



**US Army Corps
of Engineers
Jacksonville District**

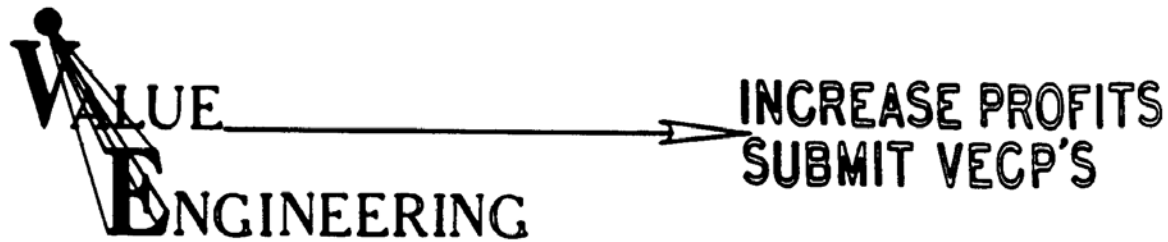
IFB No. GROUP2-10-R-J008

SMALL BUSINESS COMPETITIVE

SANDY O & M SUPPLEMENTAL Intracoastal Waterway, Jacksonville to Miami Maintenance Dredging, 10 & 11-Foot Project Vicinity of Bakers Haulover & Jupiter Inlets

Dade & Palm Beach Counties, Florida

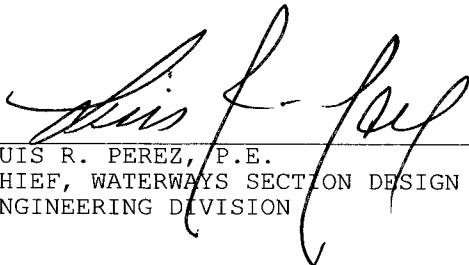
Construction Solicitation and Specifications Volume 1 and 2



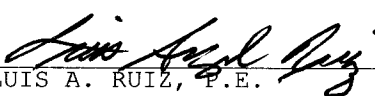
15 AUGUST 2013

DESIGN AUTHENTICATION

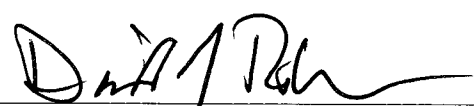
This project was designed by the Jacksonville District, U. S. Army Corps of Engineers. The initials or signatures and registration designations of individuals appear on these project documents within the scope of their employment as required by ER 1110-1-8152.



LUIS R. PEREZ, P.E.
CHIEF, WATERWAYS SECTION DESIGN BRANCH,
ENGINEERING DIVISION



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DAVID J. ROBAR, P.E.
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LAUREEN A. BOROCHANER, P.E.
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ADDENDUM TO THE STANDARD FORM 1442

**INTRACOASTAL WATERWAY, JACKSONVILLE TO MIAMI, FLORIDA
MAINTENANCE DREDGING, 10-FOOT PROJECT VICINITY OF BAKERS
HAULOVER INLET, DADE COUNTY, FLORIDA 11-FOOT PROJECT
VICINITY OF JUPITER INLET, PALM BEACH COUNTY, FLORIDA**

SPECIAL NOTIFICATION: THIS OPPORTUNITY IS AVAILABLE ONLY TO THE FOLLOWING CONTRACTORS AWARDED A CONTRACT UNDER SOLICITATION NUMBER:

For GROUP 2 use: W912EP-10-R-0024: Cottrell Contracting Corporation (W912EP-11-D-0011); Southern Dredging Co., Inc. (W912EP-11-D-0012); Southwind Construction Corp. (W912EP-11-D-0014); Coastal Dredging Company, Inc. (W912EP-11-D-0016); Florida Dredge and Dock, LLC (W912EP-11-D-0017); Barnett Southern Corporation (W912EP-11-D-0018); 4H Construction Corporation (W912EP-11-D-0019); Goodloe Marine, Inc (W912EP-11-D-0020); Caldwell Marine International and Palm Beach Marine Construction, JV (W912EP-11-D-0021); Inland Marine Services, LLC (W912EP-11-D-0024); and Vortex Marine Construction, Inc. (W912EP-11-D-0025); C. F. Bean LLC (W912EP-13-D-0023); Cavache, Inc. (W912EP-13-D-0024); Matthews Marine, Inc (W912EP-13-D-0025); and Inland Dredging Company, LLC (W912EP-13-D-0026)

PROPOSALS WILL NOT BE CONSIDERED FROM ANY ENTITY OTHER THAN THE PREVIOUSLY LISTED FIRMS INCLUDED IN THE GROUP 2, SMALL BUSINESS DREDGING POOL.

TECHNICAL EVALUATION: The award of the task order will be made on the basis of Lowest Price, Technical Acceptable (LPTA); the technical evaluation factors are:

- (1) Availability of technically acceptable dredge(s).
- (2) Past performance, to include the MATOC (The government reserves the right to obtain copies of all Construction Contract Administration Support System (CCASS) records contained in the US Army Corps of Engineers CCASS database for the Prime Contractor (Offeror) and all Major Sub-Contractors).

SUBMISSION REQUIREMENTS: Contractors are required to submit the following:

- (1) A letter on company letterhead identifying the dredge(s) the contractor proposes to do the work and the location of dredge(s). The identified dredge(s) must also have been found technically acceptable by the Contracting Officer prior to the proposal due date.
- (2) Completed Bid Schedule (see Section 00010A)

(3) Bid Guarantee per Section 00700, Clause 52.228-1 and Section 00100A,
Paragraph 2.4(c) of the MATOC

(4) Completed "Addendum to the Standard Form 1442"

THE FOLLOWING INFORMATION IS APPLICABLE ONLY TO THIS TASK ORDER:

Block 9 -- For additional information contact: Tedra N. Thompson, (904) 232-2016 or Tedra.N.Thompson@usace.army.mil

Block 10 -- Magnitude of Construction is between **\$1,000,000.00 and \$5,000,000.00**

Block 11 -- The Contractor shall begin performance within **30** calendar days and complete it within **105** calendar days after receiving notice to proceed. This performance period is mandatory. NOTE: THE GOVERNMENT INTENDS TO ISSUE NOTICE TO PROCEED 60 DAYS AFTER THE AWARD OF THIS TASK ORDER AND THE CONTRACTOR IS TO MOBILIZE NO EARLIER THAN 21 DECEMBER 2013.

Block 12 -- The contractor must furnish any required performance and payment bonds within 10 calendar days after award of the task order.

Block 13 -- Sealed offers to perform the work required shall be delivered to the following address not later than: **4pm EST on 30 August 2013:**

U.S. Army Corps of Engineers
701 San Marco Blvd.
Jacksonville, FL 32207

NOTICE TO OFFERORS: Offerors are to complete Blocks 14, 15, and 20 below:

Block 14 -- Name and Address of Offeror (including Zip Code):

DUNS: _____ CAGE: _____

Block 15 -- Telephone No. (include area code): _____

Block 20 -- Name and Title of Person Authorized to Sign Offer (type or print):

Type/Print _____

Signature: _____

e-Mail: _____

Offer Date: _____

Block 26 -- This Task Order will be administered by:

South Florida Area Office
4400 PGA Boulevard
Suite 203
Palm Beach, FL 33410

Block 27 -- Payment will be made by:

USACE Finance Center
5722 Integrity Drive
ATTN: CEFC-AO-P
Millington, TN 38054-5005

ORDERING GUIDE – APPENDIX D

THE FOLLOWING PAGES CONTAIN ADDENDUMS TO SPECIFIC SECTIONS OF THE ORIGINAL SOLICITATION NUMBER: W912EP-10-R-0024

THESE ADDENDUMS ARE ONLY APPLICABLE TO THIS SPECIFIC TASK ORDER

REQUEST FOR PROPOSAL NUMBER: GROUP2-10-R-J008

PROJECT TITLE:

**INTRACOASTAL WATERWAY, JACKSONVILLE TO MIAMI, FLORIDA
MAINTENANCE DREDGING, 10-FOOT PROJECT VICINITY OF BAKERS
HAULOVER INLET, DADE COUNTY, FLORIDA 11-FOOT PROJECT VICINITY OF
JUPITER INLET, PALM BEACH COUNTY, FLORIDA**

NOTICE TO OFFERORS: The information on the following pages is provided for the various clauses and/or paragraphs which require information to be filled in (when applicable) on each Request for Proposal for Task Orders issued under the awarded contracts. All applicable clauses, terms and conditions contained in the original solicitation and subsequently awarded contracts become part of each Task Order.

