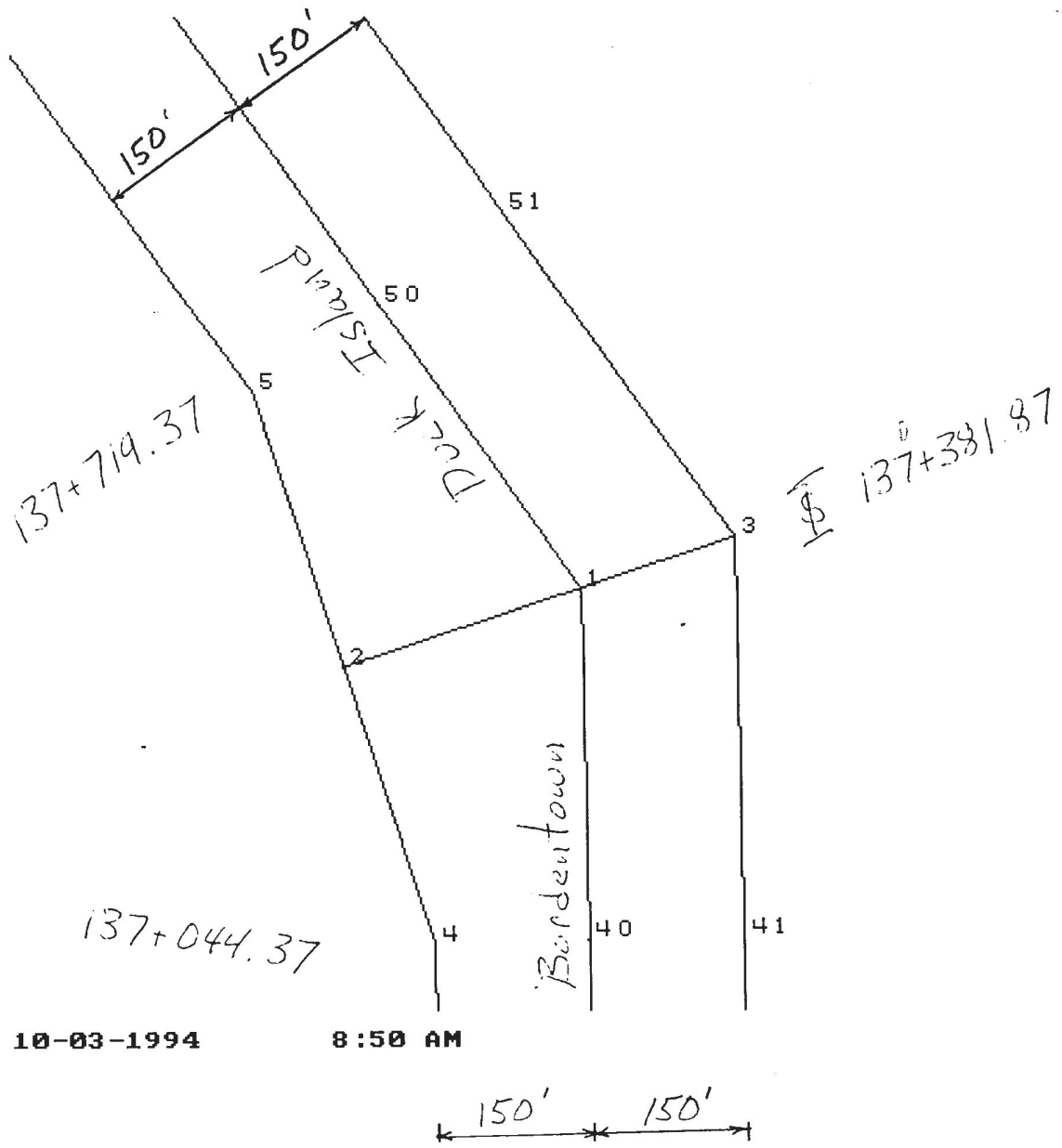
SURVEY 4-930609-4-0609 10-03-1994 9:39 AM Page 2
Reg. to: U.S. Army Corps of Engineers
File Name: B:\P2T25&12\BORDDUCK.DAT

Job: BORDENTOWN & DUCK ISLAND RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
4	West Edge Knuckle 137+044.37		483279.54937	429933.29987	
40	C.L. 137+044.37		483282.14171	430083.27747	
41	Break Point 137+044.37		483284.73405	430233.25506	
1	CENTERLINE 137+381.87		483619.59130	430077.44470	
2	West Edge Intersection		483543.82153	429846.56966	
3	East Edge Intersection		483668.54871	430226.62088	
5	West Edge Knuckle 137+719.37		483808.09369	429759.83945	
50	C.L. 137+719.37		483894.87463	429882.18759	
51	Break Point 137+719.37		483981.65556	430004.53574	

File: BORDDUCK.DAT
Session terminated at 9:40 AM on 10-03-1994



BORDDUCK 10-03-1994 8:50 AM

SURVEY 4-930609-4-0609
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\DUCKPERI.DAT

