

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGES 1
2. AMENDMENT/MODIFICATION NO. 0002	3. EFFECTIVE DATE 30 June 2000	4. REQUISITION/PURCHASE REQ. NO. W25PHS-9333-8153	5. PROJECT NO. (If applicable)	
6. ISSUED BY USACE, Philadelphia (CENAP-CT-C) POC: David Dilks 100 Penn Square East, Wanamaker Building Philadelphia, Pennsylvania 19107-3390	CODE	7. ADMINISTERED BY (If other than Item 6)	CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)			(√)	9A. AMENDMENT OF SOLICITATION NO. DACW61-00-B-0005
			×	9B. DATED (SEE ITEM 11) 14 June 2000
				10A. MODIFICATION OF CONTRACTS/ORDER NO.
				10B. DATED (SEE ITEM 13)
CODE	FACILITY CODE			

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

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

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

Rehabilitation of Wilmington Harbor South Jetty, Wilmington, Delaware

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

(√)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor is not, is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Please indicate receipt of this Amendment on Standard Form 1442 (Solicitation, Offer, and Award) as Amendment Number 0002. Failure to acknowledge all Amendments may be cause for rejection of the bid.

THIS AMENDMENT DOES NOT EXTEND THE 18 JULY 2000, 2:00 PM BID OPENING DATE.

(Continued on next page.)

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
_____ (Signature of person authorized to sign)		BY _____ (Signature of Contracting Officer)	

14. DESCRIPTION OF AMENDMENT

a. GENERAL: All pages included in this amendment but not referred to below have been included for the purpose of providing the opposite sides of the amended sheets.

b. SPECIFICATIONS:

(1) SECTION 00800: Please delete page 00800-4 and substitute new page 00800-4, annotated Amendment No. 0002 and attached hereto.

(2) SECTION 00815: Please insert new pages 00815-7 through 00815-9, annotated Amendment No. 0002 and attached hereto.

(3) SECTION 01010: Please delete pages 01010-2 through 01010-5 and substitute new pages 01010-2 through 01010-5, annotated Amendment No. 0002 and attached hereto.

(4) SECTION 02225: Please delete pages 02225-4 and 02225-5 and substitute new pages 02225-4 and 02225-5, annotated Amendment No. 0002 and attached hereto. Also, insert new pages 02225-6 through 02225-34, annotated Amendment No. 0002 and attached hereto.

(5) SECTION 02385: Please delete pages 02385-4 and 02385-7 and substitute new pages 02385-4 and 02385-7, annotated Amendment No. 0002 and attached hereto.

(6) SECTION 03307: Please delete page 03307-10 and substitute new page 03307-10, annotated Amendment No. 0002 and attached hereto.

c. DRAWINGS:

Drawing 000SSC02 (Sheet 5 of 17): Please make the following changes:

(1) Details A, B, C and D are not to scale. Please delete the scales shown under each detail.

(2) Please add a note to "DETAIL: EMBEDDED ATTACHMENT PLATE" which states, "Contractor shall use a full penetration, double bevel, groove weld to attach the ½"x4"x4" plate with 1-inch hole to the ½"x12"x12" embedded plate."

Please annotate these changes with the revision date of 29 June 2000.

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

- (3) Promptly notify the Contracting Officer of any discrepancies; and
- (4) Be responsible for any errors which might have been avoided by complying with this paragraph (a).

b. Large scale drawings shall, in general, govern small scale drawings. Figures marked on drawings shall, in general, be followed in preference to scale measurements.

c. Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the contractor from performing such omitted or misdescribed details of the work, but shall be performed as if fully and correctly set forth and described in the drawings and specifications.

d. The work shall conform to the specifications and the contract drawings identified on the following, all of which are available in the office of the District Engineer, U.S. Army Engineer District, Philadelphia, Room 643, Wanamaker Building, 100 Penn Square East, Philadelphia, PA 19107. Drawings are titled: "Rehabilitation of Wilmington Harbor South Jetty, Wilmington Harbor, Christina River, Delaware," and have the following drawing numbers, subtitles, and dates. (DFARS 252.236-7001)

Drawing No.	Subtitle	Date	Latest Revision Date
000GKP01	Vicinity Map, Location Map, List of Drawings, List of Abbreviations	5 June 2000	None
000CSP01	Site Plan - Existing Conditions	5 June 2000	None
000CSP02	Site Plan - Proposed Rehabilitation	5 June 2000	None
000SSC01	Sections - Proposed Rehabilitation	5 June 2000	None
000SSC02	Sections & Details - Proposed Rehabilitation	5 June 2000	29 June 2000
000CDT01	Details - Proposed Rehabilitation, Articulating Concrete Revetment	5 June 2000	None
000BLB01	Test Boring Logs - Test Borings YWB-01 and YWB-02	5 June 2000	None
000BLB02	Test Boring Logs - Test Borings YWB-03 and YWB-04	5 June 2000	None
000BLB03	Test Boring Log - Test Boring YWB-05	5 June 2000	None

There are eight additional drawings listed on Drawing No. 000GKP01 and included in the package for information purposes only.

SC-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 drawings and in the specifications are the result of site investigations conducted during the period 21 September 1998 to 7 December 1999.

b. Weather Conditions. The climate of the area is referred to as "continental" by climatologists, characterized by cold winters and

moderately hot summers. 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.

c. Transportation Facilities. The work site is accessible by land via Interstate 495 to Terminal Avenue and by water via the Delaware River. The Contractor shall be responsible for all investigations of load carrying capacities of bridges and roadways.

d. Tide Data. The mean range of tides in the Delaware River opposite the mouth of the Christina River is approximately 5.6 feet. The elevation of mean low water is +0.76 feet above the Corps of Engineers Christina River Datum.

e. Survey Controls. Survey control description sheets are attached hereto as Section 00845 of this contract.

f. Magnitude of the Contract Work. The estimated value of the contract work is between \$1,000,000 and \$5,000,000.

g. Navigation Aids. The Contractor shall 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 construction operations under this contract, the Contractor shall notify the U.S. Coast Guard at least 15 days prior to the desired date for movement of the aid. All requests shall be made in writing to: Commander (OAN), Fifth Coast Guard District, 431 Crawford Street, Portsmouth, VA 23704. A copy of each request shall be furnished to the Contracting Officer.

h. Protection of Existing Utilities. The Contractor shall be responsible to contact all utility companies that may have subsurface installations in the work area in order to have their facilities marked out, prior to commencing work. The Contractor shall provide any temporary protection necessary to maintain the existing utilities during construction operations.

SC-6 DAMAGE TO WORK

The responsibility for damage to any part of the permanent work shall be as set forth in the clause of the contract entitled "Permits and Responsibilities". However, if, in the judgement of the Contracting Officer, any part of the permanent work performed by the Contractor is damaged by flood or hurricane, which damage is not due to the failure of the Contractor to take reasonable precautions or to exercise sound engineering and construction practices in the conduct of the work, the Contractor shall make the repairs as ordered by the Contracting Officer and full compensation for such repairs will be made at the applicable contract unit or lump sum prices as fixed and established in the contract. If, in the opinion of the Contracting Officer, there are no contract unit or lump sum prices applicable to any part of such work, and equitable adjustment pursuant to Contract Clause entitled "Changes," will be made as full compensation for the repairs of that part of the permanent work for which there are no applicable contract unit or lump sum prices. Except as herein provided, damages to all work (including temporary construction), utilities, materials, equipment and plant shall be repaired to the satisfaction of the Contracting Officer at the Contractor's expense regardless of the cause of such damage. (CENAP)

SC-7 PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984)

General Decision Number DE000008

General Decision Number DE000008
 Superseded General Decision No. DE990008
 State: DELAWARE Construction Type:
 DREDGING County(ies):
 STATEWIDE
 Delaware All dredging, except self-propelled hopper dredges, on the
 Atlantic Coast to the southerly border of the state of Maryland,
 tributary waters emptying into the Atlantic Ocean, the Chesapeake
 & Delaware Canal, Baltimore City and Baltimore County, Maryland.
 Modification Number Publication Date
 0 02/11/2000

COUNTY(ies):
 STATEWIDE
 ENGI0025D 10/01/1999

	Rates	Fringes
DIPPER & CLAMSHELL DREDGE:		
Operator	26.26	5.71+a+b
Engineer	23.12	5.71+a+b
Maintenance Engineer	22.07	4.11+a+b
Welder	21.72	4.11+a+b
Mate	20.57	4.11+a+b
Boat Master	21.57	4.11+a+b
Boat Captain	20.72	4.11+a+b
Fireman; Oiler	17.39	4.51+a+b
Deckhand; Tug Deckhand	16.96	4.51+a+b
Scowman	12.06	4.20+a+b
DRAG BUCKET DREDGE:		
Operator	25.09	4.81+a+b
Engineer	21.41	4.81+a+b
Maintenance Engineer	21.21	4.51+a+b
Mate	19.82	4.51+a+b
Deckhand	16.17	4.20+a+b
HYDRAULIC DREDGES:		
Leverman	25.78	5.71+a+b
Engineer; Derrick Operator	22.61	5.71+a+b
Chief Mate	22.28	5.71+a+b
Chief Welder	22.90	5.71+a+b
Maintenance Engineer	22.07	4.11+a+b
Electrician	21.92	5.71+a+b
Welder Dredge	21.71	5.71+a+b
Spider Barge Operator	21.52	4.11+a+b
Mate	20.57	4.11+a+b
Boat Master	21.73	5.71+a+b
Boat Captain	20.72	4.11+a+b
Steward	20.52	4.11+a+b
Fireman; Oiler	17.39	4.51+a+b
Deckhand	16.74	4.51+a+b
Tug Deckhand	16.96	4.51+a+b
Shoreman	16.74	4.51+a+b
Assistant Cook	16.84	4.51+a+b
Night Cook	16.84	4.51+a+b
Messman	16.36	4.51+a+b

Janitor/Porter	16.36	4.51+a+b
COMPANY LEAD DREDGEMAN:		
Lead Dredgeman	25.78	5.71+a+b
TUG BOATS over 1,000 H.P. (with master or captain having license endorsed for 200 miles off shore):		
Tug Master	23.09	5.71+a+b
Tug Captain	22.16	5.71+a+b
Tug Chief Engineer	21.47	4.11+a+b
Tug Engineer	21.03	4.11+a+b
Tug Deckhand	16.96	4.51+a+b
TUG BOATS over 1,000 H.P. (without master or captain having license endorsed for 200 miles off shore):		
Tug Master	20.71	4.51+a+b
Tug Captain	19.80	4.51+a+b
Tug Engineer	19.80	4.51+a+b
Tug Deckhand	16.36	4.20+a+b
DRILL BOATS:		
Engineer	23.24	4.81+a+b
Blaster	23.51	4.81+a+b
Driller	23.25	4.81+a+b
Welder	22.77	4.51+a+b
Machinist	22.77	4.51+a+b
Tug Master	20.26	4.51+a+b
Tug Captain	19.34	4.51+a+b
Oiler	20.25	4.20+a+b
Tug Deckhand	15.83	4.20+a+b
Core Driller	18.38	4.20+a+b
DIVERS:		
Diver	35.22	4.81+a+b
Standby Diver	24.51	4.81+a+b
Tender	27.09	4.81+a+b
Standby Tender	20.66	4.51+a+b
DREDGING PIPELINE CABLE-LAYING:		
Leverman	24.30	4.81+a+b
Control Tower Operator	22.44	4.81+a+b
Rigger	17.18	4.20+a+b
Line up Operator, End Prep.	16.62	4.20+a+b
Diver	35.99	4.81+a+b
Diver Tender	22.33	4.81+a+b
ENGINEER:		
1st	22.44	4.81+a+b
2nd, 3rd & 4th	22.12	4.81+a+b
Electrician	21.80	4.81+a+b
Elec. Hydro Tech.	18.41	4.51+a+b
Tug Master	21.79	4.81+a+b
Tug Captain	20.67	4.51+a+b

PREMIUMS: Additional 20% for hazardous material work

FOOTNOTES APPLICABLE TO ALL ABOVE CRAFTS:

- a. PAID HOLIDAYS: New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day and Good Friday.
- b. VACATION: Eight percent (8%) of the straight time rate multiplied by the total hours worked.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====
Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR?5.5(a

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01010

SUMMARY OF WORK

PART 1 GENERAL

1.1 SUMMARY OF WORK

The work covered by this Contract generally consists of furnishing all plant, labor, materials, equipment and appliances required in performing all operations necessary to construct new reinforced concrete caps and encasements on the thirteen existing circular cofferdams and install an articulating concrete revetment, with associated anchor and side trenches, on the existing slope on the north side of the existing jetty structure at the Wilmington Harbor South Jetty, on the Christina River in Wilmington, Delaware.

1.2 PHASING OF WORK

The work shall be performed in three phases. Each phase will include the work specified for one of the three sections (East Section, Central Section, West Section) as shown on the Contract Drawings. The work shall begin in Phase 1. Phase 1 shall include the work in the East Section (circular cofferdam Nos. 9 through 13). Phase 2 shall include the work in either the West Section (circular cofferdam Nos. 1 through 4) or the Central Section (cofferdam Nos. 5 through 8), as determined by the Contracting Officer. The Contractor shall be notified in writing of this determination a minimum of 60 calendar days prior to the completion of work in Phase 1. The work in Phase 2, with the exception of the preconstruction survey for the articulating concrete revetment, shall not begin until all work in Phase 1 is complete. Work in Phase 3, with the exception of the preconstruction survey for the articulating concrete revetment, shall not begin until all work in Phase 2 is complete. The preconstruction surveys may be performed prior to the completion of the previous phase, within the time frame indicated in Section 02385 of this Specification, as long as the survey activities do not interfere with Port operations. For each phase, the Limits of Work shall include only the limits of the designated section (i.e. East Section, Central Section, West Section), as well as the connecting catwalk, and the Laydown Area. The limits of the sections and the Laydown Area are indicated on the Contract Drawings. When using the Laydown Area, the Contractor must allow sufficient clearance for truck access to the back gate of the Citri Cusco facility.