SECTION 00010A
LINE ITEMS AND PRICING SCHEDULE

SANDY O&M SUPPLEMENTAL
INTRACOASTAL WATERWAY, JACKSONVILLE TO MIAMI, FLORIDA MAINTENANCE DREDGING, 10-FOOT AND 11-FOOT PROJECT
VICINITY OF BAKERS HAULOVER AND JUPITER INLETS, PALM BEACH COUNTY AND DADE COUNTY

LINE ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
BAKERS HAULOVER INLET - 10 FOOT PROJECT					
0001	MOBILIZATION AND DEMOBILIZATION		LUMP-SUM		\$ _____
0002	TURBIDITY MONITORING	1	LUMP-SUM		\$ _____
0003	EXCAVATION, UNCLASSIFIED (ESTIMATED QUANTITY, SEE NOTE 4)	44,000	CUBIC YARD		
0004	ENDANGERED SPECIES OBSERVER	1	LUMP-SUM		\$ _____
0005	VIBRATION CONTROL MONITORING	1	LUMP SUM		\$ _____
0006	BEACH TILLING (ESTIMATED QUANTITY)	1.21	ACRE	\$ _____	\$ _____
0007	LIABILITY INSURANCE	5,000,000	LUMP-SUM		\$ _____
JUPITER INLET - 11 FOOT PROJECT					
0008	EXCAVATION, UNCLASSIFIED (ESTIMATED QUANTITY, SEE NOTE 4)	64,000	CUBIC YARD	\$ _____	\$ _____
0009	BEACH TILLING (ESTIMATED QUANTITY)	2	ACRE	\$ _____	\$ _____
0010	VIBRATION CONTROL MONITORING	1	LUMP-SUM		\$ _____
0011	LIABILITY INSURANCE	5,000,000	LUMP-SUM		\$ _____
0012	ENDANGERED SPECIES OBSERVER	1	LUMP-SUM		\$ _____
0013	SEAGRASS MONITORING	1	LUMP-SUM		\$ _____
	BASE TOTAL (LINE ITEMS 0001 THRU 0013)				\$ _____
OPTION A: ADVANCE MAINTENANCE DREDGING					
0014	EXCAVATION, UNCLASSIFIED (ESTIMATED QUANTITY, SEE NOTES 4 & 7)	16,000	CUBIC-YARD		\$ _____

NOTES:

(1) OFFERORS MUST BID ON ALL LINE ITEMS.

(2) SEE SECTION 00100, "INSTRUCTIONS TO OFFERORS".

(3) FAILURE TO COMPLETE AND RETURN ALL REQUIRED SUBMISSIONS (SF-1442, SECTION 0010A, SECTION 00101 AND BID GUARANTEE) COULD RENDER YOUR BID NON-RESPONSIVE. SEE PARAGRAPH 999.214-4018 (SECTION 00100)

(4) ACTUAL QUANTITIES MAY VARY.

(5) THE CONTRACTOR SHALL USE FOR BIDDING PURPOSES THE MORE EXPENSIVE OPTION FOR DEALING WITH TREES ON AN INDIVIDUAL BASIS EITHER TO BE PROTECTED OR REMOVED.

(6) THE GOVERNMENT RESERVES THE RIGHT TO EXERCISE OPTION ANYTIME PRIOR TO THE DEMOBILIZATION OF EQUIPMENT. SEE CLAUSE 52.217-7 (SECTION 00700).

SECTION 00010A, Attachment "A"

INSTRUCTIONS FOR TECHNICAL INQUIRES AND QUESTIONS

All technical inquiries and questions relating to this solicitation are to be submitted via Bidder Inquiry in ProjNet at <https://www.projnet.org/projnet/binKornHome/>

To submit and review bid inquiry items, bidders will need to be a current registered user or self register into the system.

To self-register go to the ProjNet web page and follow the steps below.

1. Click the **BID** tab;
2. Select **Bidder Inquiry**;
3. Under the Agency drop-down menu select **USACE**;
4. Enter Key for this solicitation listed below, and a valid e-mail address,
5. Click **Login**.
6. Fill in all required information and click **Create User**.
7. Verify that information on next screen is correct and click **Continue**.

From this page you may view all bidder inquiries or add inquiries. Bidders will receive an acknowledgement of their question via email, followed by an answer to their question after it has been processed by our technical team.

The Solicitation Number is: **GROUP2-10-R-J008**

The Bidder Inquiry Key is: **M2K6JC - SX544W**

THE GOVERNMENT RESERVES THE RIGHT TO LIMIT AND/OR TO NOT RESPOND TO ANY FURTHER QUESTIONS PERTAINING TO THIS PROJECT RECEIVED AFTER **AUGUST 25, 2013**. OFFERORS SHOULD BASE THEIR BIDS ON THE INFORMATION PROVIDED IN THE SOLICITATION AND ALL ISSUED AMENDMENTS THERETO.

The call center operates weekdays from 8AM to 5PM U.S. Central Time Zone (Chicago). The telephone number for the Call Center is 800-428-HELP.

ADDENDUM TO SECTION 00100, INSTRUCTIONS TO OFFERORS
THE REQUIRED FILL-INS FOR FOLLOWING CLAUSES OF SECTION 00100 ARE HEREBY PROVIDED:

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
39.5% (Dade) 22.4% (Palm Beach)	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 **Dade County and Palm Beach County, Florida.**

(End of Clause)

52.236-27 SITE VISIT (CONSTRUCTION) (FEB 1995) (ALTERNATE I) (FEB 1995) (CESAJ ADAPTATION)

(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) An organized site visit has been scheduled for -- **Jupiter Inlet: Wednesday, 21 August 2013 from 10:00am – 11:00am and Bakers Haulover: Thursday, 21 August 2013 from 1:00pm – 2:00pm.**

(c) Participants will meet at – **Jupiter Inlet: Meet at the South Jetty Park, Jupiter Inlet, FL 33477 next to the jetty and Bakers Haulover: Meet at the Haulover Marina Park, 10800 Collins Avenue, Miami Beach, FL 33154** (Location will be provided by the contract administration office via telephone. See (d) below.)

(d) Participants should call **Doug Wood** at **(904) 629-0049** or **Ivan Soto** at **(561) 236-3418** on or before **20 August 2013** to make arrangements.

(e) Core borings **are** available. (If available, follow the instructions in the Physical Data paragraph in Section 00 11 00 and 00 31 32 of individual request for proposals issued for task orders under this contract to make arrangements to inspect the borings. Failure to follow the instructions may result in a delay ranging in duration from one hour to 4 days.)

(f) After the site visit, a memorandum summarizing the visit may be posted to the appropriate website under the solicitation number. This posting will be strictly for informational purposes only. The memorandum will not become a part of the solicitation. If the solicitation needs to be changed as a result of information obtained during the site visit, a written amendment will be made available to all registered vendors. Questions regarding any information given in the memorandum must be directed to the person whose name appears in item 9 of the Addendum to the Standard Form 1442.

(End of Clause)

ADDENDUM TO SECTION 00700, CONTRACT CLAUSES
THE REQUIRED FILL-INS FOR FOLLOWING CLAUSES OF SECTION 00700 ARE HEREBY PROVIDED:

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 105 calendar days after the Contractor receives the notice to proceed. The time stated for completion shall include final cleanup of the premises. NOTE: THE GOVERNMENT INTENDS TO ISSUE NOTICE TO PROCEED 60 DAYS AFTER THE AWARD OF THIS TASK ORDER AND THE CONTRACTOR IS TO MOBILIZE NO EARLIER THAN 21 DECEMBER 2013.

The total completion time of 105 calendar days includes the following:

Base Bid 97 calendar days (includes 30 calendar days mob/demob)
Option A 8 calendar days

(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 \$1,257.00 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)

52.228-1 BID GUARANTEE

(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 twenty (20) percent of the bid price or \$3,000,000.00, 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 Clause)

52.228-5 INSURANCE -- WORK ON A GOVERNMENT INSTALLATION

(a) The Contractor shall, at its own expense, provide and maintain during the entire performance of this contract, at least the kinds and minimum amounts of insurance required in the Schedule or elsewhere in the contract.

(b) Before commencing work under this contract, the Contractor shall notify the Contracting Officer in writing that the required insurance has been obtained. The policies evidencing required insurance shall contain an endorsement to the effect that any cancellation or any material change adversely affecting the Government's interest shall not be effective --

(1) For such period as the laws of the State in which this contract is to be performed prescribe; or

(2) Until 30 days after the insurer or the Contractor gives written notice to the Contracting Officer, whichever period is longer.

(c) The Contractor shall insert the substance of this clause, including this paragraph (c), in subcontracts under this contract that require work on a Government installation and shall require subcontractors to provide and maintain the insurance required in the Schedule or elsewhere in the contract. The Contractor shall maintain a copy of all subcontractors' proofs of required insurance, and shall make copies available to the Contracting Officer upon request.

(End of Clause)

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 See Sections 01 11 00 and/or 00 31 32 of individual task orders under this contract.

(b) Weather conditions See Section 00 33 50 of individual task orders under this contract.

(c) Transportation facilities See Section 01 11 00 of individual task orders this contract.

(End of Clause)

52.236-13 ACCIDENT PREVENTION (NOV 1991)

(a) The Contractor shall provide and maintain work environments and procedures which will --

- (1) Safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities;
- (2) Avoid interruptions of Government operations and delays in project completion dates; and
- (3) Control costs in the performance of this contract.

(b) For these purposes on contracts for construction or dismantling, demolition, or removal of improvements, the Contractor shall --

- (1) Provide appropriate safety barricades, signs, and signal lights;
- (2) Comply with the standards issued by the Secretary of Labor at 29 CFR Part 1926 and 29 CFR Part 1910; and
- (3) Ensure that any additional measures the Contracting Officer determines to be reasonably necessary for the purposes are taken.