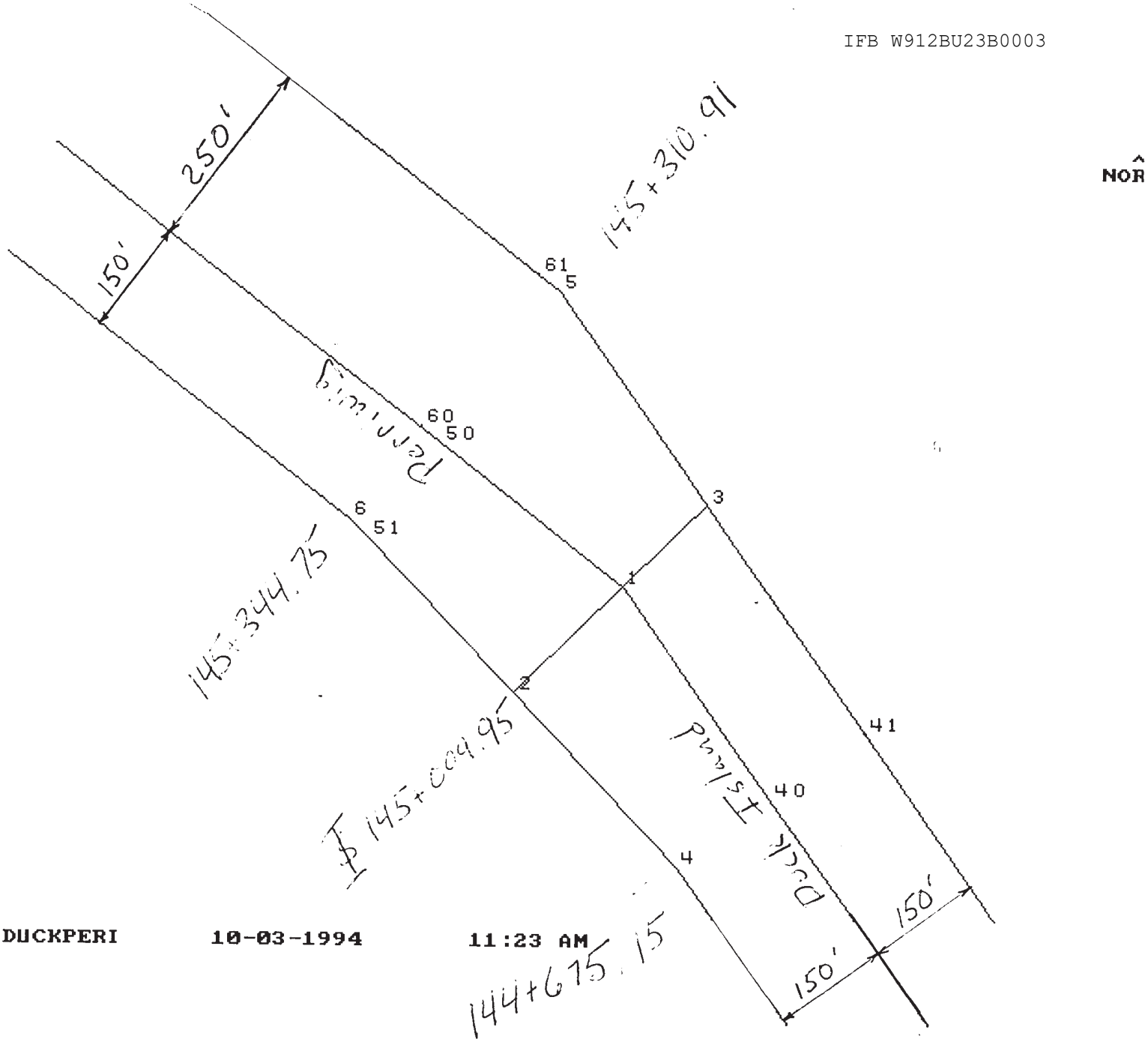
10-03-1994 11:24 AM Page 4

Job: DUCK ISLAND & PERRIWIG INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
4	West Edge Knuckle 144+675.15		489481.60360	425735.64790	
40	C.L. 144+675.15		489568.38453	425857.99605	
41	Break Point 144+675.15		489655.16547	425980.34419	
1	CENTERLINE 145+009.95		489841.46560	425664.30100	
2	West Edge Intersection		489703.87513	425521.49465	
3	East Edge Intersection		489946.71644	425773.54176	
5	East Edge Knuckle 145+310.91		490222.98540	425577.58556	
50	C.L. 145+310.91		490024.59196	425425.46704	
51	Break Point 145+310.91		489901.50103	425331.08686	
6	West Edge Knuckle 145+344.75		489926.14666	425307.34140	
60	C.L. 145+344.75		490045.18272	425398.61251	
61	Break Point 145+344.75		490243.57616	425550.73102	

File: DUCKPERI.DAT
Session terminated at 11:25 AM on 10-03-1994



DUCKPERI 10-03-1994 11:23 AM

SURVEY 4-930609-4-0609
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\PERIBILE.DAT