1.3 MAJOR ITEMS OF WORK

All work shall be performed in accordance with the Contract Drawings and these Specifications. The major items of work to be performed under this Contract generally include, but are not limited to the following:

- a. Coordination of all construction activities with the U.S. Army Corps of Engineers, Diamond State Port Corporation, and Delaware Terminal.
- b. Demolition of the existing concrete caps for eleven circular cofferdams.
- c. Demolition of the upper portion of each of the circular

cofferdams, including double channel walers.

d. Temporary support of all existing mechanical equipment, pipelines, and related structures in the immediate vicinity of the circular cofferdams.

e. Excavation of existing stone and soil fill within the circular cofferdams.

f. Miscellaneous demolition required for installation of the new construction.

g. Construction of new reinforced concrete caps on thirteen circular cofferdams.

h. Construction of new reinforced concrete encasements around thirteen circular cofferdams.

i. Installation of an articulating concrete revetment, and associated anchor and side trenches, on the existing slope on the north side of the existing jetty structure, including associated excavation within the limits indicated on the drawings and disposal of the excavated materials.

j. Backfill of the anchor and side trenches with riprap.

1.4 NOTIFICATIONS

1.4.1 Notification to Port Officials

The Contractor shall notify Mr. John Reece, P.E., Port Engineer, Diamond State Port Corporation (302-472-7829); Mr. Olav Urheim, Delaware Terminal, (302-652-4654); and Mr. D. Olson or Mr. G. Pappas, Project Manager, U.S. Army Corps of Engineers (215-656-6785), a minimum of 30 calendar days prior to site mobilization for conducting Phase 1 work. The Contractor shall notify Mr. John Reece, P.E. and Mr. Olav Urheim a minimum of 14 calendar days prior to site mobilization for conducting Phase 2 and Phase 3 work.

1.4.2 Notification of United States Coast Guard

The Contractor shall notify the Fifth U.S. Coast Guard District at least 21 calendar days prior to site mobilization for information to be published in the Local Notice to Mariners. This information is to be delivered by fax (757-398-6334 or 757-398-6303) and followed up by telephone (757-398-6225 or 757-398-6486).

1.5 MOVEMENT OF PLANT, EQUIPMENT AND MATERIALS

1.5.1 Project Mobilization and Demobilization

The Contractor is subject to all applicable fees and tariffs imposed by the Port of Wilmington for use of their facilities and equipment during mobilization, demobilization and performance of the work. The Contractor **will** not be permitted to utilize the existing mooring bollards within the cellular cofferdams, **Delaware Terminal Company's mooring dolphins, or the Delaware Terminal Company's moorings**, at any time during performance of the work.

1.5.2 Scheduled Work Hours

For scheduling purposes on this project, the 7-day work week shall be designated as Monday through Sunday. On each Friday before the start of the new week, representatives of the Government, Diamond State Port Corporation, Delaware Terminal and the Contractor shall meet to set the 5-day (10 contiguous hours per day) work schedule for the following week. At each meeting, the Contractor shall first set the 10-hour work day window for each of the 7 days in the upcoming work week. The Contracting Officer will then determine which two (2) consecutive 24-hour days out of the 7 day work week it wants to resume and carry on port operations. This will set the 5-day (10 hour per day) work schedule for the upcoming week. By noon of the day before the designated 2-day period, the Contracting Officer, after consultation with Diamond State Port Corporation and Delaware Terminal Representatives, will notify the Contractor of the intent not to use the consecutive days. This will allow the Contractor the option of working on these two days.

At the weekly meeting, the Contractor may request up to one day during the upcoming week when specific work activities will not be interrupted. These work activities shall be limited to the placing of cast-in-place concrete associated with Bid Item 14, "Installation of Articulating Concrete Revetment" and Bid Item 20, "Concrete for Cofferdams and Encasements." If the day scheduled for limited interruption is not required, the Contractor shall notify the Contracting Officer at least 24 hours in advance of the scheduled workday. Failure to notify the Contracting Officer on more than two occasions shall result in forfeiture of this privilege. Rescheduling of the limited interruption day shall not be allowed until the following work week for any reason, including weather.

1.5.3 Daily Movement of Plant

At the end of each scheduled work day, the Contractor shall demobilize all of his plant, equipment and materials from the East Section, Central Section and West Section, to the **Laydown** Area for Daily Mobilization and Demobilization. The **Laydown** Area for Daily Mobilization and Demobilization shall be located **as indicated on the Contract Drawings**. At the start of work the following day the Contractor may remobilize their plant, equipment and materials back to the East Section, Central Section or West Section to begin work for that day.

1.5.4 Interruptions of Work

During the execution of this contract, the Contractor's scheduled work hours may be interrupted by the Port of Wilmington, Delaware Terminal **Company** and/or the Government. The Contractor shall allow for one 15-minute **interruption** per scheduled work day. **At least 4 hours prior to any interruptions**, the Contractor shall be notified by the Contracting Officer of any scheduled downtime for that day, including the one 15-minute **interruption** allowed, within a corresponding one-hour window for this delay. The Contractor's work activities may be interrupted as indicated in the following subsections.

1.5.4.1 Shutdown of Hot Works Activities

Delaware Terminal requires that a 6-foot easement be maintained between product pipelines and any hot works being conducted when the pipelines are in use and for 15 minutes following use. In the event that it is necessary for Delaware Terminal to shut down hot works by the Contractor during the

Contractor's scheduled work hours, the Contractor shall be notified as indicated in Section 1.5.4 of the times during which the Contractor shall not be permitted to perform hot work.

1.5.4.2 Complete Shutdown of Work Activities

The Contractor shall be prepared to stop all work activities to allow for the docking, fueling, and/or departure of barges at the jetty, the loading/unloading of ships at the Port, or surveying of the project area as part of ongoing dredging of the Wilmington Harbor. In the event that it is necessary to completely shutdown work activities during the Contractor's scheduled work hours, the Contractor shall be notified as indicated in Section 1.5.4. For each scheduled work day where the Contractor loses five or more hours due to the complete shutdown of work activities, the Contract Time will be extended by one work day.

1.6 PRE-BID MEETING AND SITE VISIT

Prospective bidders are invited to attend a pre-bid meeting and site visit to be held at 9:00 a.m. on Tuesday, 20 June 2000 in the main conference room (2nd floor) of the Diamond State Port Corporation's Robert S. Senseny Building. The Senseny Building is a blue building located on the right after entering through the Port's main gate. The purpose of the meeting is to acquaint bidders with the project and site, and any potential problems incident to the prosecution of work. If additional information is required, please contact Mr. Dwight Pakan at 215-656-6785.

Bidders may arrange an unaccompanied visit to the site after the date of the pre-bid meeting and site visit, by contacting Mr. John Reece, P.E., Port Engineer, Diamond State Port Corporation, at (302) 472-7829.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 MEASUREMENT AND PAYMENT

3.1.1 Project Mobilization and Demobilization

There will be no measurement for project mobilization and demobilization. All costs in connection with mobilization and demobilization, including but not limited to, daily mobilization and demobilization of plant and equipment to the jetty, tug boat services, fees and tariffs imposed by the Port of Wilmington for use of its facilities, and up to 15 minutes of delay per scheduled work day as defined in Section 1.5.4, shall be included in the Contract Lump Sum Price for Bid Item No. 1, "Project Mobilization and Demobilization." Payment shall include full compensation to the Contractor for all costs associated with the project mobilization and demobilization. The Contract Lump Sum Price for this item shall be limited to ten percent of the total Contract Price. Forty percent of the lump sum price for this item shall be paid following mobilization to Phase 1, fifteen percent following mobilization to Phase 2, fifteen percent following mobilization to Phase 3, and the remaining thirty percent shall be paid upon completion of the Work, including fulfillment of all submittal requirements.

3.1.2 Time Lost Due to Hot Works Shut Down

Time lost due to shut down of hot works by Delaware Terminal during

scheduled work hours will be measured for payment by the number of work hours lost, as verified by the Contracting Officer, with a maximum limit of 8 hours per work day. The number of work hours lost shall be measured to the nearest one-**quarter** hour. Payment for work hours lost will be made at the Contract Unit Price for Bid Item No. 2, "Work Hours Lost Due to Hot Works Shut Down," which shall constitute full compensation to the Contractor for work hours lost due to hot works shut down during scheduled work hours.

3.1.3 Time Lost Due to Interruption of Scheduled Work Hours

Time lost due to interruption of scheduled work hours by Delaware Terminal, the Diamond State Port Corporation or the Government will be measured for payment by the number of work hours lost, as verified by the Contracting Officer, with a limit of 8 hours per work day. The number of work hours lost shall be measured to the nearest one-**quarter** hour. Payment for work hours lost will be made at the Contract Unit Price for Bid Item No. 3, "Work Hours Lost Due to Interruption of Scheduled Work Hours," which shall constitute full compensation to the Contractor for work hours lost due to the complete shutdown of work activities during scheduled work hours, including the costs for demobilization from and remobilization to the work area.

-- End of Section --

THIS PAGE INTENTIONALLY LEFT BLANK

of concrete coring through the existing cap. These results are summarized in Plate 14 of this Specification Section. The existing concrete filled steel pipe bollards shall be cut-off at the base of the proposed concrete cap in Cell Nos. 1, 5, 6, 7 and 8. Concrete filled steel pipe bollards in Cell Nos. 2, 3, 4, 10, 11 and 12 shall be optionally removed at the discretion of the Contracting Officer. The Contractor shall receive written notification of the status of the removal of the Cell Nos. 2, 3, 4, 10, 11 and 12 bollards by the Contracting Officer a minimum of 24 hours prior to the start of formwork placement for the proposed concrete caps. The following items may be removed, only to the limits necessary to perform the work, and in no case beyond the limits of excavation in each cell, if deemed necessary by the Contractor: the existing sheet pile wall; anchor piles; damaged portions of cofferdam sheet piles; double channel whalers; portions of cap support piles (if encountered); and fender lugs. The upper portion of the abandoned cell within Cell No. 9 shall be removed to the limits of excavation within this cell. Items removed shall be disposed of in accordance with the requirements of this Section.

3.1.2 Items to be Removed and Salvaged

The existing rubber tire fenders shall be removed and salvaged as indicated on the Contract Drawings. The salvaged fenders shall be removed in a manner to prevent damage and shall be delivered promptly to Delaware Terminal or to a location designated by the Contracting Officer.

3.1.3 Items to be Removed and Replaced

The existing rub rails shall be removed and replaced as indicated on the Contract Drawings. The rub rails located within each section shall be removed prior to the start of work in that section, and shall be replaced prior to the completion of work in that section.

3.1.4 Items to Remain

The items located in the immediate vicinity of each circular cofferdam, including but not limited to catwalks, catwalk supports, junction boxes, conduits, pipelines and conduit supports, are indicated on the Surface Obstruction Summaries for each cell, included as Plates 1A through 13B of this Specification Section. These items, with the exception of the bollards to be removed and disposed of as specified in Section 3.1.1, shall remain in place and shall be supported and protected as necessary to perform the work specified.

3.1.4.1 Support of Product and Other Piping

Product and other piping shall be supported at the same locations as the existing supports. Product and other piping supports shall be designed for a vertical load equal to the weight of the piping assumed full of product, and a lateral load resulting from an 80 mile per hour wind, Exposure C at hurricane oceanline. The vertical and lateral deflections for the product and other piping shall be limited to the clear span between supports divided by 600 or 1/2 inch, whichever is less.

3.2 UTILITIES

Temporary disconnection of utility services, including Delaware Terminal, may be required during performance of work items associated with this Contract. Any such temporary disconnections, including the anticipated duration, must be included in the Work Plan required as part of this

Specification. The Contracting Officer must receive written notice a minimum of 24 hours in advance of any such temporary disconnection, and all utility services shall be reconnected prior to 1700 hours of each day. When utility lines are encountered that are not indicated on the Contract Drawings, the Contracting Officer shall be notified prior to further work in that area.

3.3 DISPOSITION OF MATERIAL

Title to material and equipment to be demolished, except historical items, is vested in the Contractor upon receipt of Notice to Proceed. The Government will not be responsible for the condition, loss or damage to such property after notice to proceed.

3.3.1 Historical Items

Historical items encountered during selective demolition shall remain the Government's property. Historical items shall be removed in a manner to prevent damage and shall be delivered promptly to the Contracting Officer or to a location designated by the Contracting Officer.

3.3.2 Unsalvageable Material

All material shall be disposed of promptly, off the site, in a legal manner, at the Contractor's expense. On-site storage or sale of removed items is prohibited.

3.4 CLEAN UP

Debris and rubbish shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Federal, State and Local regulations regarding hauling and disposal shall apply.

3.5 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, with the exception of the removal of the existing concrete cofferdam caps and bollards, and the support and protection of items designated to remain in place.

3.5.1 Removal and Disposal of Existing Concrete Cofferdam Caps

No measurement will be made for the removal and satisfactory disposal of the existing concrete circular cofferdam caps specified in this Section and on the Contract Drawings. **For estimating purposes, the diameters of the cells are as follows:**

Cells #1 thru #8 and #10 thru #12:	25' plus or minus 6"
Cell #9:	35' plus or minus 6"
Cell #13:	30' plus or minus 6"

Payment will be made at the Contract Lump Sum Price for Bid Item No. 4, "Removal and Disposal of Existing Concrete Cofferdam Caps," which shall constitute full compensation to the Contractor for all costs associated with the removal and satisfactory disposal of the existing concrete caps.

3.5.2 Removal and Disposal of Existing Bollards in **Cells** 1, 5, 6, 7 and 8

There will be no measurement for the removal and satisfactory disposal of the existing concrete filled steel pipe bollards for Cell Nos. 1, 5, 6, 7 and 8, as specified in this Section and on the Contract Drawings. Payment for the removal and disposal of these bollards will be made at the Contract Lump Sum Price for Bid Item No. 5, "Removal and Disposal of Existing Bollards for Cell Nos. 1, 5, 6, 7 and 8," which shall constitute full compensation to the Contractor for all costs associated with the removal and satisfactory disposal of the bollards for Cell Nos. 1, 5, 6, 7 and 8.