(c) If this contract is for construction or dismantling, demolition or removal of improvements with any Department of Defense agency or component, the Contractor shall comply with all pertinent provisions of the latest version of U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, in effect on the date of the solicitation.

(d) Whenever the Contracting Officer becomes aware of any noncompliance with these requirements or any condition which poses a serious or imminent danger to the health or safety of the public or Government personnel, the Contracting Officer shall notify the Contractor orally, with written confirmation, and request immediate initiation of corrective action. This notice, when delivered to the Contractor or the Contractor's representative at the work site, shall be deemed sufficient notice of the noncompliance and that corrective action is required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to promptly take corrective action, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any stop work order issued under this clause.

(e) The Contractor shall insert this clause, including this paragraph (e), with appropriate changes in the designation of the parties, in subcontracts.

(End of Clause)

52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984)

(a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time

prescribed, the Contracting Officer may withhold approval of progress payments until the Contractor submits the required schedule.

(b) The Contractor shall enter the actual progress on the chart as directed by the Contracting Officer, and upon doing so shall immediately deliver three copies of the annotated schedule to the Contracting Officer. If, in the opinion of the Contracting Officer, the Contractor falls behind the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the Government. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the default terms of this contract.

(End of Clause)

52.236-16 QUANTITY SURVEYS (APR 1984)

(a) Quantity surveys shall be conducted, and the data derived from these surveys shall be used in computing the quantities of work performed and the actual construction completed and in place.

(b) The Government shall conduct the original and final surveys and make the computations based on them. The Contractor shall conduct the surveys for any periods for which progress payments are requested and shall make the computations based on these surveys. All surveys conducted by the Contractor shall be conducted under the direction of a representative of the Contracting Officer, unless the Contracting Officer waives this requirement in a specific instance.

(c) Promptly upon completing a survey, the Contractor shall furnish the originals of all field notes and all other records relating to the survey or to the layout of the work to the Contracting Officer, who shall use them as necessary to determine the amount of progress payments. The Contractor shall retain copies of all such material furnished to the Contracting Officer.

(End of Clause)

52.236-17 LAYOUT OF WORK (APR 1984)

The Contractor shall lay out its work from Government established base lines and bench marks indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through its negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of the replacement from any amounts due or to become due to the Contractor.

(End of Clause)

52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997)

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

(b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by," or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown," "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place," that is "furnished and installed".

(d) Shop drawings means drawings, submitted to the Government by the Contractor, subcontractor, or any lower tier subcontractor pursuant to a construction contract, showing in detail

(1) the proposed fabrication and assembly of structural elements, and

(2) the installation (i.e., fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the contractor to explain in detail specific portions of the work required by the contract. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the Contracting Officer and one set will be returned to the Contractor.

(End of Clause)

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:

Index to Drawings is Sheet GI 001.

(End of clause)

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

(2) The remaining forty (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.

(End of clause)

ADDENDUM TO SECTION 00800, SPECIAL REQUIREMENTS
THE REQUIRED FILL-INS FOR FOLLOWING CLAUSES OF SECTION 00800 ARE HEREBY PROVIDED:

LIMITATIONS ON SUBSTITUTIONS FOR CERTAIN POSITIONS AND/OR SUBCONTRACTORS

The award decision for this contract was based, in part, on an evaluation of the personnel and/or subcontractors the Contractor included in its proposal for the positions and/or items of subcontracted work identified at the end of this paragraph. The Contractor agrees these personnel and/or subcontractors will be employed as described in its proposal and no substitutes will be employed without prior written approval of the Contracting Officer or Administrative Contracting Officer. The Contractor further agrees that any proposed substitutes shall meet or exceed the qualifications of the original personnel and/or subcontractors. If the Contractor's proposal did not name a subcontractor for an identified item of work, the Contractor will not be allowed to subcontract that item of work without prior approval of the Contracting Officer or Administrative Contracting Officer. The limitations described herein shall apply to the following positions and/or items of subcontracted work: **Named dredge(s)**

(End of paragraph number 999.215-4001)

REQUIRED INSURANCE

In accordance with the Insurance - Work On A Government Installation clause of this contract, the following schedule applies:

(a) Workmen's Compensation and Employer's Liability.

(1) Compliance with applicable workmen's compensation and occupational diseases statutes is required. (If occupational diseases are not compensable under applicable statutes, coverage may be under employer's liability insurance.)

(2) Employer's liability	\$100,000.00
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(b) General Liability (comprehensive form policy).

(1) Bodily injury per occurrence	\$500,000.00
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(2) Property damage per occurrence (per location)	\$5,000,000.00
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(c) Automobile Liability (comprehensive form policy).

(1) Bodily injury per person	\$200,000.00
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(2) Bodily injury per accident	\$500,000.00
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(3) Property damage per accident	\$20,000.00
----------------------------------	-------------

(End of paragraph number 999.228-4000)

ADDENDUM TO SECTION 00800A, WAGES DETERMINATIONS AND OTHER ATTACHMENTS

THE FOLLOWING WAGES RATES ARE HEREBY INCORPORATED INTO THIS TASK ORDER:

LIST OF CONSTRUCTION CONTRACT ATTACHMENTS

No.	TITLE	DATE	NO. OF PAGES
1	General Decision Number FL20120002	01/04/2013	4
2	General Decision Number FL130168	07/12/2013	5
3	General Decision Number FL130173	04/05/2013	5

General Decision Number: FL130002 01/04/2013 FL2

Superseded General Decision Number: FL20120002

State: Florida

Construction Type: Heavy Dredging

Counties: Florida Statewide.

Dredging Construction Projects FLORIDA (Excluding West of the Aucilla River and its tributary waterways)

Modification Number	Publication Date
0	01/04/2013

* ENGI0025-002 10/01/2009

	Rates	Fringes
Dredging :		
CLASS A.....	\$ 28.20	6.60+a
CLASS B1.....	\$ 24.70	6.60+a
CLASS B2.....	\$ 23.81	6.60+a
CLASS C1.....	\$ 22.58	6.50+a
CLASS C2.....	\$ 21.63	6.50+a
CLASS D.....	\$ 18.26	6.40+a
Hydraulic Dredges Under 20"		
Cook.....	\$ 8.11	1.73+b
Deckhand.....	\$ 7.77	1.73+b
Engineer.....	\$ 9.59	1.73+b
Launchman.....	\$ 8.19	1.73+b
Leverman.....	\$ 10.03	1.73+b
Mate.....	\$ 8.82	1.73+b
Mess Cook.....	\$ 7.71	1.73+b
Messman & Janitor.....	\$ 7.53	1.73+b
Oiler & Fireman.....	\$ 8.11	1.73+b
Shoreman.....	\$ 7.82	1.73+b
Spider Barge Operator.....	\$ 8.68	1.73+b
Spill Barge Operator.....	\$ 8.68	1.73+b
Welder.....	\$ 9.79	1.73+b

CLASSIFICATIONS:

CLASS A: Leverman, Operator.

CLASS B1: Licensed Tug Operator over 1000 HP, Derrick Operator, Spider/Spill Barge Operator, Timber Fork Operator, Dozer Operator, Engineer, Blaster/Driller, Fill Placer, Electrician.

CLASS B2: Licensed Boat Operator, Certified Welder.

CLASS C1: Mate, Drag Barge Operator, Welder, Assistant Fill

Placer, Steward.
CLASS C2: Boat Operator.
CLASS D: Shoreman, Deckhand, Rodman, Scowman, Cook, Messman,
Oiler, Janitor.

PREMIUMS: Additional 20% for hazardous material work

FOOTNOTE APPLICABLE TO ABOVE CRAFTS:

a. New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. Vacation Contribution of 8% of straight time rate multiplied by the total hours worked.

b. New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day. Plus Vacation contribution of 8% of straight time pay for all hours worked.

INCENTIVE PAY : (Add to Hourly Rate)

Operator (NCCCO License/Certification) \$0.50; Licensed Tug Operator over 1000 HP (Assigned as Master) USCG licensed Master of Towing Vessels (MOTV) \$1.00; Licensed Boat Operator (assigned as lead boat captain) USCG licensed boat operator \$0.50; Engineer (QMED and Tankerman endorsement or licensed engineer (USCG) \$0.50; Oiler QMED and Tankerman endorsement (USCG) \$0.50; All classifications Tankerman endorsement only (USCG) \$0.50; Deckhand or Mater AB w/Lifeboatman only (USCG) \$0.25; Welder (ABS certification) \$0.50

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 (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

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, DC 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
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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:

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200 Constitution Avenue, N.W.
Washington, DC 20210

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

=====

END OF GENERAL DECISION

General Decision Number: FL130168 08/09/2013 FL168

Superseded General Decision Number: FL20120168

State: Florida

Construction Type: Heavy

County: Miami-Dade County in Florida.