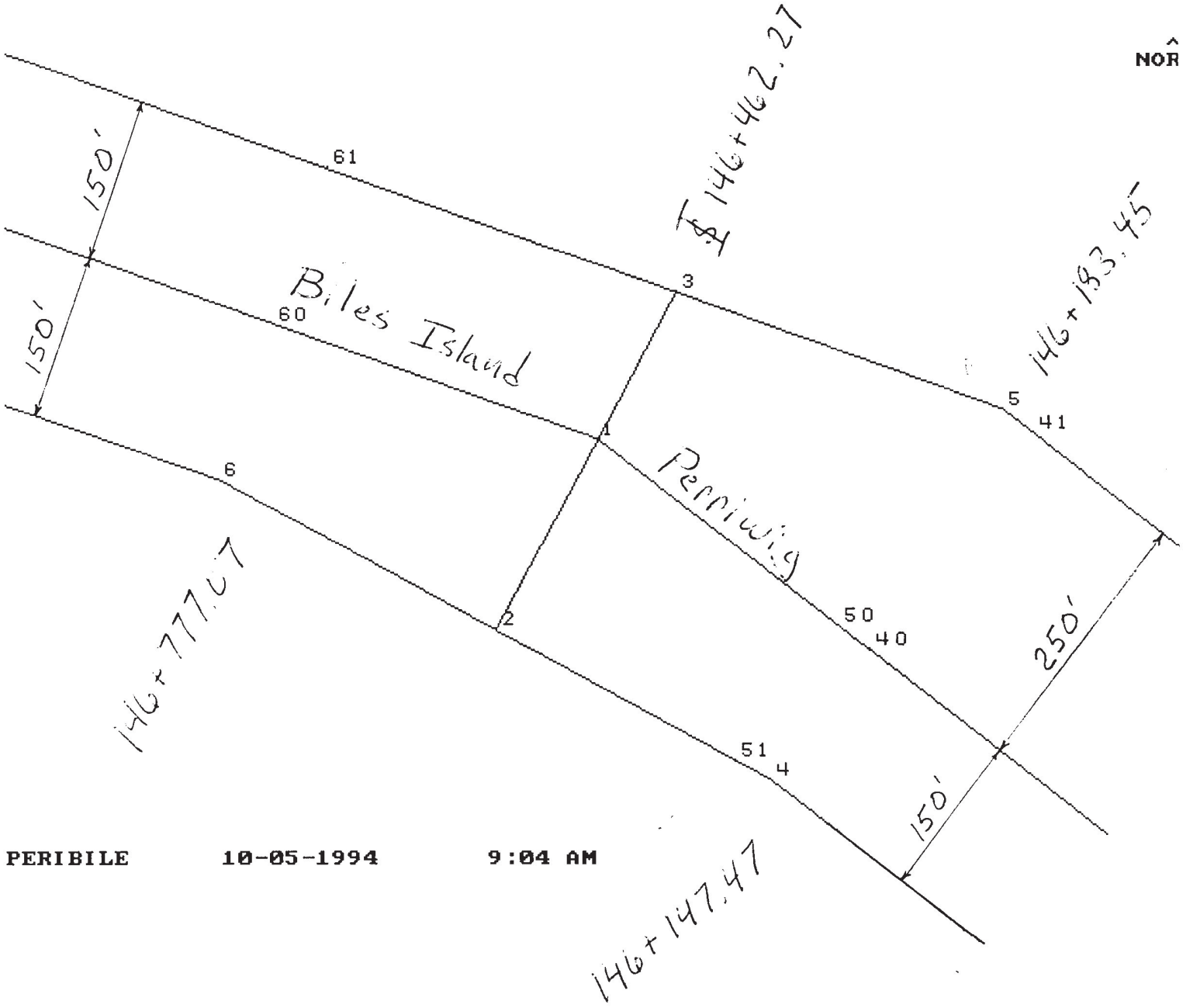
10-05-1994 9:14 AM Page 4

Job: PERRIWIG & BILES ISLAND RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
4	West Edge Knuckle 146+147.47		490414.57920	424670.32681	
40	C.L. 146+147.47		490533.61526	424761.59792	
41	Break Point 146+147.47		490732.00870	424913.71644	
5	East Edge Knuckle 146+183.45		490753.90160	424885.16365	
50	C.L. 146+183.45		490555.50816	424733.04513	
51	Break Point 146+183.45		490431.88162	424638.25427	
1	CENTERLINE 146+462.27		490725.16290	424511.78090	
2	West Edge Intersection		490550.84424	424417.73986	
3	East Edge Intersection		490858.87651	424583.91642	
6	West Edge Knuckle 146+777.07		490687.10929	424165.15291	
60	C.L. 146+777.07		490828.75498	424214.51381	
61	Break Point 146+777.07		490970.40067	424263.87471	

File: PERIBILE.DAT
Session terminated at 9:15 AM on 10-05-1994


NOR
61
150'
150'
Biles Island
60
3
℄ 146+462.27
146+183.45
5
41
1
6
Perriwing
146+777.67
2
50
40
250'
51
4
150'
146+147.47
PERIBILE 10-05-1994 9:04 AM

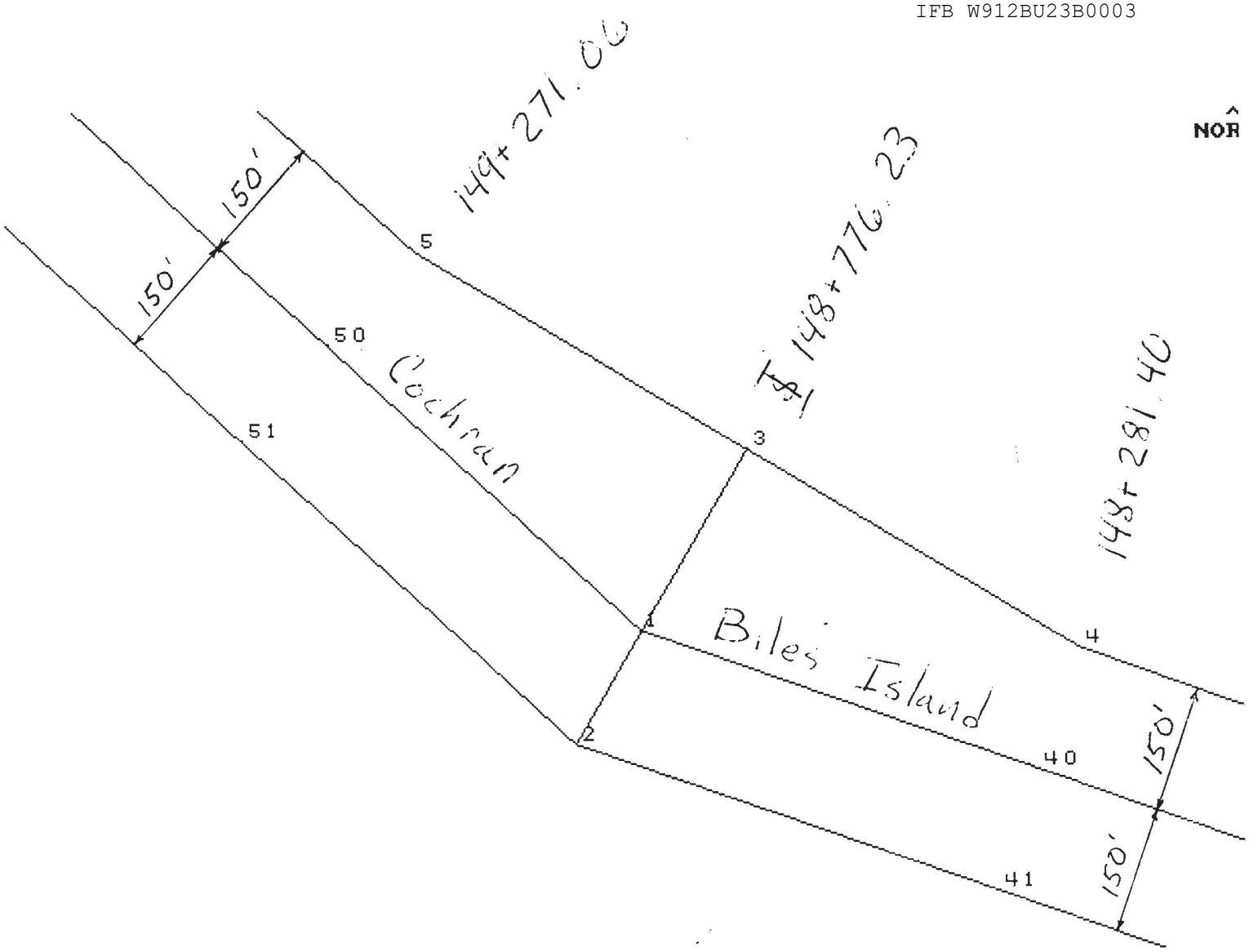
SURVEY 4-930609-4-0609 10-05-1994 11:32 AM Page 4
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\BILECOCH.DAT

Job: BILES ISLAND & COCHRAN INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
4	East Edge Knuckle 148+281.40		491465.43426	422843.32995	
40	C.L. 148+281.40		491323.78857	422793.96905	
41	Break Point 148+281.40		491182.14288	422744.60814	
1	CENTERLINE 148+776.23		491486.62360	422326.69880	
2	West Edge Intersection		491355.15606	422248.13076	
3	East Edge Intersection		491698.50928	422453.32657	
5	East Edge Knuckle 149+271.06		491931.58430	422063.32320	
50	C.L. 149+271.06		491821.01840	421961.95663	
51	Break Point 149+271.06		491710.45249	421860.59006	