3.5.3 Removal and Disposal of Additional Bollards

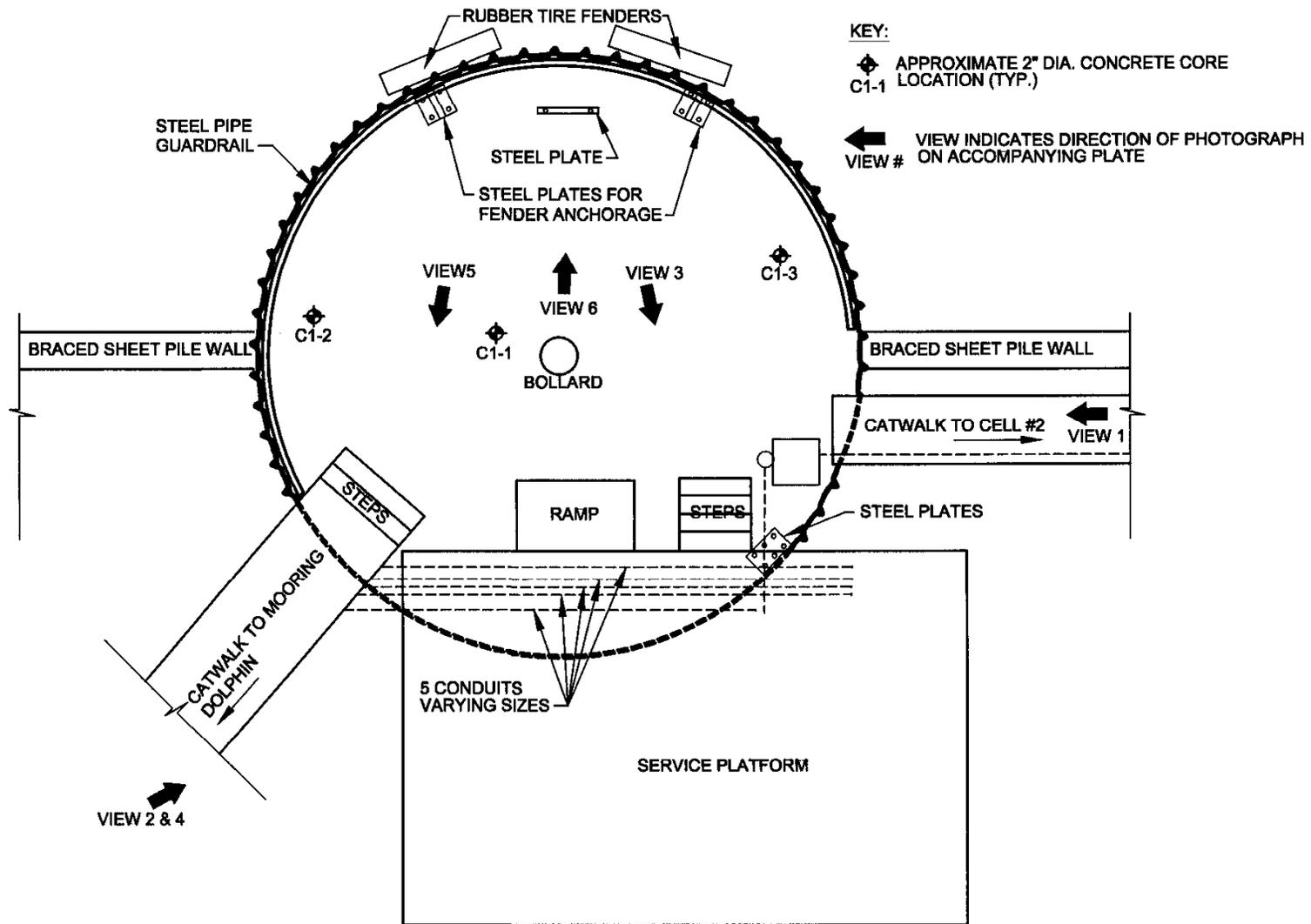
Existing bollards removed in Cell Nos. 2, 3, 4, 10, 11 and 12 as verified by the Contracting Officer, will be paid at the Contract Unit Price for Bid Item No. 6, "Removal and Disposal of Additional Bollards," which shall constitute full compensation to the Contractor for all costs associated with the removal and satisfactory disposal of these bollards.

3.5.4 Support and Protection of Items to Remain in Place

There will be no measurement for the support and protection of items to remain in place during cell cap and encasement construction, as specified in this Section and on the Contract Drawings. Payment for the support and protection of these items will be made at the Contract Lump Sum Price for Bid Item No. 7, "Support and Protection of Items to Remain in Place," which shall constitute full compensation to the Contractor for all costs associated with the support and protection of these items.

-- End of Section --

THIS PAGE INTENTIONALLY LEFT BLANK



U.S. ARMY ENGINEERING DIVISION
 CORPS OF ENGINEERS
 PHILADELPHIA, PENNSYLVANIA

PLATE 1A
 CELL #1 - SURFACE OBSTRUCTION SUMMARY
 REHABILITATION OF WILMINGTON
 HARBOR SOUTH JETTY

Drawn: CFV/KTF	Chk'd: TAT	Date: 11 MAY 2000
Scale: NOT TO SCALE	W.O.: 3769.SR	
File No: A-3769SR-02		
Contract No: IFB-DACW61-00-B-0005		
BID DOCUMENTS		5/11/00

THIS PAGE INTENTIONALLY LEFT BLANK



View #1



View #2



View #3



View #4



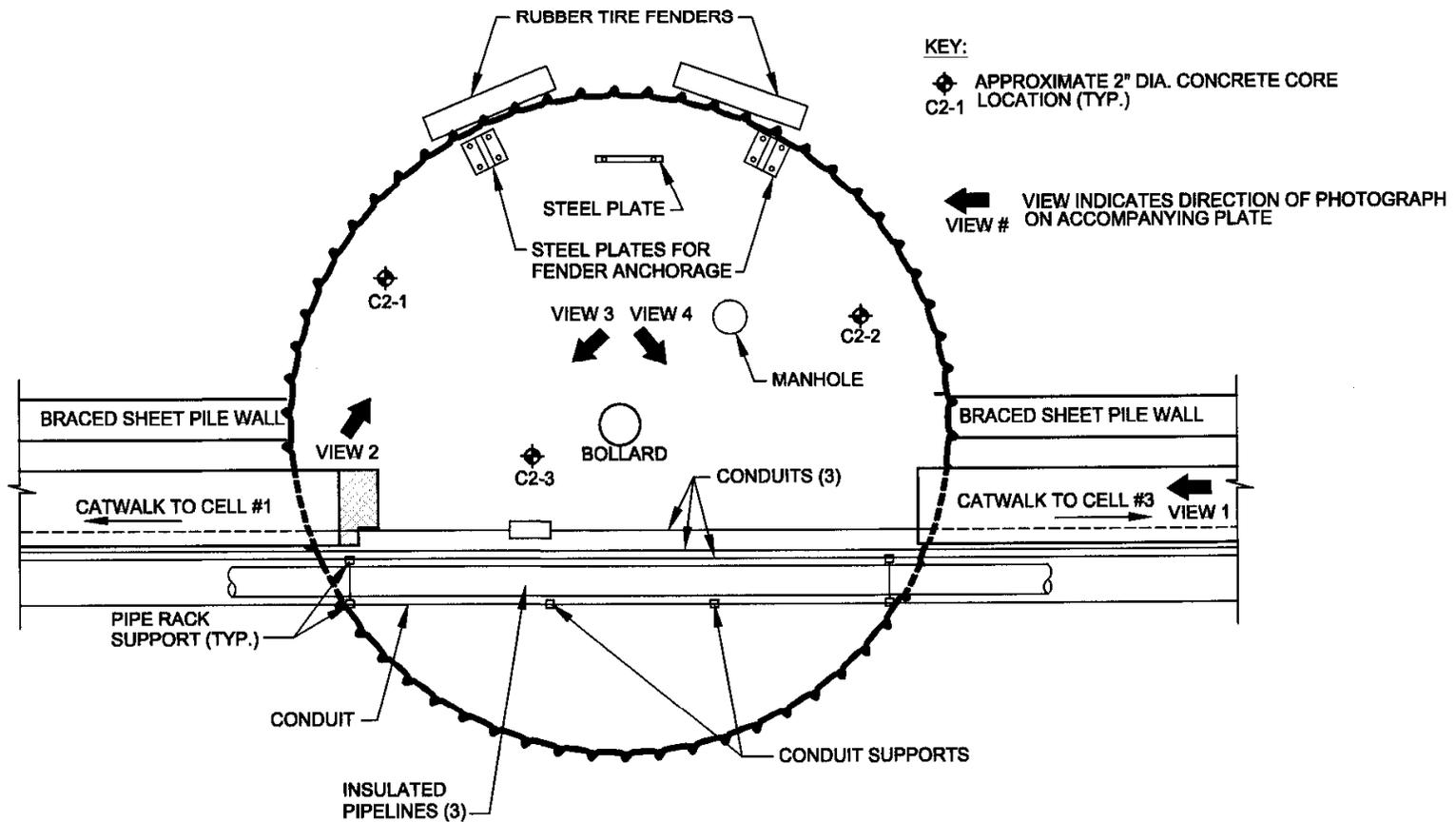
View #5



View #6

PLATE 1B CELL #1 – OBSTRUCTION PHOTOGRAPHS REHABILITATION OF WILMINGTON HARBOR SOUTH JETTY	Date: 11 MAY 2000	Page: 1 of 1
	Reviewed By: TAT	
	Contract Number: IFB-DACW61-00-B-0005	
	U.S. Army Engineer Division Corps of Engineers Philadelphia, Pennsylvania	

THIS PAGE INTENTIONALLY LEFT BLANK



U.S. ARMY ENGINEERING DIVISION
CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

PLATE 2A
CELL #2 - SURFACE OBSTRUCTION SUMMARY
REHABILITATION OF WILMINGTON
HARBOR SOUTH JETTY

Drawn: CFY/KTF Chk'd: TAT	Date: 11 MAY 2000
Scale: NOT TO SCALE	W.O.: 3769.SR
File No: A-3769SR-03	
Contract No: IFB-DACW61-00-B-0005	
BID DOCUMENTS	5/11/00

THIS PAGE INTENTIONALLY LEFT BLANK



View #1



View #2



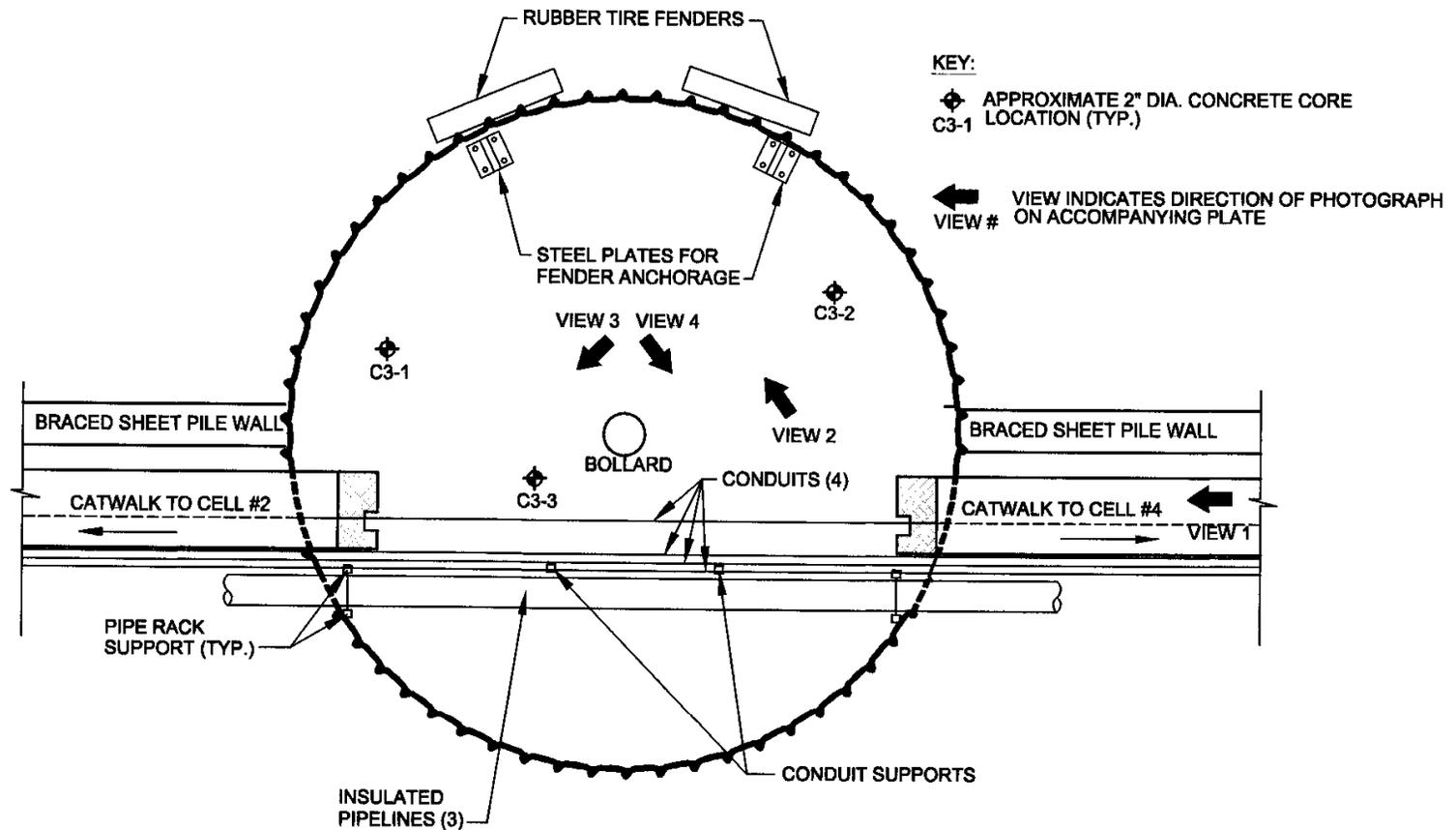
View #3



View #4

<p>PLATE 2B CELL #2 – OBSTRUCTION PHOTOGRAPHS REHABILITATION OF WILMINGTON HARBOR SOUTH JETTY</p>	Date: 11 MAY 2000	Page: 1 of 1
	Reviewed By: TAT	
	Contract Number: IFB-DACW61-00-B-0005	
	<p>U.S. Army Engineer Division Corps of Engineers Philadelphia, Pennsylvania</p>	