HEAVY CONSTRUCTION PROJECTS (Including Sewer and Water Lines)

Modification Number	Publication Date
0	01/04/2013
1	04/05/2013
2	05/17/2013
3	07/12/2013
4	08/09/2013

* ELEC0349-007 09/01/2012

	Rates	Fringes
ELECTRICIAN		
Total value of Electrical work on Project including materials over \$2,000,000...	\$ 30.11	9.56
Total value of Electrical work on Project including materials under \$2,000,000..	\$ 27.15	9.18

ENGI0487-017 01/16/2010

	Rates	Fringes
OPERATOR: Backhoe (Except Loader Combo).....	\$ 27.57	8.78
OPERATOR: Crane		
All Tower Cranes (Must have 2 operators) Mobile, Rail, Climbers, Static-Mount; All Cranes with Boom Length 150 Feet & Over (With or without jib) Friction, Hydro, Electric or Otherwise; Cranes 150 Tons & Over (Must have 2 operators); Cranes with 3 Drums (When 3rd drum is rigged for work); Gantry & Overhead Cranes; Hydro Cranes Over 25 Tons but not more than 50 Tons (Without Oiler/Apprentice); Hydro/Friction Cranes without Oiler/Apprentices		

when Approved by Union; & All Type of Flying Cranes; Boom Truck.....	\$ 28.30	8.78
Cranes with Boom Length Less than 150 Feet (With or without jib); Hydro Cranes 25 Tons & Under, & Over 50 Tons (With Oiler/Apprentice); Boom Truck.....	\$ 27.57	8.78
OPERATOR: Drill.....	\$ 25.05	8.78
OPERATOR: Loader.....	\$ 24.89	8.78
OPERATOR: Oiler.....	\$ 22.24	8.78

IRON0272-005 10/01/2011

	Rates	Fringes
IRONWORKER, STRUCTURAL.....	\$ 23.94	5.93

LAB01652-004 05/01/2011

	Rates	Fringes
LABORER: Grade Checker.....	\$ 14.50	4.67

PAIN0365-007 09/01/2011

	Rates	Fringes
PAINTER: Brush, Roller and Spray.....	\$ 19.50	7.93

SUFL2009-164 06/24/2009

	Rates	Fringes
CARPENTER, Includes Form Work....	\$ 17.00	2.51
CEMENT MASON/CONCRETE FINISHER...	\$ 16.61	5.52
LABORER: Common or General.....	\$ 13.09	1.26
LABORER: Landscape.....	\$ 7.25	0.00
LABORER: Power Tool Operator (Hand Held Drills/Saws, Jackhammer and Power Saws Only).....	\$ 10.63	2.20
OPERATOR: Asphalt Paver.....	\$ 11.59	0.00
OPERATOR: Backhoe Loader Combo.....	\$ 16.10	2.44
OPERATOR: Bulldozer.....	\$ 14.95	0.81

OPERATOR: Excavator.....	\$ 21.16	1.67
OPERATOR: Grader/Blade.....	\$ 16.00	2.84
OPERATOR: Mechanic.....	\$ 14.32	0.00
OPERATOR: Roller.....	\$ 10.95	0.00
OPERATOR: Scraper.....	\$ 11.00	1.74
OPERATOR: Trackhoe.....	\$ 20.92	5.50
OPERATOR: Tractor.....	\$ 10.54	0.00
TRUCK DRIVER, Includes Dump Truck.....	\$ 9.60	0.00
TRUCK DRIVER: Lowboy Truck.....	\$ 12.73	0.00
TRUCK DRIVER: Off the Road Truck.....	\$ 12.21	1.97

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
(29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification
and wage rates that have been found to be prevailing for the
cited type(s) of construction in the area covered by the wage
determination. The classifications are listed in alphabetical
order of "identifiers" that indicate whether the particular
rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with
characters other than "SU" denotes that the union
classification and rate have found to be prevailing for that
classification. Example: PLUM0198-005 07/01/2011. The first
four letters , PLUM, indicate the international union and the
four-digit number, 0198, that follows indicates the local union
number or district council number where applicable , i.e.,
Plumbers Local 0198. The next number, 005 in the example, is
an internal number used in processing the wage determination.

The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

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WAGE DETERMINATION APPEALS PROCESS

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

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- * a survey underlying a wage determination
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END OF GENERAL DECISION

General Decision Number: FL130173 04/05/2013 FL173

Superseded General Decision Number: FL20120173

State: Florida

Construction Type: Heavy

County: Palm Beach County in Florida.

HEAVY CONSTRUCTION PROJECTS (Including Sewer and Water Lines)

Modification Number	Publication Date
0	01/04/2013
1	04/05/2013

ELEC0728-006 09/01/2012

	Rates	Fringes
ELECTRICIAN.....	\$ 28.46	9.12

ENGI0487-014 01/01/2010

	Rates	Fringes
OPERATOR: Crane All Tower Cranes Mobile, Rail, Climbers, Static- Mount; All Cranes with Boom Length 150 Feet & Over (With or without jib) Friction, Hydraulic, Electric or Otherwise; Cranes 150 Tons & Over; Cranes with 3 Drums (When 3rd drum is rigged for work); Gantry & Overhead Cranes; Hydraulic Cranes Over 25 Tons but not more than 50 Tons; Hydraulic/Friction Cranes; & All Types of Flying Cranes; Boom Truck.....	\$ 28.30	8.78
Cranes with Boom Length Less than 150 Feet (With or without jib); Hydraulic Cranes 25 Tons & Under, & Over 50 Tons (With Oiler); Boom Truck.....	\$ 27.57	8.78
OPERATOR: Drill.....	\$ 25.05	8.78
OPERATOR: Oiler.....	\$ 22.24	8.78

IRON0402-003 10/01/2011

	Rates	Fringes
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IRONWORKER, STRUCTURAL.....	\$ 22.22	7.65
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 * LAB01652-004 05/01/2011

	Rates	Fringes
LABORER: Grade Checker.....	\$ 14.50	4.67

 * PAIN0452-007 09/01/2011

	Rates	Fringes
PAINTER: Brush, Roller and Spray.....	\$ 19.50	7.93

 SUFL2009-169 06/24/2009

	Rates	Fringes
CARPENTER, Includes Form Work....	\$ 17.00	2.51
CEMENT MASON/CONCRETE FINISHER...	\$ 16.93	0.00
LABORER: Common or General.....	\$ 10.64	0.00
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END OF GENERAL DECISION

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-- End of Project Table of Contents --

SECTION 00 31 21

CONTROL MONUMENT DESCRIPTIONS

BAKERS HAULOVER INLET

DESIGNATION - R 26

PID - AC4653
TIDAL BM - This is a Tidal Bench Mark.

MARKER: SURVEY DISK
SETTING: SET IN A MASSIVE RETAINING WALL
SP_SET: RETAINING WALL
STAMPING: R 26 74 DADE CO
MARK LOGO: FLDNR
MAGNETIC: NO MAGNETIC MATERIAL
STABILITY: PROBABLY HOLD POSITION/ELEVATION WELL
SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR SATELLITE
OBSERVATIONS - June 21, 2012

HISTORY	- Date	Condition	Report By
HISTORY	- 1974	MONUMENTED	FLDNR
HISTORY	- 20120621	GOOD	CALGOR

STATION DESCRIPTION

TO REACH THE STATION FROM THE NORTH END OF STATE ROUTE A1A HIGHWAY BRIDGE OVER BAKERS HAULOVER CUT INLET, LOCATED ABOUT 8.00 MI NORTH OF MIAMI AND 1.50 MI NORTH OF SURFSIDE, GO NORTH ALONG STATE ROUTE A1A FOR 0.20 MI TO THE ENTRANCE TO THE HAULOVER BEACH PARK AND PIER ON THE RIGHT, THEN GO RIGHT, EASTERLY ALONG PAVED ENTRANCE ROAD FOR ABOUT 0.10 MI TO THE WEST END OF THE PIER AND THE STATION.

THE STATION IS SET IN THE TOP OF THE CONCRETE SEAWALL ON THE EAST SIDE OF THE BERM ROADWAY AND AT THE EAST SIDE OF A LARGE PARKING AREA. LOCATED 60.0 FT NORTH OF A WALKWAY DOWN TO THE BEACH, 229.7 FT SOUTH OF THE CENTER OF THE ONSHORE ENTRANCE END OF THE FISHING PIER, 55.8 FT NORTHEAST OF CONCRETE POLE NUMBER 2464 HM V6 AND 6.6 FT EAST OF THE CENTER OF THE PAVED SERVICE ROAD WHICH ABUTS THE SEAWALL AND PARALLELS THE ATLANTIC OCEAN SHORELINE.

STATION RECOVERY (1993)

1.10 MI NORTHERLY ALONG STATE HIGHWAY A1A (COLLINS AVENUE) FROM THE JUNCTION OF 96TH STREET (STATE HIGHWAY 922) IN BAL HARBOR, THENCE 0.05 MI EASTERLY ALONG HAULOVER BEACH PARK ENTRANCE ROAD, IN A CONCRETE RETAINING WALL ALONG THE EAST SIDE OF A PAVED ROAD, 357.3 FT SOUTH OF THE CENTER OF HAULOVER FISHING PIER, 131.6 FT EAST OF THE CENTER OF THE MAIN ROAD LEADING THROUGH THE PARK, 81.7 FT SOUTH OF UTILITY POLE NUMBER 2464 HMV 7, 79.7 FT NORTH OF THE NORTH END OF A CONCRETE WALL, 59.4 FT NORTH OF UTILITY POLE NUMBER 2464 HMV 6, AND 6.6 FT EAST OF AND LEVEL WITH THE ROAD CENTER.