File: BILECOCH.DAT
Session terminated at 11:33 AM on 10-05-1994



BILECOCH 10-05-1994 11:17 AM

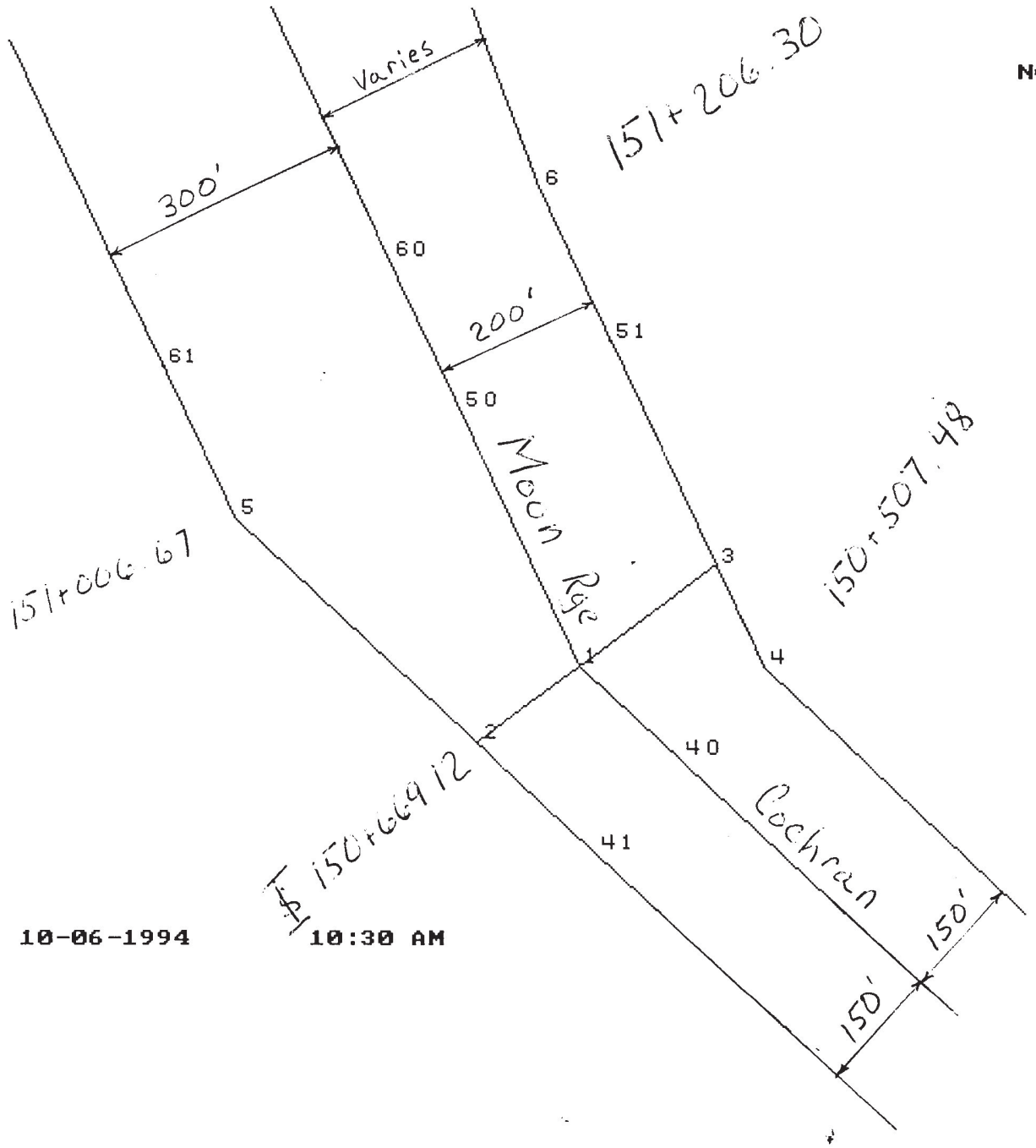
SURVEY 4-930609-4-0609 10-06-1994 10:03 AM Page 3
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\COCHMOON.DAT

Job: COCHRAN & MOON INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
4	East Edge Knuckle 150+507.48		492767.13409	421151.94499	
40	C.L. 150+507.48		492656.56819	421050.57842	
41	Break Point 150+507.48		492546.00228	420949.21185	
1	CENTERLINE 150+669.12		492765.80080	420931.43260	
2	West Edge Intersection		492675.16128	420808.34891	
3	East Edge Intersection		492886.66770	421095.56348	
5	West Edge Knuckle 151+006.67		492943.12317	420516.10529	
50	C.L. 151+006.67		493071.09761	420787.44003	
51	Break Point 151+006.67		493156.41390	420968.32986	
6	East Edge Knuckle 151+206.30		493336.96908	420883.17140	
60	C.L. 151+206.30		493251.65279	420702.28157	
61	Break Point 151+206.30		493123.67836	420430.94683	

File: COCHMOON.DAT
Session terminated at 10:05 AM on 10-06-1994



COCHMOON 10-06-1994 10:30 AM

SURVEY 4-930609-4-0609
Reg. to: U.S. Army Corps of Engineers
File Name: B:\TRENTON.DAT