THIS PAGE INTENTIONALLY LEFT BLANK



**U.S. ARMY ENGINEERING DIVISION
 CORPS OF ENGINEERS
 PHILADELPHIA, PENNSYLVANIA**

**PLATE 3A
 CELL #3 - SURFACE OBSTRUCTION SUMMARY
 REHABILITATION OF WILMINGTON
 HARBOR SOUTH JETTY**

Drawn:CFY/KTF Chk'd: TAT	Date: 11 MAY 2000
Scale: NOT TO SCALE	W.O.: 3769.SR
File No: A-3769SR-04	
Contract No: IFB-DACW61-00-B-0005	
	BID DOCUMENTS
	5/11/00

THIS PAGE INTENTIONALLY LEFT BLANK



View #1



View #2



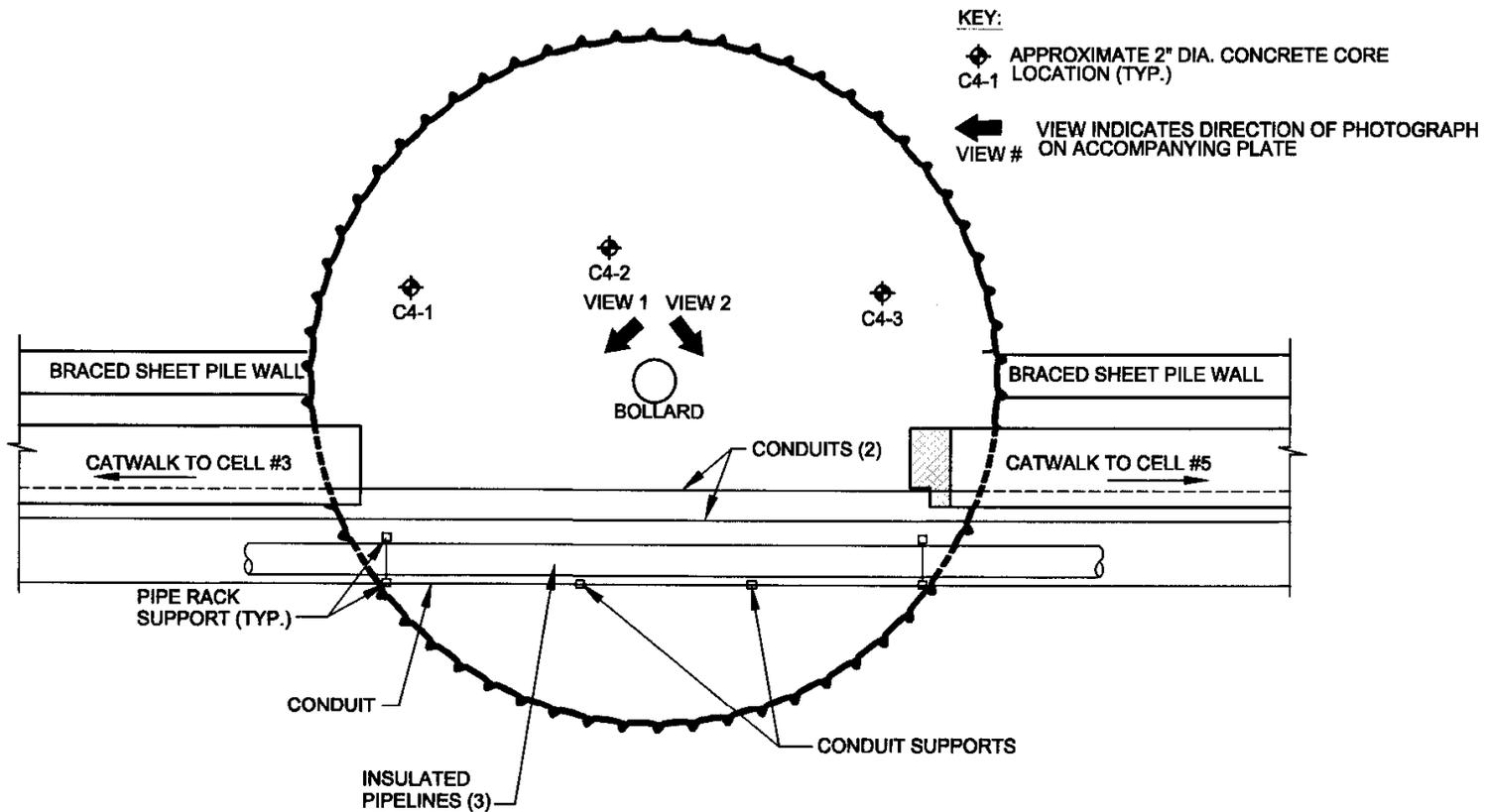
View #3



View #4

<p>PLATE 3B CELL #3 – OBSTRUCTION PHOTOGRAPHS REHABILITATION OF WILMINGTON HARBOR SOUTH JETTY</p>	Date: 11 MAY 2000	Page: 1 of 1
	Reviewed By: TAT	
	Contract Number: IFB-DACW61-00-B-0005	
	<p>U.S. Army Engineer Division Corps of Engineers Philadelphia, Pennsylvania</p>	

THIS PAGE INTENTIONALLY LEFT BLANK



**U.S. ARMY ENGINEERING DIVISION
CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA**

**PLATE 4A
CELL #4 - SURFACE OBSTRUCTION SUMMARY
REHABILITATION OF WILMINGTON
HARBOR SOUTH JETTY**

Drawn: CFY/KTF Chk'd: TAT	Date: 11 MAY 2000
Scale: NOT TO SCALE	W.O.: 3769.SR
File No: A-3769SR-05	
Contract No: IFB-DACW61-00-B-0005	
BID DOCUMENTS	
	5/11/00

THIS PAGE INTENTIONALLY LEFT BLANK



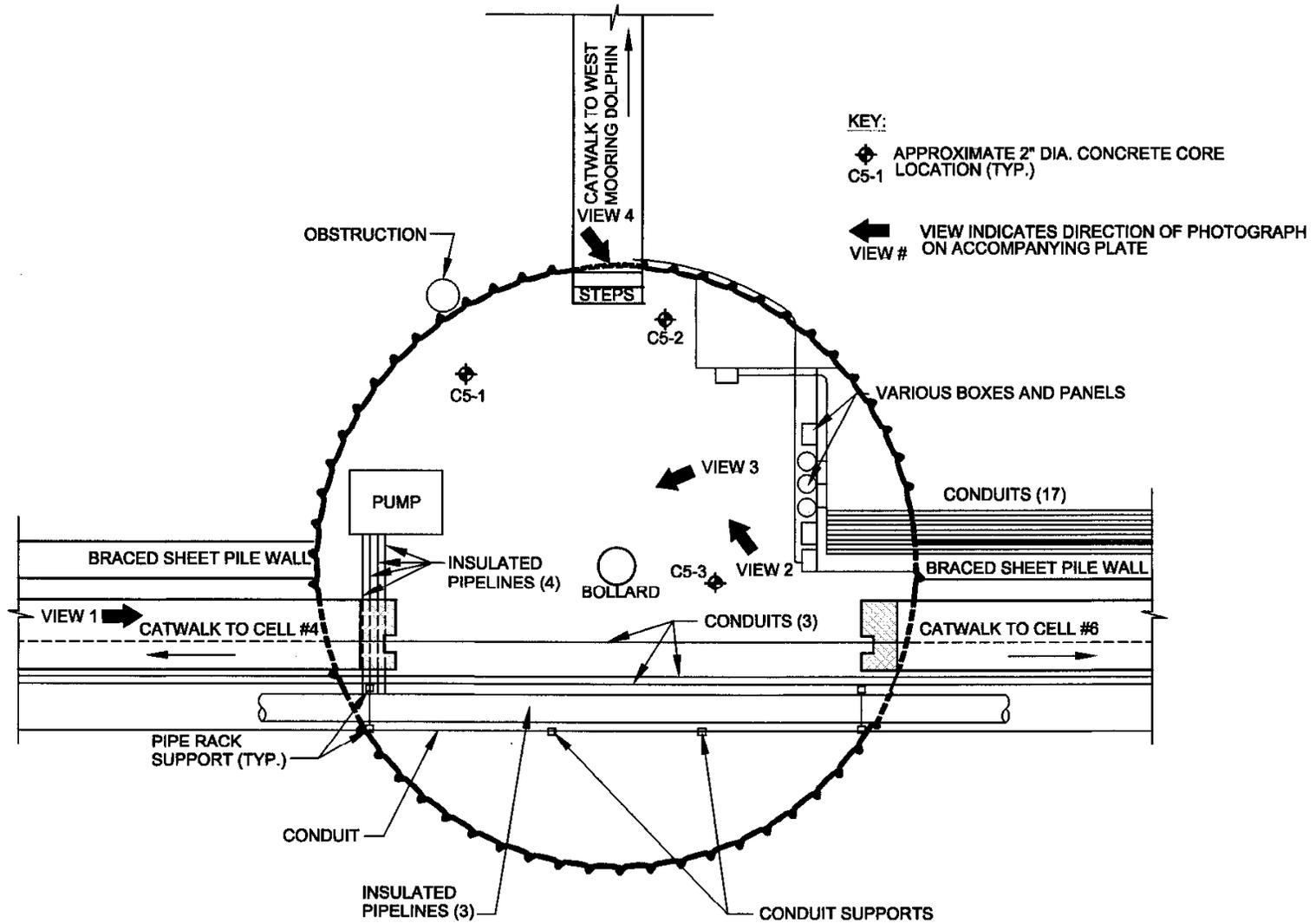
View #1



View #2

<p>PLATE 4B CELL #4 – OBSTRUCTION PHOTOGRAPHS REHABILITATION OF WILMINGTON HARBOR SOUTH JETTY</p>	Date: 11 MAY 2000	Page: 1 of 1
	Reviewed By: TAT	
	Contract Number: IFB-DACW61-00-B-0005	
	<p>U.S. Army Engineer Division Corps of Engineers Philadelphia, Pennsylvania</p>	

THIS PAGE INTENTIONALLY LEFT BLANK



**U.S. ARMY ENGINEERING DIVISION
CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA**

**PLATE 5A
CELL #5 - SURFACE OBSTRUCTION SUMMARY
REHABILITATION OF WILMINGTON
HARBOR SOUTH JETTY**

Drawn: CFY/KTF	Chk'd: TAT	Date: 11 MAY 2000
Scale: NOT TO SCALE	W.O.: 3769.SR	
File No: A-3769SR-06		
Contract No: IFB-DACW61-00-B-0005		
	BID DOCUMENTS	5/11/00

THIS PAGE INTENTIONALLY LEFT BLANK



View #1



View #2



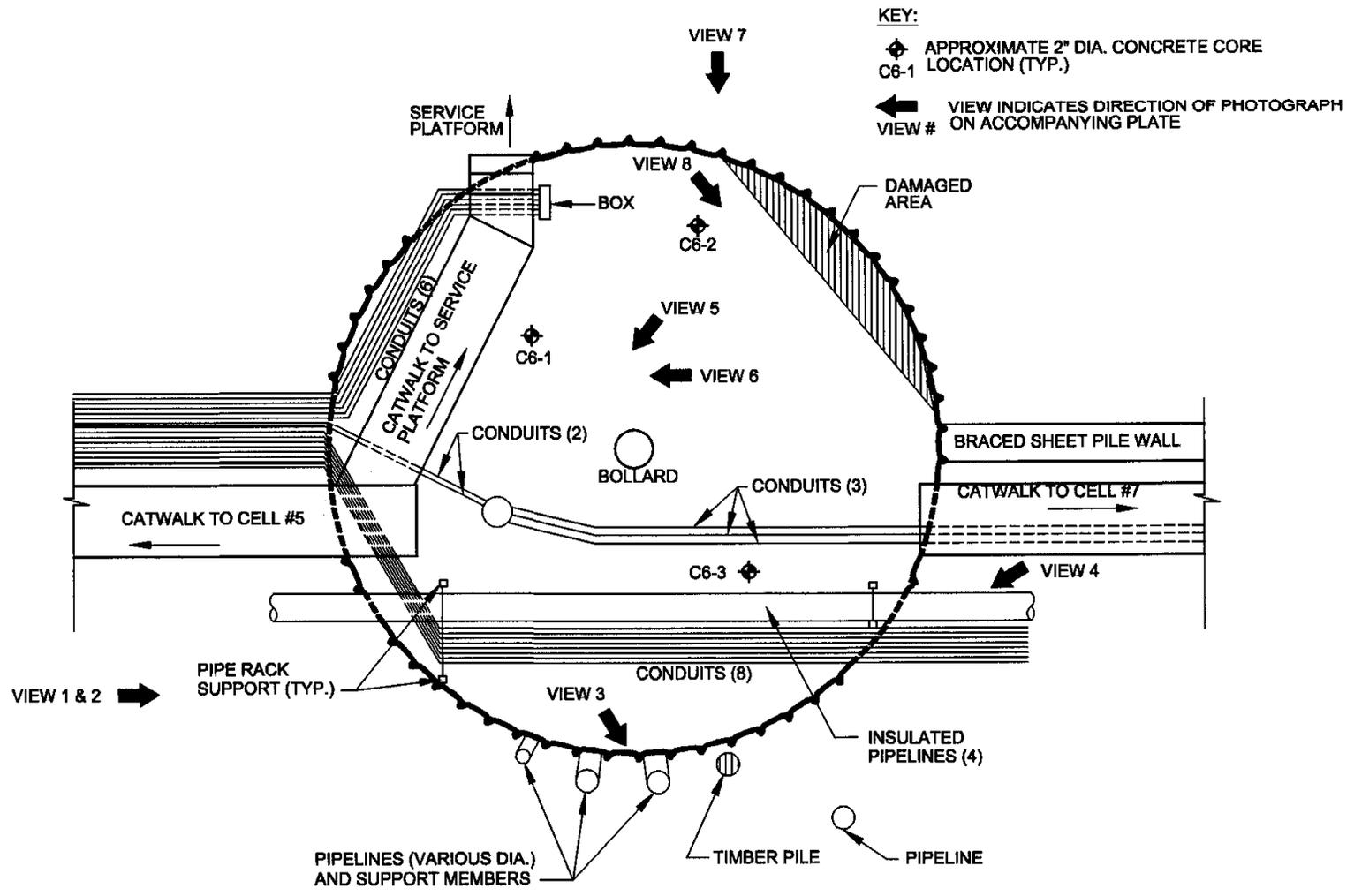
View #3



View #4

<p>PLATE 5B CELL #5 – OBSTRUCTION PHOTOGRAPHS REHABILITATION OF WILMINGTON HARBOR SOUTH JETTY</p>	Date: 11 MAY 2000	Page: 1 of 1
	Reviewed By: TAT	
	Contract Number: IFB-DACW61-00-B-0005	
	<p>U.S. Army Engineer Division Corps of Engineers Philadelphia, Pennsylvania</p>	