STATION RECOVERY (2012)

RECOVERED AS DESCRIBED

DESIGNATION - S 35

PID - AC2366
STATE/COUNTY- FL/MIAMI-DADE

MARKER: BENCH MARK DISK
SETTING: SET IN TOP OF CONCRETE MONUMENT
SP_SET: CONCRETE POST
STAMPING: S 35 1933 11.325
MARK LOGO: CGS
MAGNETIC: MARKER EQUIPPED WITH BAR MAGNET
STABILITY: MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO SURFACE MOTION
SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR SATELLITE
OBSERVATIONS - May 22, 2002

HISTORY	- Date	Condition	Report By
HISTORY	- 1933	MONUMENTED	CGS
HISTORY	- 20110104	GOOD	FLDT

STATION DESCRIPTION

ABOUT 1.55 MILES SOUTH ALONG THE FLORIDA EAST COAST RAILWAY FROM THE CROSSING OF STATE HIGHWAY 826 AT NORTH MIAMI BEACH, IN SECTION 21, R 42 E, T 52 S, 0.1 MILE SOUTH OF MILEPOST 356, ABOUT 0.75 MILE NORTH OF THE STATION AT NORTH MIAMI, NEAR THE CROSSING OF NE 141 STREET, 31.5 FEET EAST OF THE EAST RAIL OF THE NORTHBOUND TRACK, 58 FEET WEST OF THE CENTER LINE OF THE SOUTHBOUND LANE OF U.S. HIGHWAY 1, 29 FEET NORTH OF THE CENTER LINE OF NE 141 STREET, 1 FOOT NORTH OF A METAL WITNESS POST, 2 1/2 FEET BELOW THE LEVEL OF THE TRACK AND SET IN THE TOP OF A CONCRETE POST PROJECTING 1 INCH ABOVE THE LEVEL OF THE GROUND.

STATION RECOVERY (1990)

IN NORTH MIAMI, AT THE INTERSECTION OF U.S. HIGHWAY 1 (BISCAYNE BOULEVARD) AND NORTHEAST 141ST STREET, 18.0 M (59.1 FT) WEST OF THE HIGHWAY CENTERLINE, 9.6 M (31.5 FT) EAST OF THE NEAR RAIL OF THE FLORIDA EAST COAST RAILROAD, 9.3 M (30.5 FT) NORTH OF THE STREET CENTER, 6.3 M (20.7 FT) NORTHEAST OF THE NORTHEAST CORNER OF A RAILROAD SIGNAL, 0.5 M (1.6 FT) EAST OF A WITNESS POST, 0.3 M (1.0 FT) ABOVE THE LEVEL OF THE HIGHWAY, AND THE MONUMENT IS 0.2 M (0.7 FT) BELOW THE GROUND SURFACE.

STATION RECOVERY (2011)

RECOVERED IN GOOD CONDITION.

DESIGNATION - 872 3073 TIDAL 1

PID - AC3334
TIDAL BM - This is a Tidal Bench Mark.
STATE/COUNTY- FL/MIAMI-DADE

MARKER: DJ = TIDAL STATION DISK
SETTING: 37 = SET IN A MASSIVE RETAINING WALL
SP_SET: CONCRETE BULKHEAD
STAMPING: NO 1 1973
MARK LOGO: NOS
STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
SATELLITE: SATELLITE OBSERVATIONS - April 15, 2008

HISTORY	- Date	Condition	Report By
HISTORY	- 1973	MONUMENTED	NOS
HISTORY	- UNK	SEE DESCRIPTION	
HISTORY	- 1982	GOOD	FLDNR
HISTORY	- 19940411	GOOD	USPSQD
HISTORY	- 20080415	GOOD	DCPWD

STATION DESCRIPTION

STATION RECOVERY (1982)

1.1 MI NORTH FROM BAL HARBOUR. IN BAL HARBOUR... BEGIN AT THE STATE HIGHWAY A1A BRIDGE OVER BAKERS HAULOVER CUT, GO 0.4 MILE NORTH ON A1A TO THE ENTRANCE TO THE HAULOVER MARINA AND THE MARK AT THE SOUTH END OF THE MARINA. THE MARK BEARS 120 FEET SOUTH OF THE CENTER OF PIER NO. 1, 36 FEET EAST OF THE NORTHWEST CORNER OF THE FUELING PIER, THE MARK IS RECESSED IN ASPHALT.

THE MARK IS ABOVE LEVEL WITH BULKHEAD.

STATION RECOVERY (2008)

RECOVERY NOTE BY DADE COUNTY PUBLIC WORKS DEPARTMENT 2008 (MJW)
RECOVERED IN GOOD CONDITION.

DESIGNATION - 872 3080 D TIDAL

PID - AC4681
TIDAL BM - This is a Tidal Bench Mark.

MARKER: TIDAL STATION DISK
SETTING: STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)
STAMPING: 3080 D 1982
MARK LOGO: NOS
PROJECTION: FLUSH
MAGNETIC: MARKER IS A STEEL ROD
STABILITY: PROBABLY HOLD POSITION/ELEVATION WELL
SATELLITE: THE SITE LOCATION WAS REPORTED AS NOT SUITABLE FOR SATELLITE
OBSERVATIONS - June 21, 2012
ROD/PIPE-DEPTH: 9.0 meters

HISTORY	- Date	Condition	Report By
HISTORY	- 1982	MONUMENTED	NOS
HISTORY	- 20120621	GOOD	CALGOR

STATION DESCRIPTION

1.6 KM (1.0 MI) NORTHERLY ALONG STATE HIGHWAY A1A (COLLINS AVENUE) FROM THE INTERSECTION OF 96TH STREET (STATE HIGHWAY 922) IN BAL HARBOUR, 64.0 M (210.0 FT) NORTHEAST OF BENCH MARK IWDA 7 REFERENCE MARK 1, 29.8 M (97.8 FT) WEST OF THE NORTHWEST CORNER OF THE FLORIDA POWER AND LIGHT COMPANY, 14.9 M (48.9 FT) SOUTH OF THE FIRST PIER (SOUTH OF THE NORTH END) OF THE HIGHWAY BRIDGE SPANNING HAULOVER INLET, 14.6 M (47.9 FT) EAST OF A PALM TREE, 2.5 M (8.2 FT) WEST OF A CURB, AND 2.2 M (7.2 FT) SOUTH OF A CURB. NOTE--THE DISK IS ENCASED IN A 4-INCH PVC PIPE THAT IS 0.2 M (0.7 FT) BELOW THE GROUND SURFACE.

STATION RECOVERY (1993)

1.6 KM (1.00 MI) NORTHERLY ALONG STATE HIGHWAY A1A (COLLINS AVENUE) FROM THE JUNCTION OF 96TH STREET (STATE HIGHWAY 922) IN BAL HARBOR, 29.8 M (97.8 FT) WEST OF THE NORTHWEST CORNER OF THE FLORIDA LIGHT AND POWER COMPANY, 14.9 M (48.9 FT) SOUTH OF THE 1ST PIER SOUTH OF THE NORTH END OF THE HIGHWAY BRIDGE SPANNING BAKERS HAULOVER INLET, 14.6 M (47.9 FT) EAST OF A PALM TREE, 2.5 M (8.2 FT) WEST OF A CURB, AND 2.2 M (7.2 FT) SOUTH OF A CURB. NOTE--THE DISK IS ENCASED IN A 4-INCH PVC PIPE AND IS RECESSED 0.2 M (0.7 FT) BELOW THE GROUND SURFACE.

STATION RECOVERY (2012)