11-01-1994 8:43 AM Page 4

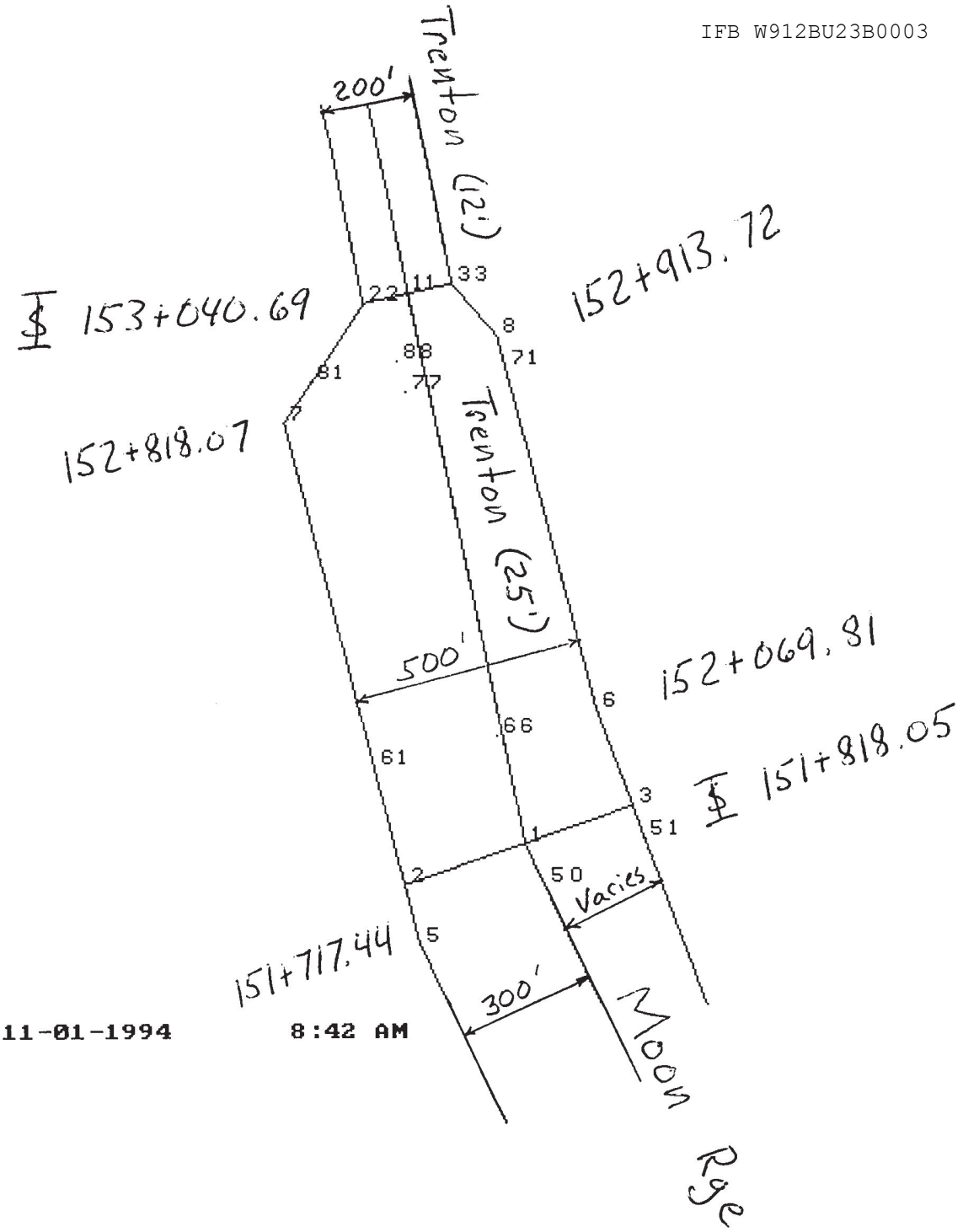
Job: MOON & TRENTON (25') + TRENTON (25') & TRENTON (12') INTERSECTIONS
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Survey Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
5	West Edge Knuckle 151+717.44		493585.97703	420212.90462	
50	CENTERLINE 151+717.44		493713.95147	420484.23936	
51	Break Point 151+717.44		493817.08269	420702.90087	
1	CENTERLINE 151+818.05		493804.94810	420441.32100	
2	West Edge Intersection		493717.36394	420179.22430	
3	East Edge Intersection		493883.96928	420677.79288	
Assign					
6	East Edge Knuckle 152+069.81		494094.65650	420598.67894	0.000
66	C.L. Para to edge 152+069.81		494038.94284	420381.33821	0.000
61	Break Point 152+069.81		493970.49849	420114.33464	0.000
60	C.L. 152+069.81		494051.47270	420390.24540	0.000
List					
7	West Edge Knuckle 152+818.07		494718.71876	419922.53249	
77	C.L. Para to edge 152+818.07		494787.16348	420189.53749	
71	Break Point 152+818.07		494842.87588	420406.87330	
70	C.L. 152+818.07		494784.17002	420238.44355	
Assign					
8	East Edge Knuckle 152+913.72		494913.02152	420388.89150	0.000
88	C.L. Para to edge 152+913.72		494857.30924	420171.55615	0.000
81	Break Point 152+913.72		494808.60689	419981.56675	0.000
80	C.L. 152+913.72		494877.83096	420219.03863	0.000
List					
11	CENTERLINE 153+040.69		495002.16060	420193.27970	
22	West Edge Intersection		494981.87221	420095.35919	
33	East Edge Intersection		495022.44899	420291.20021	

File: TRENTON.DAT
Session terminated at 8:50 AM on 11-01-1994

NOR



TRENTON 11-01-1994 8:42 AM

SURVEY 4-930609-4-0609
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\TRNTLALR.DAT