THIS PAGE INTENTIONALLY LEFT BLANK



U.S. ARMY ENGINEERING DIVISION
 CORPS OF ENGINEERS
 PHILADELPHIA, PENNSYLVANIA

PLATE 6A
 CELL #6 - SURFACE OBSTRUCTION SUMMARY
 REHABILITATION OF WILMINGTON
 HARBOR SOUTH JETTY

Drawn: CFY/KTF Chk'd: TAT	Date: 11 MAY 2000
Scale: NOT TO SCALE	W.O.: 3769.SR
File No: A-3769SR-07	
Contract No: IFB-DACW61-00-B-0005	
BID DOCUMENTS	5/11/00

THIS PAGE INTENTIONALLY LEFT BLANK



View #1



View #2



View #3



View #4



View #5



View #6

<p>PLATE 6B CELL #6 – OBSTRUCTION PHOTOGRAPHS REHABILITATION OF WILMINGTON HARBOR SOUTH JETTY</p>	Date: 11 MAY 2000	Page: 1 of 2
	Reviewed By: TAT	
	Contract Number: IFB-DACW61-00-B-0005	
	<p>U.S. Army Engineer Division Corps of Engineers Philadelphia, Pennsylvania</p>	

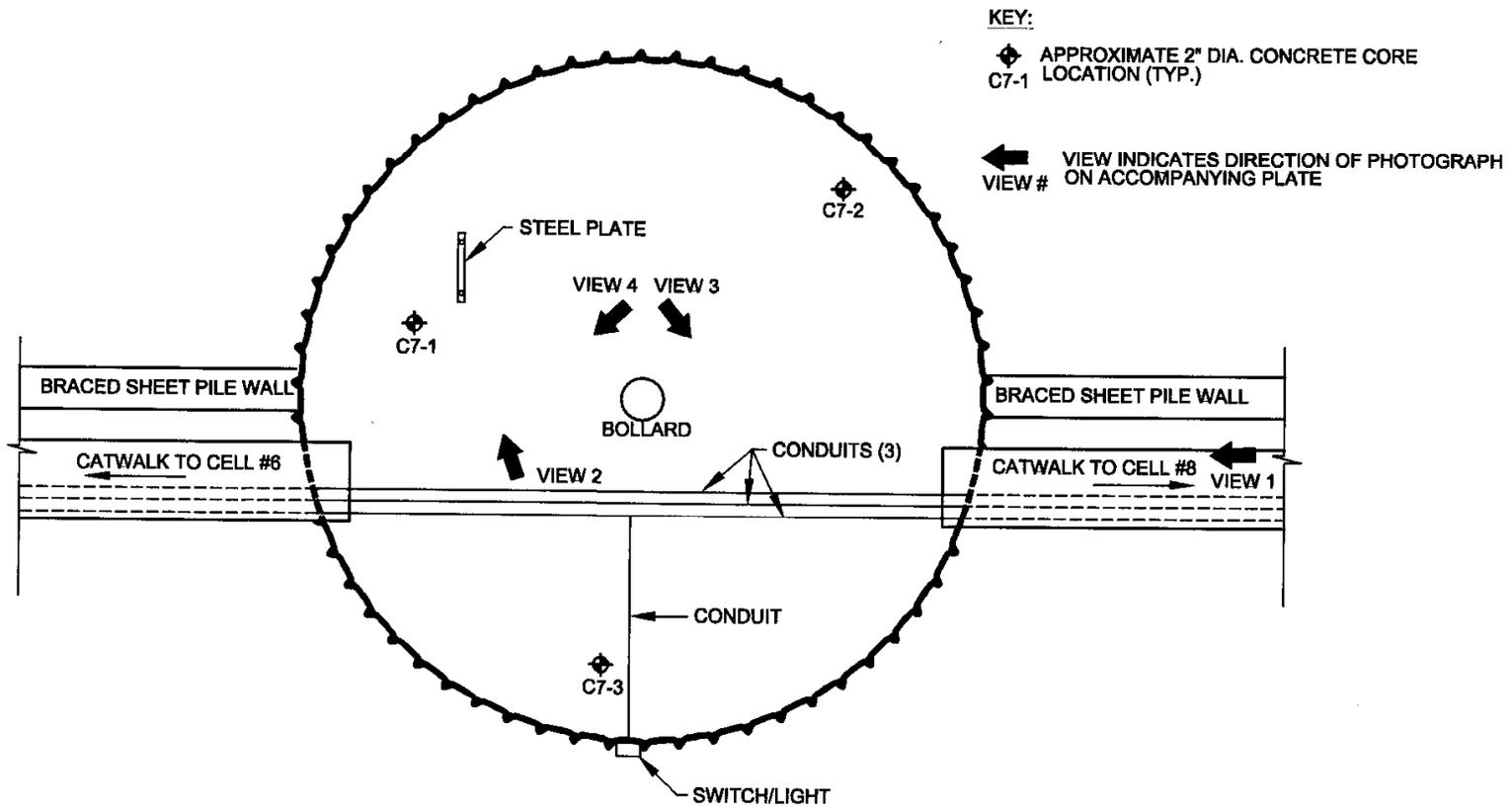


View #7



View #8

PLATE 6B CELL #6 – OBSTRUCTION PHOTOGRAPHS REHABILITATION OF WILMINGTON HARBOR SOUTH JETTY	Date: 11 MAY 2000	Page: 2 of 2
	Reviewed By: TAT	
	Contract Number: IFB-DACW61-00-B-0005	
	U.S. Army Engineer Division Corps of Engineers Philadelphia, Pennsylvania	



**U.S. ARMY ENGINEERING DIVISION
 CORPS OF ENGINEERS
 PHILADELPHIA, PENNSYLVANIA**

**PLATE 7A
 CELL #7 - SURFACE OBSTRUCTION SUMMARY
 REHABILITATION OF WILMINGTON
 HARBOR SOUTH JETTY**

Drawn: CFY/KTF	Chk'd: TAT	Date: 11 MAY 2000
Scale: NOT TO SCALE	W.O.: 3769.SR	
File No: A-3769SR-08		
Contract No: IFB-DACW61-00-B-0005		
	BID DOCUMENTS	5/11/00

THIS PAGE INTENTIONALLY LEFT BLANK



View #1



View #2



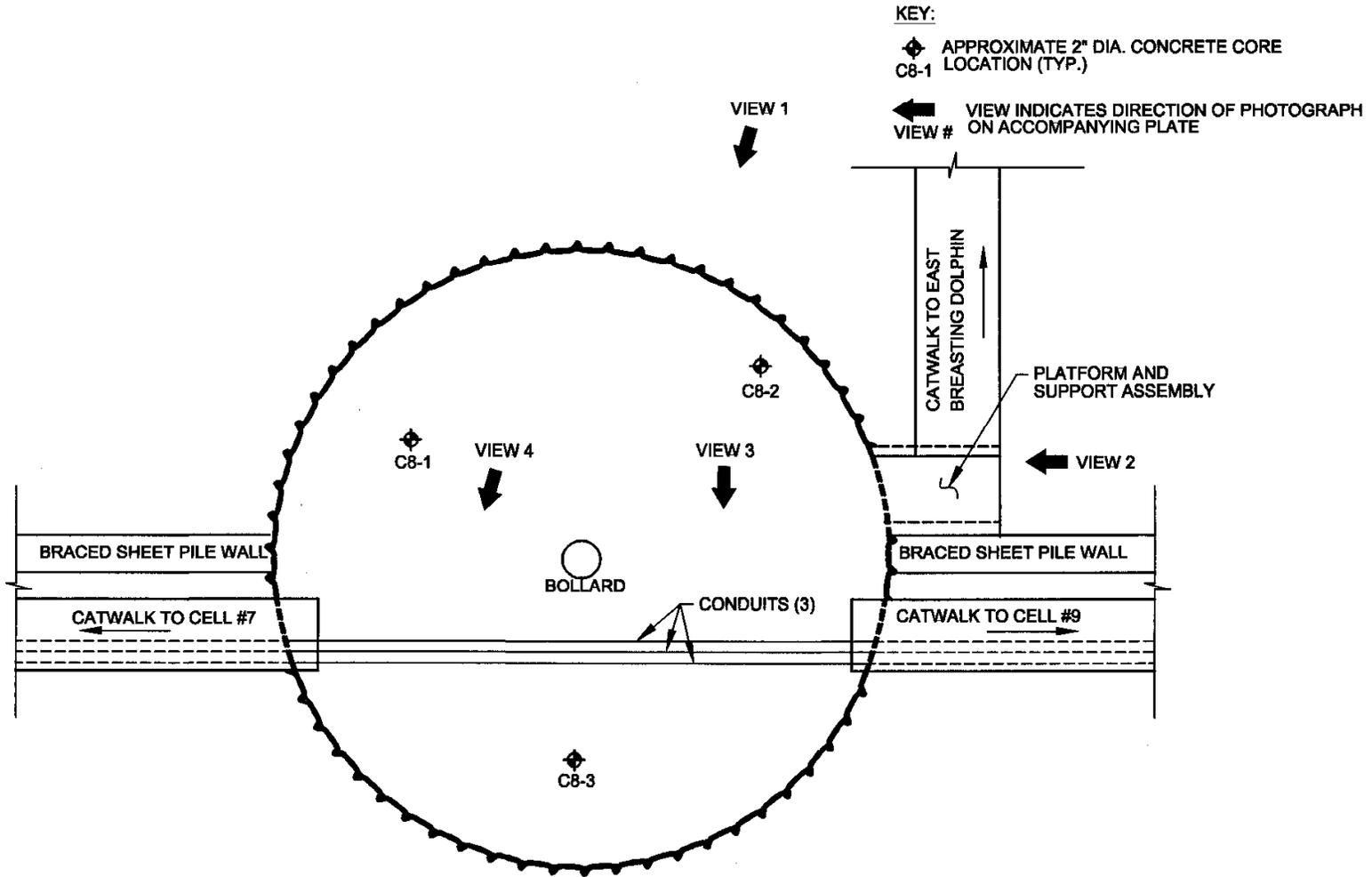
View #3



View #4

<p>PLATE 7B CELL #7 – OBSTRUCTION PHOTOGRAPHS REHABILITATION OF WILMINGTON HARBOR SOUTH JETTY</p>	Date: 11 MAY 2000	Page: 1 of 1
	Reviewed By: TAT	
	Contract Number: IFB-DACW61-00-B-0005	
	<p>U.S. Army Engineer Division Corps of Engineers Philadelphia, Pennsylvania</p>	

THIS PAGE INTENTIONALLY LEFT BLANK



**U.S. ARMY ENGINEERING DIVISION
 CORPS OF ENGINEERS
 PHILADELPHIA, PENNSYLVANIA**

**PLATE 8A
 CELL #8 - SURFACE OBSTRUCTION SUMMARY
 REHABILITATION OF WILMINGTON
 HARBOR SOUTH JETTY**

Drawn: CFY/KTF Chk'd: TAT	Date: 11 MAY 2000
Scale: NOT TO SCALE	W.O.: 3769.SR
File No: A-3769SR-09	
Contract No: IFB-DACW61-00-B-0005	
	BID DOCUMENTS
	5/11/00