RECOVERY NOTE BY CALVIN GIORDANO & ASSOCIATES 2012
RECOVERED AS DESCRIBED

SECTION 00 31 21

CONTROL MONUMENT DESCRIPTIONS

JUPITER INLET

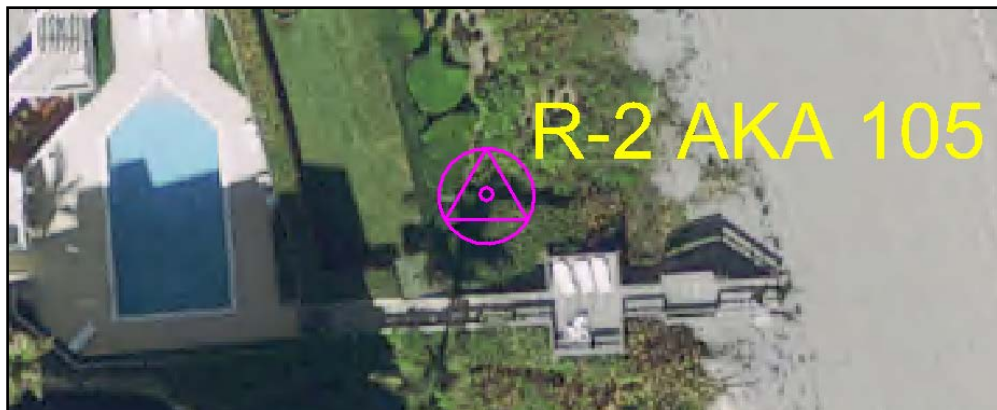
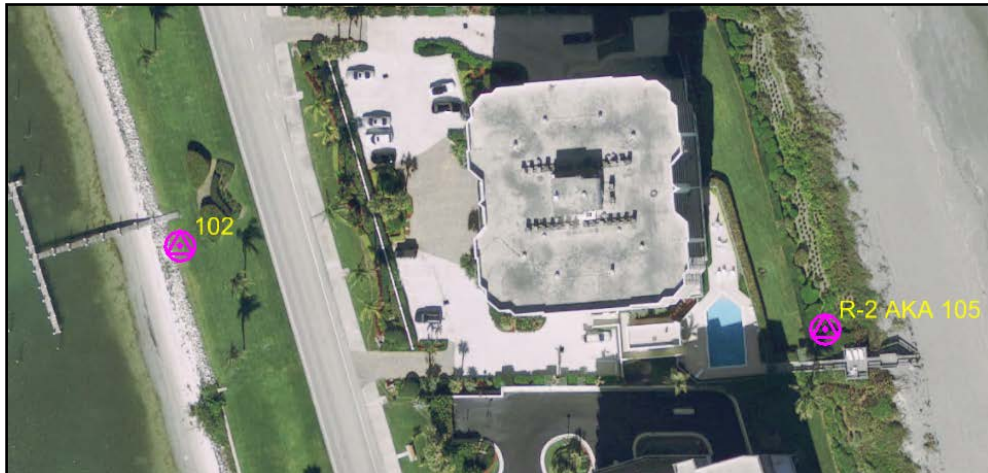
DESIGNATION - R-2 A.K.A. 105

MARKER: SURVEY DISK
SETTING: SET IN A CONCRETE MONUMENT
STAMPING: BH R-2 1974
MARK LOGO: FLDNR
SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR SATELLITE
OBSERVATIONS

HISTORY	- Date	Condition	Report By
HISTORY	- 1974	MONUMENTED	FLDNR
HISTORY	- 20130416	GOOD	MEK, INC.

STATION DESCRIPTION

TO REACH THE STATION FROM THE EAST END OF THE BRIDGE OVER THE INTRACOASTAL WATERWAY IN JUPITER INLET COLONY, PROCEED EAST THEN CURVE TO THE NORTH FOR 1.2 MILES TO THE MARK ON THE RIGHT. MARK LIES 287 FEET EAST OF THE CENTERLINE OF THE HIGHWAY, 23 FEET NORTH OF THE PROPERTY LINE BETWEEN THESE TWO BUILDINGS. MARK IS WEST OF DUNE, 17 FEET NORTH OF THE NORTH EDGE OF WOODEN WALKWAY LEADING TO BEACH.



DESIGNATION - 102

MARKER: 5/8" ROD WITH CAP

SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR SATELLITE OBSERVATIONS

STATION DESCRIPTION

TO REACH THE STATION FROM THE EAST END OF THE BRIDGE OVER THE INTRACOASTAL WATERWAY IN JUPITER INLET COLONY, PROCEED EAST THEN CURVE TO THE NORTH FOR 1.2 MILES TO THE MARK ON THE LEFT. MARK LIES 73 FEET WEST OF THE CENTERLINE OF THE HIGHWAY, 16 FEET SOUTH OF THE ENTRANCE TO A WOODEN DOCK.



DESIGNATION - U 308

PID - AD2996
TIDAL BM - This is a Tidal Bench Mark.
STATE/COUNTY- FL/PALM BEACH

MARKER: SURVEY DISK
SETTING: SET IN A PAVEMENT SUCH AS STREET, SIDEWALK, CURB, ETC.
SP_SET: BRIDGE WALKWAY
STAMPING: U 308
MARK LOGO: FLSRD
MAGNETIC: NO MAGNETIC MATERIAL
STABILITY: MARK OF QUESTIONABLE OR UNKNOWN STABILITY
SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR SATELLITE
OBSERVATIONS - December 17, 2011

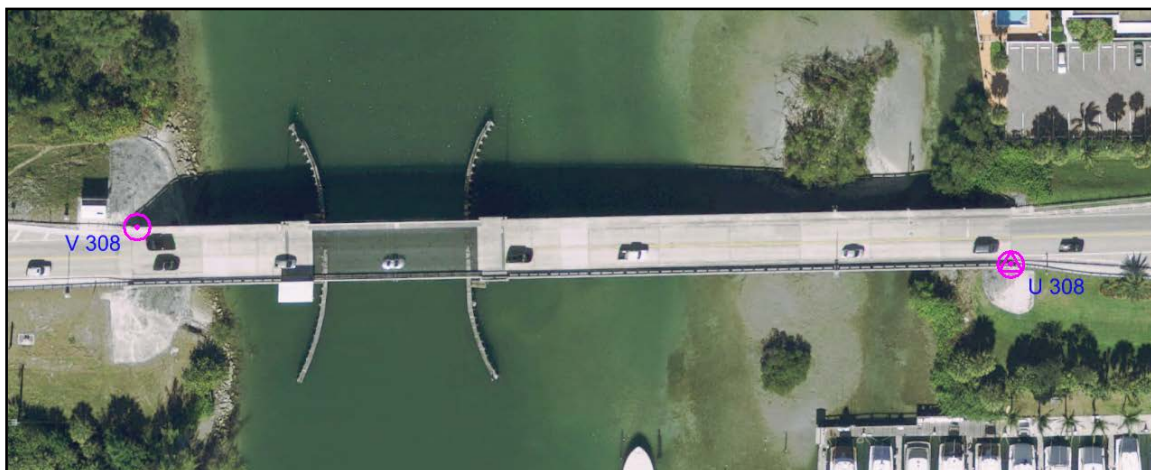
HISTORY	- Date	Condition	Report By
HISTORY	- UNK	MONUMENTED	FLDT
HISTORY	- 20111217	GOOD	GEOCAC

STATION DESCRIPTION

AT JUPITER, ABOUT 0.45 MILE EAST ALONG STATE HIGHWAY 707 FROM THE JUNCTION OF U.S. HIGHWAY 1, SET ON THE TOP OF THE EAST END OF THE SOUTH WALKWAY FOR THE HIGHWAY BRIDGE OVER JUPITER SOUND (INTRACOASTAL WATERWAY), 2.8 FEET SOUTH OF THE SOUTH CURB OF THE HIGHWAY AND 1 FOOT ABOVE THE LEVEL OF THE ROADWAY.

STATION RECOVERY (2011)

SE CORNER OF BRIDGE.



DESIGNATION - V 308

PID - AD2995
TIDAL BM - This is a Tidal Bench Mark.
STATE/COUNTY- FL/PALM BEACH

MARKER: SURVEY DISK
SETTING: SET IN A PAVEMENT SUCH AS STREET, SIDEWALK, CURB, ETC.
SP_SET: BRIDGE WALKWAY
STAMPING: V 308 1970
MARK LOGO: FLSRD
MAGNETIC: NO MAGNETIC MATERIAL
STABILITY: MARK OF QUESTIONABLE OR UNKNOWN STABILITY
SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR SATELLITE
OBSERVATIONS - December 17, 2011

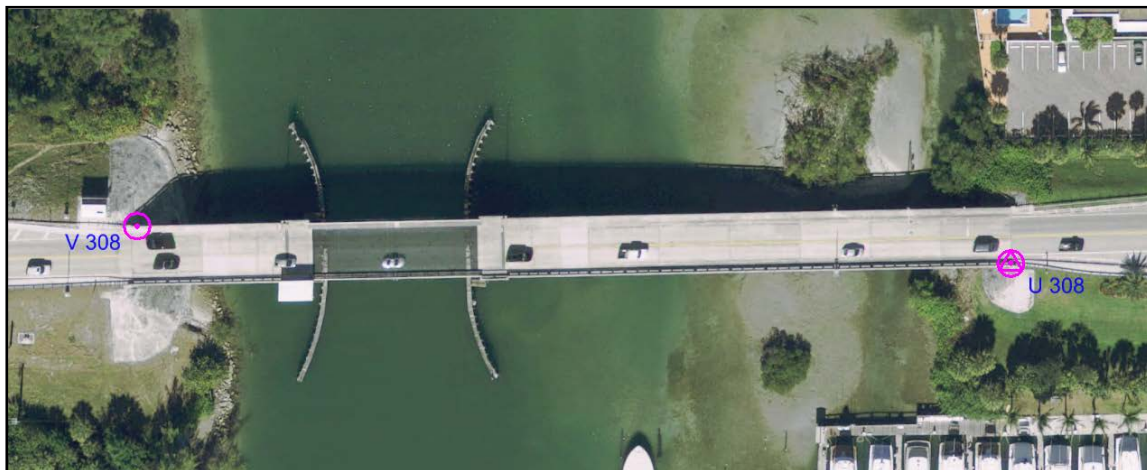
HISTORY	- Date	Condition	Report By
HISTORY	- 1970	MONUMENTED	FLDT
HISTORY	- 20111217	GOOD	GEOCAC

STATION DESCRIPTION

AT JUPITER, ABOUT 0.35 MILE EAST ALONG STATE HIGHWAY 707 FROM THE JUNCTION OF U.S. HIGHWAY 1, SET ON THE TOP OF THE WEST END OF THE NORTH CONCRETE WALK FOR THE HIGHWAY BRIDGE OVER JUPITER SOUND (INTRACOASTAL WATERWAY), 2.9 FEET NORTH OF THE NORTH CURB OF THE BRIDGE AND 1 FOOT ABOVE THE LEVEL OF THE HIGHWAY.