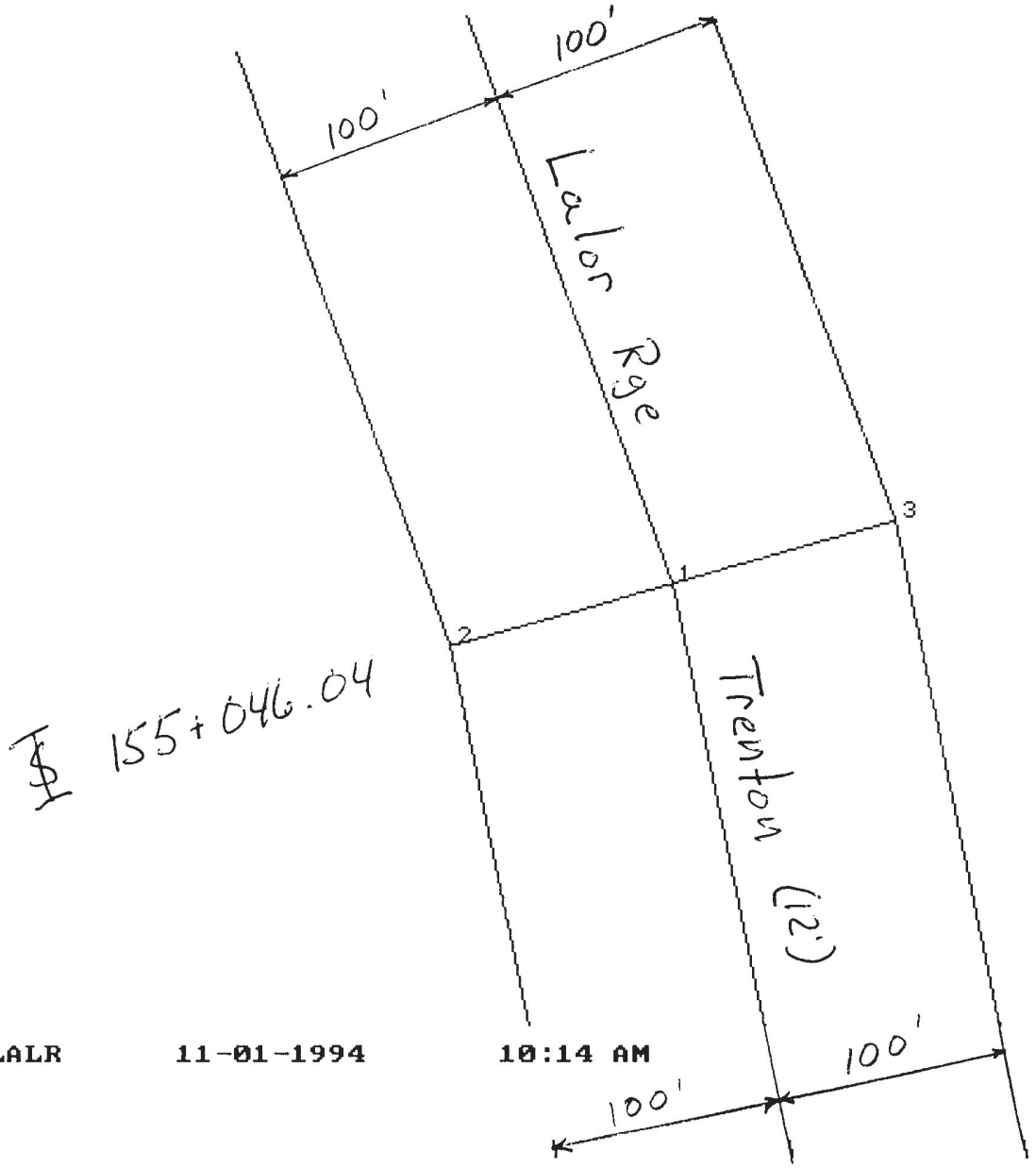
11-01-1994 10:18 AM Page 2

Job: TRENTON & LALOR RANGE INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 155+046.04		496965.79830	419786.40940	
2	West Edge Intersection		496938.38009	419689.97127	
3	East Edge Intersection		496993.21651	419882.84753	

File: TRNTLALR.DAT
Session terminated at 10:19 AM on 11-01-1994



NOR

TRNTLALR 11-01-1994 10:14 AM

SURVEY 4-930609-4-0609
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\LALRLAND.DAT

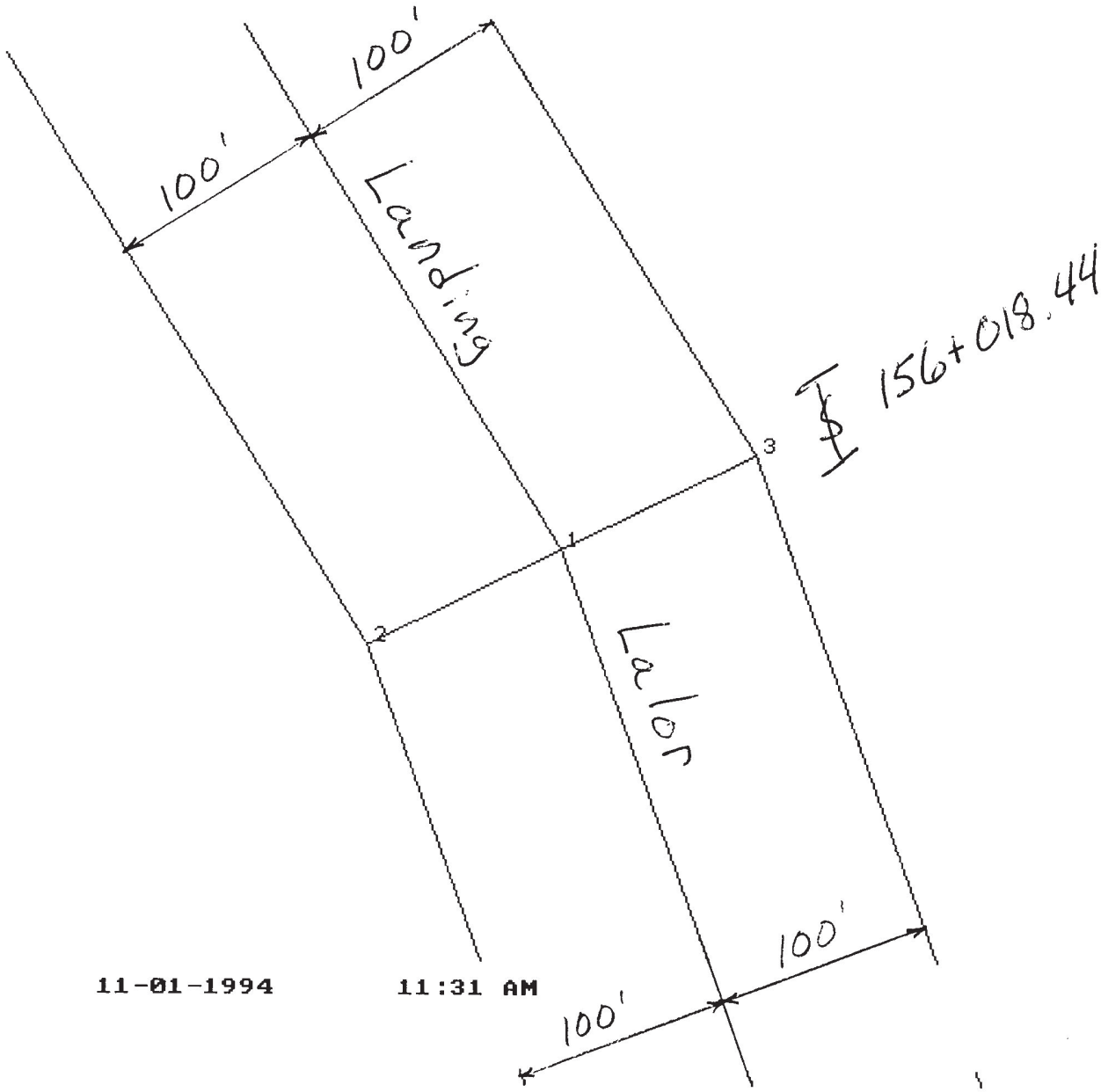
11-01-1994 11:32 AM Page 2

Job: LALOR & LANDING INTERSECTION
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 156+018.44		497879.34780	419453.26050	
2	West Edge Intersection		497835.38082	419362.85010	
3	East Edge Intersection		497923.31478	419543.67090	