THIS PAGE INTENTIONALLY LEFT BLANK



View #1



View #2



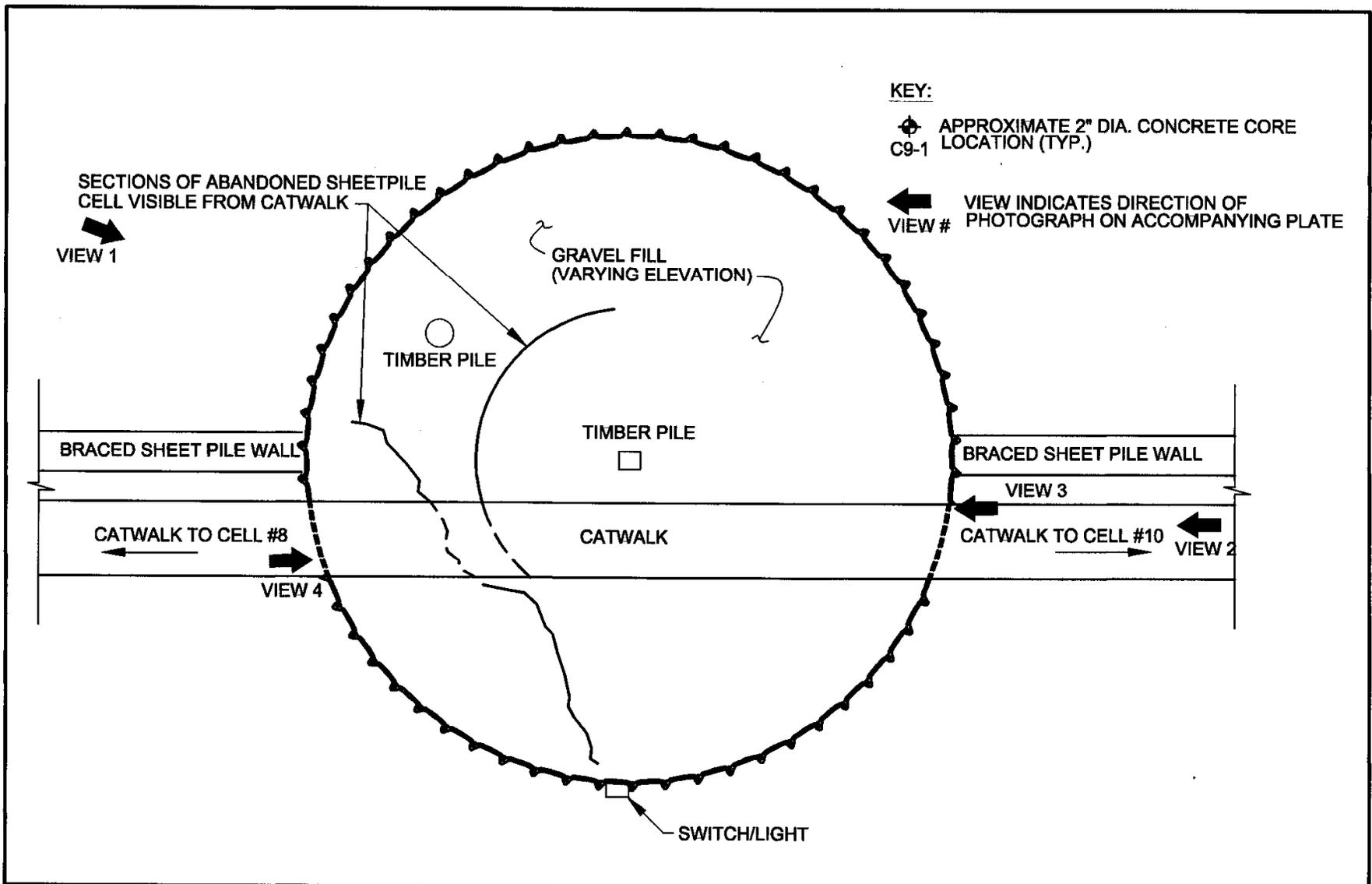
View #3



View #4

PLATE 8B CELL #8 – OBSTRUCTION PHOTOGRAPHS REHABILITATION OF WILMINGTON HARBOR SOUTH JETTY	Date: 11 MAY 2000	Page: 1 of 1
	Reviewed By: TAT	
	Contract Number: IFB-DACW61-00-B-0005	
	U.S. Army Engineer Division Corps of Engineers Philadelphia, Pennsylvania	

THIS PAGE INTENTIONALLY LEFT BLANK



**U.S. ARMY ENGINEERING DIVISION
 CORPS OF ENGINEERS
 PHILADELPHIA, PENNSYLVANIA**

**PLATE 9A
 CELL #9 - SURFACE OBSTRUCTION SUMMARY
 REHABILITATION OF WILMINGTON
 HARBOR SOUTH JETTY**

Drawn: CFY/KTF Chk'd: TAT	Date: 11 MAY 2000
Scale: NOT TO SCALE	W.O.: 3769.SR
File No: A-3769SR-10	
Contract No: IFB-DACW61-00-B-0005	
BID DOCUMENTS	
	5/11/00

THIS PAGE INTENTIONALLY LEFT BLANK



View #1



View #2



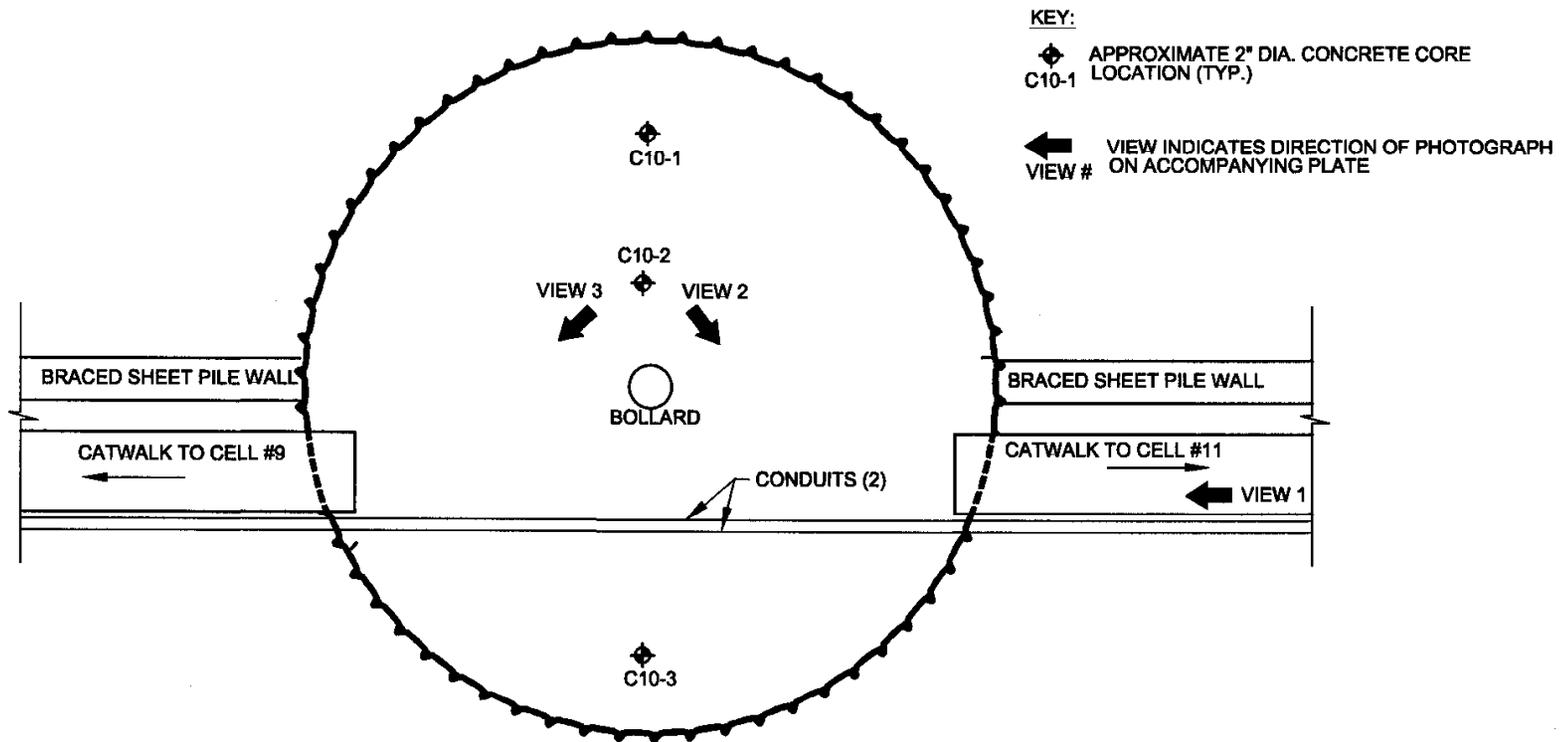
View #3



View #4

PLATE 9B CELL #9 – OBSTRUCTION PHOTOGRAPHS REHABILITATION OF WILMINGTON HARBOR SOUTH JETTY	Date: 11 MAY 2000	Page: 1 of 1
	Reviewed By: TAT	
	Contract Number: IFB-DACW61-00-B-0005	
	U.S. Army Engineer Division Corps of Engineers Philadelphia, Pennsylvania	

THIS PAGE INTENTIONALLY LEFT BLANK



KEY:

◆ APPROXIMATE 2" DIA. CONCRETE CORE LOCATION (TYP.)
C10-1

← VIEW INDICATES DIRECTION OF PHOTOGRAPH ON ACCOMPANYING PLATE
VIEW #

**U.S. ARMY ENGINEERING DIVISION
CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA**

**PLATE 10A
CELL #10 - SURFACE OBSTRUCTION SUMMARY
REHABILITATION OF WILMINGTON
HARBOR SOUTH JETTY**

Drawn: CFY/KTF Chk'd: TAT	Date: 11 MAY 2000
Scale: NOT TO SCALE	W.O.: 3769.SR
File No: A-3769SR-11	
Contract No: IFB-DACW61-00-B-0005	
BID DOCUMENTS	5/11/00

THIS PAGE INTENTIONALLY LEFT BLANK



View #1



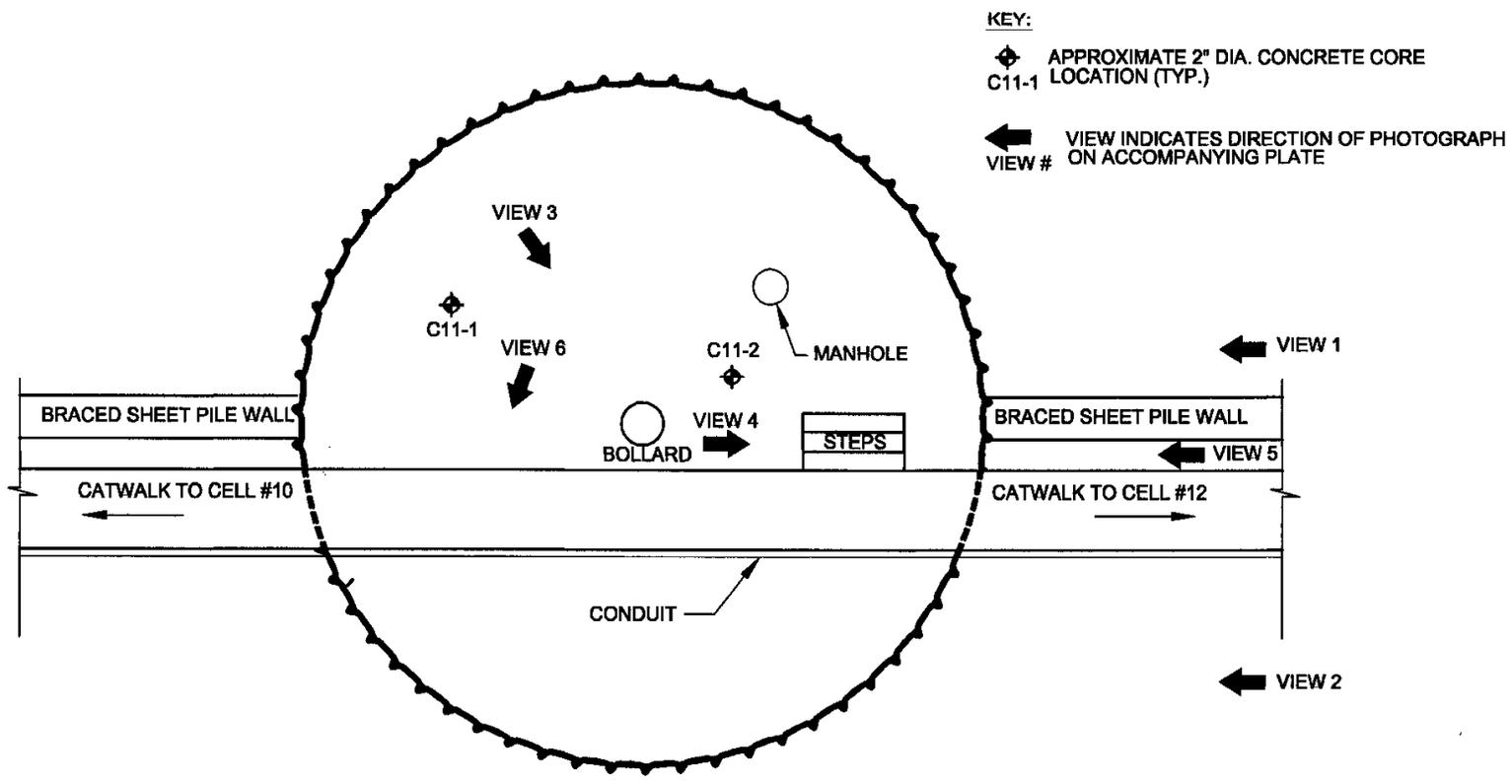
View #2



View #3

PLATE 10B CELL #10 – OBSTRUCTION PHOTOGRAPHS REHABILITATION OF WILMINGTON HARBOR SOUTH JETTY	Date: 11 MAY 2000	Page: 1 of 1
	Reviewed By: TAT	
	Contract Number: IFB-DACW61-00-B-0005	
	U.S. Army Engineer Division Corps of Engineers Philadelphia, Pennsylvania	

THIS PAGE INTENTIONALLY LEFT BLANK



U.S. ARMY ENGINEERING DIVISION
CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

PLATE 11A
CELL #11- SURFACE OBSTRUCTION SUMMARY
REHABILITATION OF WILMINGTON
HARBOR SOUTH JETTY

Drawn: CFY/KTF Chk'd: TAT	Date: 11 MAY 2000
Scale: NOT TO SCALE	W.O.: 3769.SR
File No: A-3769SR-12	
Contract No: IFB-DACW61-00-B-0005	
	BID DOCUMENTS
	5/11/00