STATION RECOVERY (2011)

NW CORNER OF BRIDGE.



DESIGNATION - IWP 32

PID - AD2969
TIDAL BM - This is a Tidal Bench Mark.

MARKER: SURVEY DISK
SETTING: SET IN A PAVEMENT SUCH AS STREET, SIDEWALK, CURB, ETC.
SP_SET: DIVIDER
STAMPING: IWP 32 1958 JACKSONVILLE
MARK LOGO: USACE
MAGNETIC: NO MAGNETIC MATERIAL
STABILITY: MARK OF QUESTIONABLE OR UNKNOWN STABILITY
SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR SATELLITE
OBSERVATIONS - April 16, 2007

HISTORY	- Date	Condition	Report By
HISTORY	- 1958	MONUMENTED	DOD
HISTORY	- 20070416	GOOD	WANTGP

STATION DESCRIPTION

AT JUPITER, ABOUT 0.1 MILE NORTH ALONG U.S. HIGHWAY 1 FROM THE JUNCTION OF STATE HIGHWAY A 1 A, 96 FEET NORTH OF THE SOUTH END OF THE HIGHWAY BRIDGE OVER THE LOXAHATCHEE RIVER, SET IN THE TOP OF THE CONCRETE DIVIDER STRIP BETWEEN THE LANES OF THE HIGHWAY, 15 FEET EAST OF THE CENTER LINE OF THE SOUTHBOUND LANE OF THE HIGHWAY AND 1/2 FOOT ABOVE THE LEVEL OF THE HIGHWAY.



DESIGNATION - 113

MARKER: PK NAIL AND DISK

SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR SATELLITE OBSERVATIONS

STATION DESCRIPTION

TO REACH THE STATION FROM THE INTERSECTION OF OCEAN BLVD (SR A1A) AND LOVE STREET IN INLET DISTRICT, NEAR JUPITER INLET, PROCEED NORTH ON LOVE STREET 0.15 MILES TO PARKING AREA ON THE LEFT. MARK IS LOCATED AT THE NORTHWEST CORNER OF CONCRETE PAD. SEE DESCRIPTION FOR 114 BELOW.



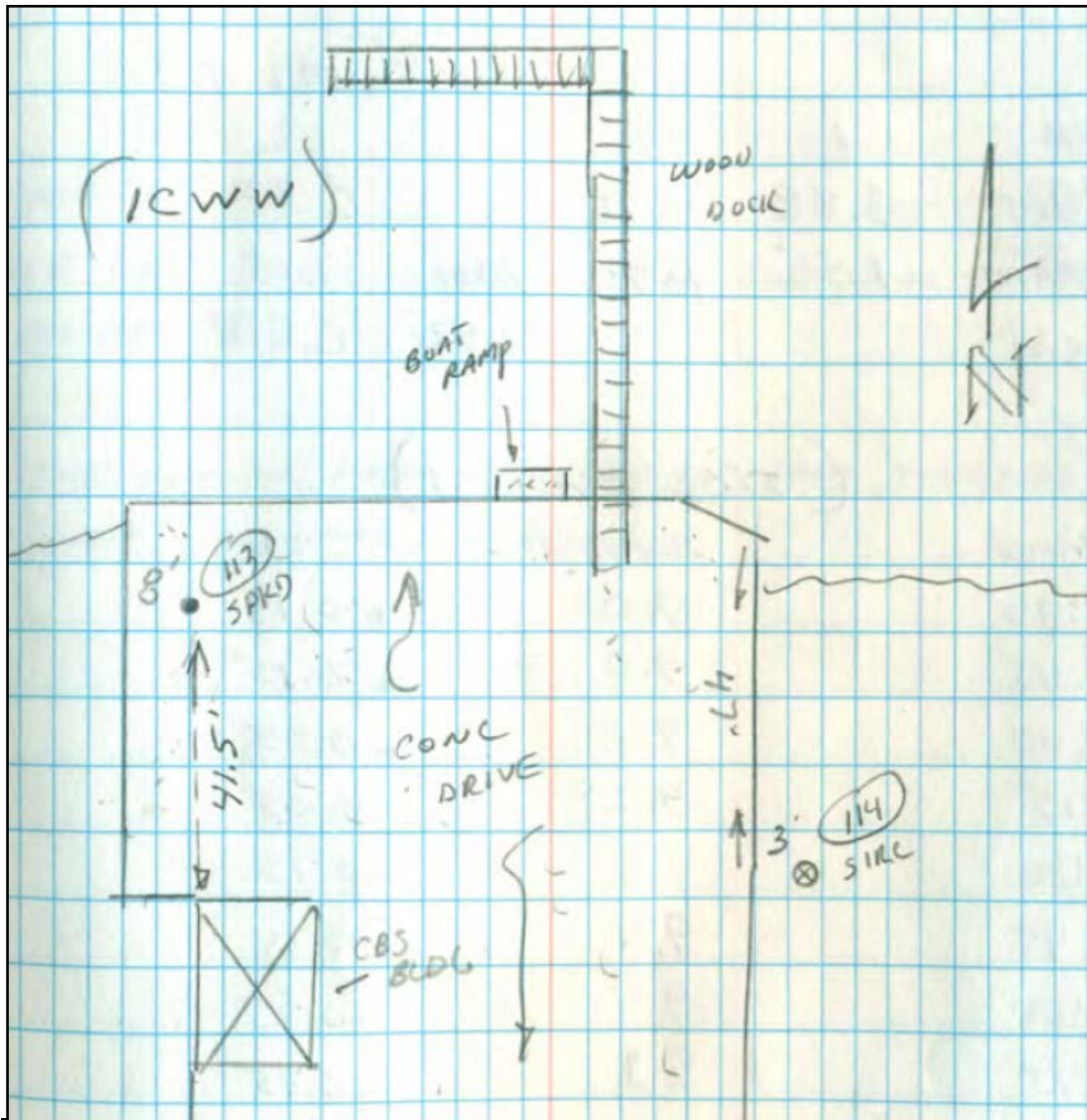
DESIGNATION - 114

MARKER: 5/8" ROD WITH CAP

SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR SATELLITE OBSERVATIONS

STATION DESCRIPTION

TO REACH THE STATION FROM THE INTERSECTION OF OCEAN BLVD (SR A1A) AND LOVE STREET IN INLET DISTRICT, NEAR JUPITER INLET, PROCEED NORTH ON LOVE STREET 0.15 MILES TO PARKING AREA ON THE LEFT. MARK IS LOCATED ALONG THE EASTERN EDGE OF THE CONCRETE PAD. SEE IMAGE BELOW FOR REFERENCE DIMENSIONS.



IWW Jacksonville to Miami, Maintenance Dredging,
10 & 11 foot Projects, Vicinity of Bakers Haulover &
Jupiter Inlets, Dade & Palm Beach Counties, Fl

GROUP2-10-R-J008

SECTION 00 31 32

GEOTECHNICAL DATA REPORTS

01/07

DOCUMENT 00 31 32

SECTION 00 31 32.10
Geotechnical Data Report
for
Jacksonville to Miami Maintenance Dredging
10-foot Project Vicinity of Bakers Haulover Inlet,
Dade County, Florida

Prepared by
Geotechnical Branch
Engineering Division
Jacksonville District Corps of Engineers

10 June 2013

SECTION 00 31 32

Geotechnical Data Report

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SECTION 00 31 32.10

Geotechnical Data Report

1.1 SCOPE

The information provided in this section encompasses the geotechnical field investigations available for this project. The investigations consist of borings. The associated boring logs and laboratory data are presented in paragraphs 1.4.5 and 1.4.6, respectively. A character of materials paragraph is included to provide a comprehensive description of the materials utilizing historical knowledge of the project area. Also included in this section are definitions of terms and boring log notes, which provide additional explanation of the boring logs and drilling techniques.

Items discussed in the character of materials paragraph may not appear explicitly on the boring logs. Based on historic knowledge of the project area, the character of materials paragraph includes items that supplement the data documented by the boring logs. When reviewing the boring logs, use all of the data on the logs, including the materials description, legend, and blow counts. When evaluating the subsurface conditions, use all of the data, including the character of materials paragraph and boring logs.

During the solicitation period, any questions that pertain to the information provided in this section should be addressed to the contract specialist identified in Block 9 of SF1442. After contract award, questions should be addressed to the appointed ACO/COR, which will coordinate with Geotechnical Branch.