File: LALRLAND.DAT
Session terminated at 11:32 AM on 11-01-1994



LALRLAND 11-01-1994 11:31 AM

SURVEY 4-930609-4-0609
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\LNDAMRFD.DAT

11-01-1994 12:34 PM Page 2

Job: LANDING \ AMERICAN & AMERICAN \ FEDERAL INTERSECTIONS
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
1	CENTERLINE 157+225.18		498904.59200	418816.78760	
2	West Edge Intersection		498851.25044	418732.19165	
3	East Edge Intersection		498957.93356	418901.38355	
11	CENTERLINE 158+481.24		499962.35470	418139.42220	
22	West Edge Intersection		499910.86944	418053.65187	
33	East Edge Intersection		500013.83996	418225.19253	

File: LNDAMRFD.DAT
Session terminated at 12:35 PM on 11-01-1994

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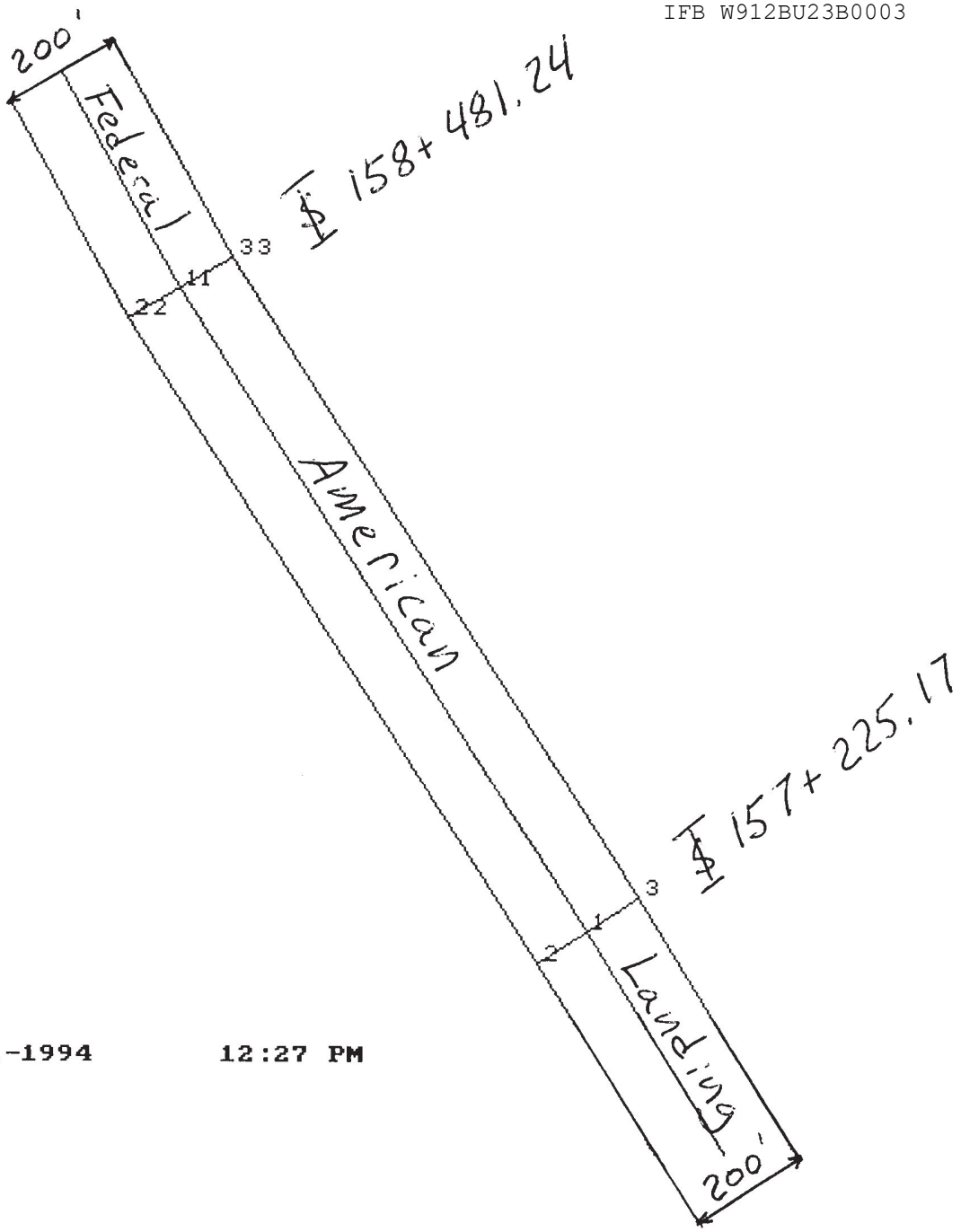