THIS PAGE INTENTIONALLY LEFT BLANK



View #1



View #2



View #3



View #4



View #5



View #6

PLATE 11B
CELL #11 – OBSTRUCTION PHOTOGRAPHS

REHABILITATION OF WILMINGTON
HARBOR SOUTH JETTY

Date: 11 MAY 2000

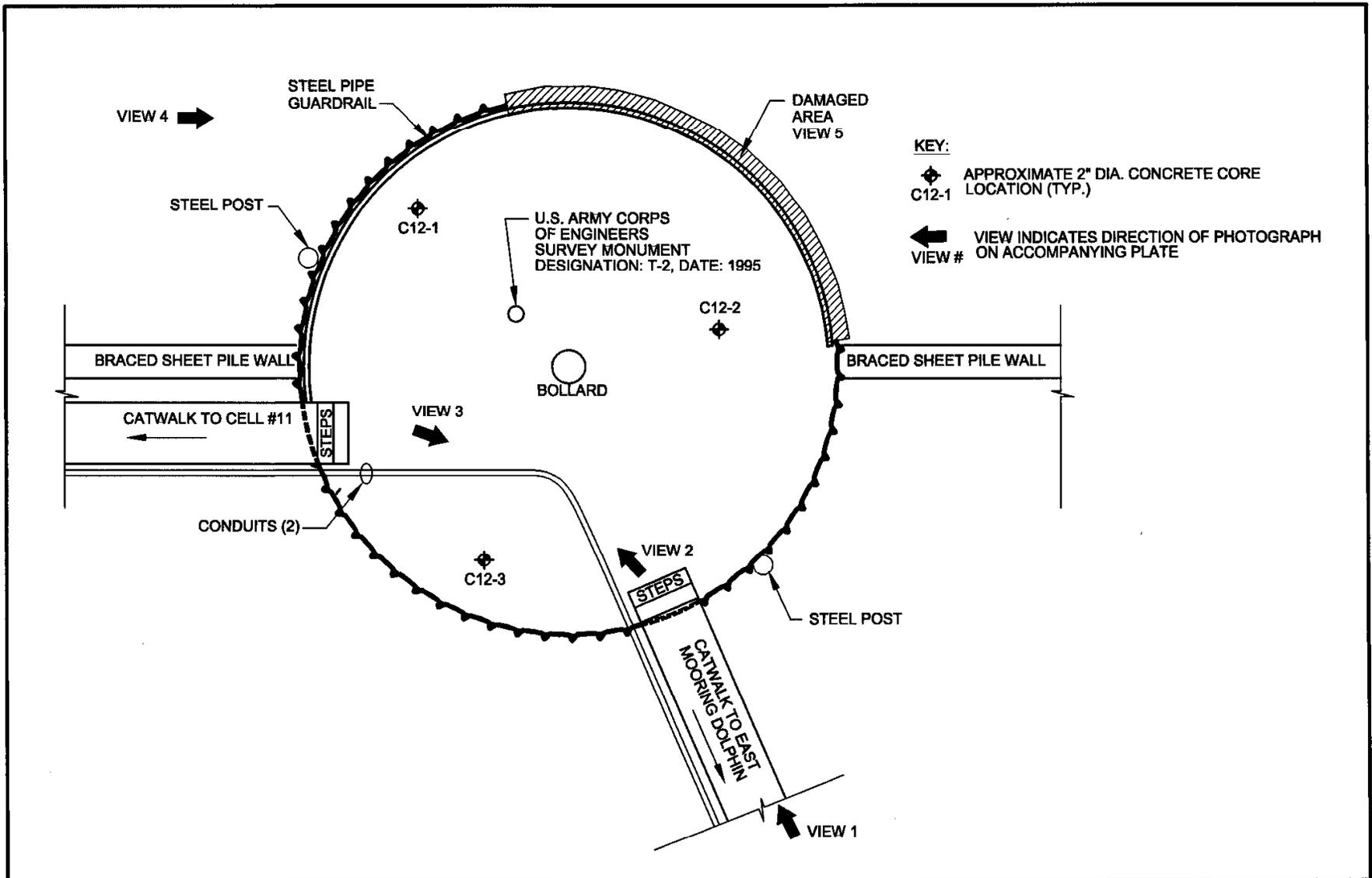
Page: 1 of 1

Reviewed By: TAT

Contract Number: IFB-DACW61-00-B-0005

U.S. Army Engineer Division
Corps of Engineers
Philadelphia, Pennsylvania

THIS PAGE INTENTIONALLY LEFT BLANK



U.S. ARMY ENGINEERING DIVISION
CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

PLATE 12A
CELL #12 - SURFACE OBSTRUCTION SUMMARY
REHABILITATION OF WILMINGTON
HARBOR SOUTH JETTY

Drawn: CFY/KTF Chk'd: TAT	Date: 11 MAY 2000
Scale: NOT TO SCALE	W.O.: 3769.SR
File No: A-3769SR-13	
Contract No: IFB-DACW61-00-B-0005	
BID DOCUMENTS	5/11/00

THIS PAGE INTENTIONALLY LEFT BLANK



View #1



View #2



View #3



View #4

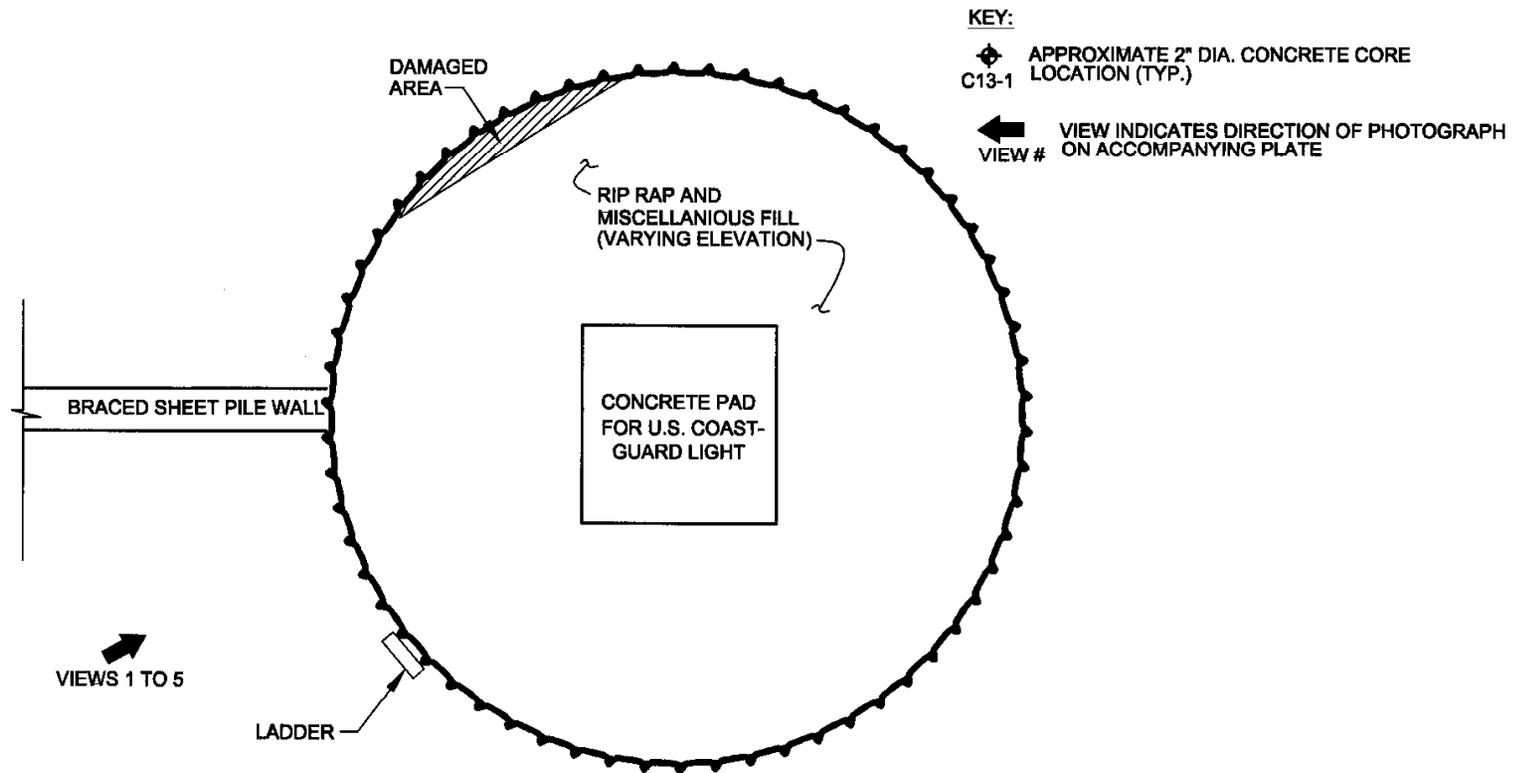


View #5

PLATE 12B
 CELL #12 – OBSTRUCTION PHOTOGRAPHS
 REHABILITATION OF WILMINGTON
 HARBOR SOUTH JETTY

Date: 11 MAY 2000	Page: 1 of 1
Reviewed By: TAT	
Contract Number: IFB-DACW61-00-B-0005	
U.S. Army Engineer Division Corps of Engineers Philadelphia, Pennsylvania	

THIS PAGE INTENTIONALLY LEFT BLANK



**U.S. ARMY ENGINEERING DIVISION
CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA**

**PLATE 13A
CELL #13 - SURFACE OBSTRUCTION SUMMARY
REHABILITATION OF WILMINGTON
HARBOR SOUTH JETTY**

Drawn: CFY/KTF	Chk'd: TAT	Date: 11 MAY 2000
Scale: NOT TO SCALE	W.O.: 3769.SR	
File No: A-3769SR-14		
Contract No: IFB-DACW61-00-B-0005		
	BID DOCUMENTS	5/11/00

THIS PAGE INTENTIONALLY LEFT BLANK



View #1



View #2



View #3



View #4



View #5

<p>PLATE 13B CELL #13 – OBSTRUCTION PHOTOGRAPHS REHABILITATION OF WILMINGTON HARBOR SOUTH JETTY</p>	Date: 11 MAY 2000	Page: 1 of 1
	Reviewed By: TAT	
	Contract Number: IFB-DACW61-00-B-0005	
	<p>U.S. Army Engineer Division Corps of Engineers Philadelphia, Pennsylvania</p>	

THIS PAGE INTENTIONALLY LEFT BLANK

Core Designation	Core Location	Northing ^[1]	Easting ^[1]	Elevation ^[2] (ft)	Existing Concrete Cap Thickness (ft)	Depth of Void ^[3] (ft)
C1-1	Cell 1	625095.5	628366.4	5.7	0.9	2.9
C1-2	Cell 1	625103.1	628361.7	5.7	1.1	7.5
C1-3	Cell 1	625098.0	628375.9	5.6	1.1	7.5
C2-1	Cell 2	625072.1	628433.4	5.7	1.0	5.4
C2-2	Cell 2	625065.8	628445.3	5.8	1.3	7.2
C2-3	Cell 2	625065.0	628434.3	5.9	1.2	4.1
C3-1	Cell 3	625044.0	628501.1	6.1	0.9	8.2
C3-2	Cell 3	625037.9	628514.6	6.2	0.9	7.1
C3-3	Cell 3	625032.8	628505.3	6.1	1.0	4.3
C4-1	Cell 4	625007.7	628567.4	6.1	1.4	7.3
C4-2	Cell 4	625007.7	628575.8	6.3	1.3	6.2
C4-3	Cell 4	625002.6	628585.1	6.1	1.1	4.5
C5-1	Cell 5	624982.7	628643.3	6.0	1.0	8.6
C5-2	Cell 5	624979.6	628654.1	6.0	1.1	6.8
C5-3	Cell 5	624970.4	628651.6	6.0	1.1	2.5
C6-1	Cell 6	624946.3	628712.9	6.1	1.0	4.6
C6-2	Cell 6	624950.3	628719.9	6.1	0.8	5.5
C6-3	Cell 6	624936.1	628719.7	6.0	1.0	2.2
C7-1	Cell 7	624918.7	628780.8	6.1	0.8	6.0
C7-2	Cell 7	624918.2	628796.2	6.0	0.7	8.0
C7-3	Cell 7	624906.2	628784.4	6.0	1.1	3.0

^[1] Horizontal datums are referenced to NAD83 – Delaware State Plane (0700). Referenced location corresponds to the top surface of the existing concrete cap at the location of the concrete core.

^[2] Vertical datums are referenced to NAVD88.

^[3] Depth of void is measured from top of concrete cap to top of “hard surface” within cell.

PLATE 14 RESULTS OF CONCRETE CORING REHABILITATION OF WILMINGTON HARBOR SOUTH JETTY	Date: 11 MAY 2000	Page: 1 of 2
	Reviewed By: TAT	
	Contract Number: IFB-DACW61-00-B-0005	
	U.S. Army Engineer Division Corps of Engineers Philadelphia, Pennsylvania	

Core Designation	Core Location	Northing ^[1]	Easting ^[1]	Elevation ^[2] (ft)	Existing Concrete Cap Thickness (ft)	Depth of Void ^[3] (ft)
C8-1	Cell 8	624887.9	628853.2	6.1	1.0	6.0
C8-2	Cell 8	624890.5	628863.9	5.8	1.4	7.1
C8-3	Cell 8	624876.6	628854.2	5.9	0.9	2.2
C10-1	Cell 10	624831.8	629001.4	6.0	1.3	9.0
C10-2	Cell 10	624826.1	628999.7	6.1	1.1	8.5
C10-3	Cell 10	624816.4	628994.4	6.0	0.9	4.6
C11-1	Cell 11	624798.0	629062.6	6.0	1.4	7.0
C11-2	Cell 11	624790.2	629070.6	6.1	1.5	4.0
C12-1	Cell 12	624771.5	629139.0	6.0	1.3	7.1
C12-2	Cell 12	624761.4	629146.4	6.1	1.9	6.6
C12-3	Cell 12	624758.1	629133.0	6.0	0.8	4.0

^[1] Horizontal datums are referenced to NAD83 – Delaware State Plane (0700). Referenced location corresponds to the top surface of the existing concrete cap at the location of the concrete core.