LNDAMRFD 11-01-1994 12:27 PM

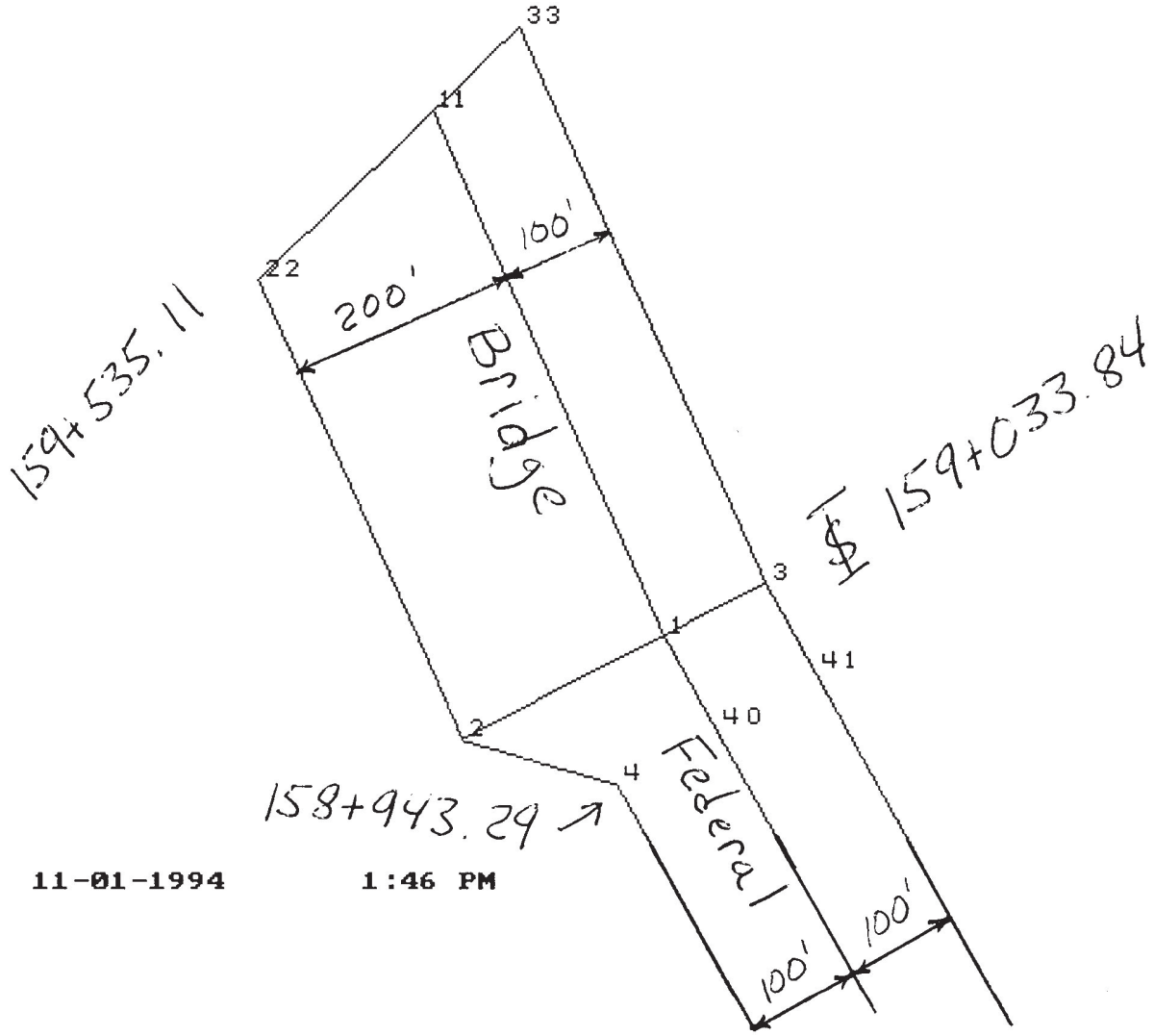
SURVEY 4-930609-4-0609 11-01-1994 1:46 PM Page 3
Reg. to: U.S. Army Corps of Engineers
File Name: C:\SIMPLCTY\SURVEYS\FEDLBRDG.DAT

Job: FEDERAL & BRIDGE RANGE INTERSECTION + END OF PROJECT
Philadelphia to Trenton
NAD 83 Coordinates
N.J. State Plane (2900), U.S. Foot

By: M.Wallowicz

Point	Direction	Distance	Northing	Easting	Elevation
List					
4	West Edge Knuckle 158+943.29		500316.27603	417825.99624	
40	C.L. 158+943.29		500365.23812	417913.18978	
41	Break Point 158+943.29		500414.20021	418000.38332	
1	CENTERLINE 159+033.84		500444.19100	417868.85510	
2	West Edge Intersection		500354.50748	417689.84061	
3	East Edge Intersection		500489.03232	417958.36259	
11	CENTERLINE 159+535.1082		500902.45500	417665.72300	
22	West Edge End of Project		500755.54791	417512.07392	
33	East Edge End of Project		500975.90855	417742.54754	

NOR



FEDLBRDG 11-01-1994 1:46 PM

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APPENDIX C53

MEAN LOWER LOW WATER (MLLW)
TO
NORTH AMERICAN VERTICAL DATUM (NAVD) 88
CONVERSIONS

MLLW TO NAVD 88 CONVERSIONS
PHILA TO TRENTON

RANGE	SOUTH STATION	NORTH STATION	Delta from MLLW to NAVD88
HARBOR	0+000	4+274.76	**3.21**
FISHER	4+274.76	6+138.54	**3.21**
DRAW	6+138.54	10+651.37	**3.20**
DELAIR	10+651.37	16+617.06	**3.19**
BRIDESBURG	16+617.06	18+477.60	**3.19**
FRANKFORD	18+477.60	24+877.29	**3.19**
TACONY	24+877.29	31+998.04	**3.19**
TORRESDALE	31+998.04	40+438.49	**3.19**
MUD ISLAND	40+438.49	50+601.75	**3.19**
ENTERPRISE	50+601.75	60+986.52	**3.19**
BEVERLY	60+986.52	64+934.86	**3.19**
EDGEWATER	64+934.86	73+263.15	**3.19**
DEVLIN	73+263.15	79+508.34	**3.19**
LEHIGH	79+508.34	83+503.17	**3.23**
CANAL	83+503.17	84+659.99	**3.25**
BRISTOL	84+659.99	88+547.52	**3.27**
KEYSTONE	88+547.52	91+097.80	**3.30**
LANDRETH	91+097.80	98+471.25	**3.34**
RIVERVIEW	98+471.25	99+685.56	**3.38**
FOUNDRY	99+685.56	101+038.20	**3.39**
CHURCH	101+038.20	102+177.92	**3.40**
FLORENCE	102+177.92	110+344.53	**3.43**
ROEBLING	110+344.53	112+430.95	**3.48**
KINKORA	112+430.95	119+400.85	**3.51**
PENN	119+400.85	121+507.19	**3.55**
NEWBOLD	121+507.19	124+676.76	**3.55**
BLAKE	124+676.76	125+692.79	**3.65**
WHITEHILL	125+692.79	131+951.24	**3.74**
RARITAN	131+951.24	133+440.76	**3.75**
BORDENTOWN	133+440.76	137+381.87	**3.77**
DUCK ISLAND	137+381.87	145+009.95	**3.80**
PERRIWIG	145+009.95	146+462.27	**3.83**
BILES ISLAND	146+462.27	148+776.23	**3.84**
COCHRAN	148+776.23	150+669.12	**3.85**
MOON	150+669.12	151+818.05	**3.85**
TRENTON (25)	151+818.05	153+040.69	**3.85**
TRENTON (12)	153+040.69	155+046.04	**3.85**
LALOR	155+046.04	156+018.44	**3.85**
LANDING	156+018.44	157+225.18	**3.85**
AMERICAN	157+225.18	158+481.24	**3.85**
FEDERAL	158+481.24	159+033.84	**3.85**
BRIDGE	159+033.84	159+535.11	**3.85**