^[2] Vertical datums are referenced to NAVD88.

^[3] Depth of void is measured from top of concrete cap to top of “hard surface” within cell.

<p style="text-align: center;">PLATE 14 RESULTS OF CONCRETE CORING REHABILITATION OF WILMINGTON HARBOR SOUTH JETTY</p>	Date: 11 MAY 2000	Page: 2 of 2
	Reviewed By: TAT	
	Contract Number: IFB-DACW61-00-B-0005	
	U.S. Army Engineer Division Corps of Engineers Philadelphia, Pennsylvania	

Pre-construction Hydrographic Surveys; FIO

For each of the three phases of work, a pre-construction hydrographic survey of the slope to receive the articulating concrete revetment, as indicated on the Contract Drawings, shall be performed by the Contractor for use in identifying obstructions and determining the existing slope configuration. These surveys shall be performed at least 30 days prior to, but not more than 60 days prior to, the start of installation or subgrade preparation in the corresponding phase of work. The surveys shall be performed to an accuracy of one-foot contours of the mud-line and shall be referenced to the following datums: NAVD88 (Vertical) and NAD83 Delaware State Plane 0700 (Horizontal). For reference, the survey drawings shall indicate the existing location of the jetty, service platforms and mooring dolphins. The surveys shall locate all obstructions within two feet of the mud line in the designated area, and record the elevation of the mud line at each obstruction. These obstructions shall be identified on the survey drawings. These surveys shall also establish the presence or absence of the abandoned sheet pile wall, reportedly located to the north of the existing sheet pile wall, and its approximate location above the mudline, if present. Following review of the survey for each phase, the Contracting Officer will provide direction to the Contractor as to which obstructions are to be removed and which are to remain. It is anticipated that, as a minimum, the batter piles and vertical piles currently in use as part of the existing jetty system, breasting and/or mooring dolphins, and service platforms will remain.

As-built Surveys; GA CO

Within 14 calendar days of completion of each phase of the articulating concrete revetment installation, the Contractor shall submit an as-built drawing for the installation. These drawings shall include an as-built survey of the slope, the anchor trench and the side trenches prior to the installation of the revetment; the limits of the revetment; the location of the anchor trench and side trenches; a top of trench backfill survey for the anchor and side trench riprap; and the locations of obstructions which penetrate the revetment.

SD-08 Statements

Articulating Concrete Revetment Installation Work Plan; GA CO

A Work Plan for each phase of the articulating concrete revetment installation shall be submitted for approval at least 30 calendar days prior to the start of subgrade preparation or installation activities within a phase. Each work plan shall include a schedule identifying each obstruction identified as part of the pre-construction survey and whether each obstruction is to remain or be removed, as determined by the Contracting Officer; a plan for removal of obstructions, where required; shop drawings for the layout of the articulating concrete revetment, including pre-fabricated or manufacturers panel dimensions, complete panel layout, layout sequence, panel connection details, overlap details and details around obstructions which are to remain; the technique for attaching the filter geotextile to the bottom of the revetment; the installation/construction sequence and schedule for the revetment and trenches; and installation/construction techniques for the revetment and trenches.

Verification of Qualified Technical Support; GA CO

The Contractor shall provide the Contracting Officer with the resume of a registered professional engineer who will support the project on the behalf of the articulating revetment manufacturer and installer. This resume shall include references (including contact names and phone numbers) for three projects which the engineer has supported the use of the proposed revetment system in quantities totalling 500,000 square **feet** or more. This technical support representative shall be onsite during the first three days of revetment installation, and then once a week, as a minimum, for the duration of the revetment installation activities, including construction of the anchor and side trenches.

Qualifications of Concrete Testing Laboratory; GA CO

If any portion of the articulating concrete revetment will consist of the precast concrete block articulating revetment, the Contractor shall submit to the Contracting Officer for approval the name and qualifications of the independent testing laboratory which will perform the concrete testing for the precast concrete block articulating revetment. This information shall be submitted a minimum of 14 calendar days prior to the start of concrete testing.

Fine Aggregate Concrete Mix Design for Prewoven, Grout-filled Fabric Articulating Revetment; GA CO

The mix design for the fine aggregate concrete to be used to grout the prewoven fabric articulating revetment shall be submitted for approval at least 14 calendar days in advance of the time when the placing of the concrete revetment is expected to begin.

SD-09 Reports

Quality Control Reports; FIO

The Contractor shall inspect for compliance with contract requirements and record the inspection of all operations including, but not limited to, the following: removal of subsurface obstructions, prewoven fabric mattress, individual concrete blocks and filter fabric for soundness and defects; assembly of the revetment system, including cable connections; placement of the filter fabric and revetment on the slope; and embedment of the filter fabric, revetment and cables in the anchor trench and east and west side trenches.

PART 2 PRODUCTS

2.1 PRECAST CONCRETE BLOCK ARTICULATING REVETMENT

The precast concrete block articulating revetment system shall have a maximum bearing pressure of 45 pounds per square foot. The system shall consist of interlocking blocks, with two integral vertical cables per block, as well as one integral horizontal cable. The final revetment system shall be tied continuously throughout with cables in both directions. The Contracting Officer reserves the right to accept or reject any proposed precast concrete block system for any reason including, but not limited to, previous performance record, lack of appropriate and applicable testing results, hydraulic performance characteristics and qualified technical support.

Materials delivered to the site shall be inspected by the Contractor for damage, unloaded and stored with a minimum of handling. Material shall not

2.2.1 Fine Aggregate Concrete

Fine aggregate concrete shall consist of a mixture of portland cement, fine aggregate, and water so proportioned and mixed as to provide a pumpable grout. Pozzolan and grout fluidifier conforming to these specifications may be used at the option of the Contractor. The mix shall exhibit a compressive strength of 2000 psi at 28 days when made and tested in accordance with ASTM C 31 and ASTM C 39.

2.2.1.1 Portland cement

Portland cement shall conform to ASTM C 150, Type II.

2.2.1.2 Fine Aggregate

Fine Aggregate grading shall conform to ASTM C 33-92, except as to grading. Aggregate grading shall be reasonably consistent and shall be well graded from the maximum size which can be conveniently handled with available pumping equipment.

2.2.1.3 Pozzolan

Pozzolan, if used, shall conform to ASTM C 618.

2.2.2 Fabric Form

Fabric form material shall consist of double-layer woven, 100% nylon fabric joined together into a matrix of rectangular compartments each separated by a narrow perimeter of interwoven fabric, to produce a mat with a finished nominal thickness of 4 inches and a maximum bearing pressure of 45 pounds per square foot, when filled with grout as specified in this Section. Spacer cords shall connect the two layers of fabric at approximately the center of each compartment. Fabric form compartments shall be offset one half of a compartment length, in the mill width direction, to provide a bonded block pattern. Individual block size shall have dimensions of approximately 20 inches by approximately 10 inches. Each layer of fabric shall meet or exceed the statistical mean (average) results shown below.

<u>Property</u>	<u>Test Method</u>	<u>Unit</u>	<u>Value</u>
Mass per Unit Area (double layer)	ASTM D 5261	oz/sy	13
Grab Tensile Strength	ASTM D 4632	lbs	
Warp			250
Fill			250
Grab Tensile Elongation	ASTM D 4632	%	
Warp			25
Fill			25
Mullen Burst Strength	ASTM D 3786	psi	525
Trapezoid Tear Strength	ASTM D 4533	lbs	
Warp			175
Fill			150
Puncture Strength	ASTM D 4833	lbs	65

Mill width rolls shall be cut to the length required, and the two layers of fabric separately joined bottom edge to bottom edge and top edge to top edge by means of 100% nylon sewing thread, to form multiple mill width panels. All sewn seams shall be downward facing. The tensile strength of all sewn seams shall be not less than 50% of the grab tensile strength of the unseamed fabric when tested in accordance with ASTM D 4632. Grout stops shall be installed at predetermined mill width intervals to regulate the flow of fine aggregate concrete.

Immediately following receipt of fabric forms to the job site, forms should be inspected and stored in a clean dry area where they will not be subject to mechanical damage, exposure to moisture or direct sunlight.

2.2.3 Cables

Revetment cables shall be installed between the two layers of fabric and through the compartments in a manner which provides for longitudinal and lateral binding of the finished revetment. One longitudinal revetment cable (slope cable) shall be installed approximately along the centerline of each compartment and shall be securely centered by means of the cable ducts. All cables, within each compartment, shall be completely embedded in the fine aggregate concrete.

Revetment cables shall be constructed of either stainless steel or high tenacity, low elongation continuous filament polyester. If polyester cable is used, the cable shall be constructed of high tenacity, low elongating, continuous filament polyester fibers contained within an outer jacket or cover. The weight of the parallel core shall be between 65 to 70 percent of the total weight of the cable. Vertical cables shall be sized to provide a minimum cable strength to mat weight ratio of 5:1 for safe material lifting and handling, and shall be a minimum of 1/4 inch in diameter, with an allowable break strength of not less than 1000 lbs.

Cable shall be impervious to rot, mildew and degradation associated with marine organisms. The material used in the construction of the cable shall not be affected by continuous immersion in fresh or salt water.

Selection of cable and fittings shall be made in manner that ensures a minimum of 5:1 design safety factor for panels being lifted from both ends. Consideration shall be taken for the bending of the cables around hooks or pins during lifting. Revetment cable splicing fittings shall be selected so that the resultant splice shall provide a minimum of 100% of the required cable strength as specified herein. Fittings such as sleeves, stops and washers shall be in accordance with manufacturer's recommendations.

2.2.4 Filter Fabric

Filter fabric for the prewoven, grouted-in-place, fabric articulating revetment shall be composed of nonwoven needle-punched, discontinuous fibers with a minimum unit weight of 16 ounces per square yard as determined by ASTM D 3776, which meets or exceeds the following minimum average roll values in the weaker principal direction.

<u>Property</u>	<u>Test Method</u>	<u>Unit</u>	<u>Value</u>
-----------------	--------------------	-------------	--------------

3.5 TESTS AND INSPECTIONS

3.5.1 General

Sampling and Testing is the responsibility of the Contractor and shall be performed by an approved testing agency. The individuals who sample and test concrete as required in this specification shall have demonstrated a knowledge and ability to perform the necessary test procedures equivalent to the ACI minimum guidelines for certification of Concrete Field Testing Technicians, Grade I.

3.5.2 Inspection Details and Frequency of Testing

3.5.2.1 Preparations for Placing

Foundation or construction joints, forms, and embedded items shall be inspected in sufficient time prior to each concrete placement by the Contractor to certify that it is ready to receive concrete.

3.5.2.2 Air Content

Air content shall be checked at least twice during each shift that concrete is placed. Samples shall be obtained in accordance with ASTM C 172 and tested in accordance with ASTM C 231. One sample for testing shall be obtained from the first batch of concrete delivered to the site during the shift. The second sample for testing shall be obtained from a randomly selected batch, other than the first batch.

3.5.2.3 Slump

Slump shall be checked twice during each shift that concrete is produced. Samples shall be obtained in accordance with ASTM C 172 and tested in accordance with ASTM C 143. One sample for testing shall be obtained from the first batch of concrete delivered to the site during the shift. The second sample for testing shall be obtained from a randomly selected batch, other than the first batch.

3.5.2.4 Consolidation and Protection

The Contractor shall ensure that the concrete is properly consolidated, finished, protected, and cured.

3.5.3 Action Required

3.5.3.1 Placing

The placing foreman shall not permit placing to begin until he has verified that an adequate number of acceptable vibrators, which are in working order and have competent operators, are available. Placing shall not be continued if any pile is inadequately consolidated.

3.5.3.2 Air Content

Whenever a test result is outside the specification limits, the concrete shall not be delivered to the forms and the batch shall be rejected. An appropriate adjustment shall be made to the dosage of the air-entrainment admixture used in future batches.

3.5.3.3 Slump

Whenever a test result is outside the specification limits, the concrete shall not be delivered to the forms and the batch shall be rejected. An appropriate adjustment shall be made in the batch weights of water and/or fine aggregate used in future batches. The adjustments are to be made so that the water-cement ratio does not exceed that specified in the submitted concrete mixture proportion.

3.5.4 Reports

The results of all tests and inspections conducted at the project site shall be reported informally at the end of each shift and in writing weekly and shall be delivered within 3 days after the end of each weekly reporting period. See Section 01400 CONTRACTOR QUALITY CONTROL.

3.6 MEASUREMENT AND PAYMENT

Concrete will be measured for payment by the cubic yard on the basis of the actual volume of concrete within the pay lines of the structures as indicated. **For estimating purposes, the diameters of the cells are as follows:**

Cells #1 thru #8 and #10 thru #12:	25' plus or minus 6"
Cell #9:	35' plus or minus 6"
Cell #13:	30' plus or minus 6"

Measurement of concrete placed against the sides of any excavation without the use of intervening forms will be made only within the pay lines of the structure. No deductions will be made for rounded or beveled edge, for space occupied by meal work, for electrical conduits or timber, or for voids or embedded items that are either less than 5 cubic feet in volume or 1 square foot in cross section. Payment for concrete will **be** made at the Contract Unit Price for Bid Item No. 20, "Concrete for Cofferdam Caps and Encasements," which shall constitute full compensation to the Contractor for furnishing, delivering, placing, finishing, and curing of concrete for the various items shown on the Contract Drawings. Payment for concrete for which payment is made as a lump sum is not to be included in this unit price payment item. Payment for grout, preformed expansion joints, field-molded sealants, waterstops, reinforcing steel bars or wire reinforcement is not to be included in this unit price payment item.

-- End of Section --