1.2 CHARACTER OF MATERIALS

1.2.1 Local Geology

Underneath a thin layer of recent deposited sediments, Pleistocene age Pamlico sands are present in northern Dade County. The sand is gray or white and about 10 feet thick along the coastal ridge. Pamlico sand is primarily quartz sand and lies unconformable over the Miami limestone. The Miami limestone formed as the result of the drastic changes in sea level associated with recent glaciations or ice ages. Beginning some 130,000 years ago the Sangamonian Stage raised sea levels to approximately 25 feet (7.6 m) above the current level. All of southern Florida was covered by a shallow sea. Several parallel lines of reef formed along the edge of the submerged Florida plateau, stretching from the present Miami area to what is now the Dry Tortugas. The area behind this reef line was in effect a large lagoon, and the Miami limestone formed throughout the area from the deposition of oolites and the shells of bryozoans. Starting about 100,000 years ago the Wisconsin glaciation began lowering sea levels, exposing the floor of the lagoon. By 15,000 years ago, the sea level had dropped to 300 to 350 feet (110 m) below the contemporary level. The sea level rose quickly after that, stabilizing at the current level about 4000 years ago, leaving the mainland of South Florida just above sea level.

1.2.2 Materials Encountered

Historic vibracore borings VB-IWW06M-DA9-6 through VB-IWW06M-DA9-9, and VB-IWW08M-DA9-1 through VB-IWW08M-DA9-3 are located in cut DA-9 of the IWW Channel in the vicinity of Bakers Haulover Inlet. Most of the materials within the project template presented on the boring logs have been removed by previous dredging events with subsequent shoaling of similar materials.

The encountered sediments within the dredging depth consist of poorly graded, mostly sand-sized quartz and shell fragments with various amounts of gravel-sized shell and shell fragments. Only occasional layers of sand with silt and silty sand are present.

Bakers Haulover has been dredged historically multiple times to 10 feet plus 2 feet overdepth. The last dredging event was in 2009. The materials to be excavated consist of shoaling that has occurred since the channel was last dredged. Any insitu rock, if encountered, is not required to be dredged. Gravel- and cobble-sized rock may be encountered in the overdepth from previous dredging.

1.3 DEFINITIONS

Definitions not explicitly indicated in the sections below are typical industry standard definitions from their respective ASTMs.

1.3.1 Definitions of Basic Terms

Carbonate - Soil component that reacts with HCl of an indeterminate origin (shell, rock, etc.).

Fill - Material that has been placed by man, described with all soil characteristics.

Layer - Rock or soil with a thickness of 6 inches or less.

Lens - A geologic deposit of variable thickness, which disappears laterally in all directions and cannot be correlated to adjacent borings.

Rock - A naturally occurring substance composed of one or more minerals bound together. This geologic term includes a range of engineering properties: strength, hardness, permeability, weathering, and discontinuity. These properties are noted or can be inferred from the boring logs as blow counts, penetration rate, RQD, hardness, etc.

Shell - Material composed of predominantly (>75%) coarse-grained sand to gravel-sized whole or broken shell.

1.3.2 Current Logging Terms

Definition of terms used on boring logs dated since 2000:

Banded - 0.02' (6 mm) to 0.1' (3.0 cm).

Boulder-Sized - Particles greater than 12 inches in diameter.

Cavity - Voids greater than the diameter of the core.

Coarse Grained - Grain diameter greater than 0.079" (2 mm) for sedimentary rocks or 0.197" (5 mm) for igneous or metamorphic rocks.

Coarse Grained Sand-Sized - Less than 10 percent of fine and medium grained sand sizes are present.

Coarse Gravel-Sized - Particles greater than 3/4 of an inch but less than 3 inches in diameter.

Cobble-Sized - Particles greater than 3 inches but less than 12 inches in diameter.

Decomposed - Applicable to saprolitic rock; rock is essentially reduced to a soil with a relic rock texture; can be molded or crumbled by hand.

Dipping (Dip) - 20 to 45 degrees.

Discontinue - Particles were present within the unit above but are no longer present.

Fine Grained - Grain diameter between 0.004" (0.1 mm) and 0.016" (0.4 mm) for sedimentary rocks or 0.039" (1 mm) for igneous or metamorphic rocks.

Fine Grained Sand-Sized - Less than 10 percent of medium and coarse grained sand sizes are present.

Fine Gravel-Sized - Particles greater than No. 4 sieve but less than 3/4 of an inch in diameter.

Flat (Dip) - 0 to 20 degrees.

Fossiliferous - Greater than 40 percent fossils.

Hard (Hardness) - Difficult to scratch with a knife (cannot be pitted with a geology hammer, but can be chipped with moderate blows of the hammer).

Highly Fractured - Spacing 0.3' (9.1 cm) to 1' (30.5 cm).

Highly Weathered - Entire section is discolored; alteration is greater than 50%; some areas of slightly weathered rock are present; some minerals are leached away; retains only a fraction of its original strength (wet strength usually lower than dry strength).

Intact - Spacing greater than 6' (1.8 m).

Intensely Fractured - Spacing less than 0.3' (9.1 cm).

Massive - Over 3' (0.9 m) thick.

Medium-Bedded - 0.3' (9.1 cm) to 1' (30.5 cm) thick.

Medium Grained - Grain diameters between 0.016" (0.4 mm) to 0.079" (2 mm) for sedimentary rocks or 0.039" (1 mm) to 0.197" (5 mm) for igneous or metamorphic rocks.

Medium Grained Sand-Sized - Less than 10 percent of fine and coarse grained sand sizes are present.

Moderately Fractured - Spacing 1' (30.5 cm) to 3' (0.9 m).

Moderately Hard (Hardness) - Can be scratched easily with a knife, but cannot be scratched by a fingernail (can be pitted with moderate blows of a geology hammer).

Moderately Open (Fracture Aperture) - 0.020" (0.5 mm) to 0.098" (2.5 mm).

Moderately Weathered - Discoloration is evident; surface is pitted and altered, with alterations penetrating well below rock surfaces; 10% to 50% of the rock is altered; strength is noticeably less than unweathered rock.

Non-fossiliferous - No observed fossils.

Open (Fracture Aperture) - 0.098" (2.5 mm) to 0.394" (10 mm).

Pitted - Voids 0.039" (1mm) to 0.236" (6mm) in diameter.

Porous - Voids less than 0.039" (1mm) in diameter.

Slightly Fractured - Spacing 3' (0.9 m) to 6' (1.8 m).

Slightly Weathered - Superficial discoloration, alteration and/or discoloration along discontinuities; less than 10% of the rock volume is altered; strength is essentially unaffected.

Soft (Hardness) - Can be scratched with a fingernail (cannot be crumbled between fingers, but can be easily pitted with light blows of a geology hammer).

Solid - Absence of voids.

Sparsely Fossiliferous - Less than 40 percent fossils.

Steeply Dipping (Dip) - 45 to 90 degrees.

Thick-Bedded - 1' (30.5 cm) to 3' (0.9 m) thick.

Thin-Bedded - 0.1' (3.0 cm) to 0.3' (9.1 cm) thick.

Thin Parting - Paper thin to 0.002' (0.6 mm).

Tight (Fracture Aperture) - 0.004" (0.1 mm) to 0.020" (0.5 mm).

Unweathered - No evidence of any mechanical or chemical alteration.

Very Fine Grained - Grain diameter less than 0.004" (0.1 mm); individual grains or crystals are too small to be seen with the naked eye.

Very Hard (Hardness) - Cannot be scratched with a knife (chips can be broken off only with heavy blows of a geology hammer).

Very Soft (Hardness) - Can be deformed by hand (has a rock-like character, but can be easily broken by hand).

Very Tight (Fracture Aperture) - less than 0.004" (0.1 mm).

Very Wide (Fracture Aperture) - 0.394" (10 mm) to 0.984" (25 mm).

Vuggy - Voids 0.236" (6mm) to the diameter of the core.

1.3.3 Previous Logging Terms

Definition of terms used on boring logs dated before 2000:

Dense - Equivalent to SPT N-value of 30 to 50.

Incompetent - Rock that disintegrates while coring; weak.

Indurated - Rock or soil hardened or consolidated by pressure or cementation. Very difficult to break by hand.

Poorly-Indurated - See semi-indurated.

Seam - Rock or soil with average thickness of 2 to 3 inches.

Semi-Indurated - Rock or soil with a lesser degree of hardening or consolidation by pressure or cementation. Crumbles with little effort by hand.

1.3.4 Testing and Procedure Methods

Test/Procedure	Method
Abrasion Resistance of Large-Size Coarse Aggregate, Los Angeles Machine	ASTM C535
Abrasion Resistance of Small-Size Coarse Aggregate, Los Angeles Machine	ASTM C131
Air Content by the Pressure Method	ASTM C231
Air Content by the Volumetric Method	ASTM C173
Air-Entraining Admixtures for Concrete	ASTM C233
Atterberg Limits, wet preparation method, test method a multipoint	ASTM D4318
Bulk Specific Gravity of Bituminous Mixtures	ASTM D2726
Capping Cylindrical Concrete Specimens	ASTM C617
Carbonate Content	ASTM D4373
Compaction: 4" Mold, Modified Proctor	ASTM D1557
Compaction: 4" Mold, Standard Proctor	ASTM D698
Compaction: 6" Mold, Modified Proctor	ASTM D1557
Compaction: 6" Mold, Standard Proctor	ASTM D698

Test/Procedure	Method
Compressive Strength of Cast in Place Concrete Cylinders	ASTM C873
Compressive Strength of Cylindrical Concrete Specimens (Set of 4)	ASTM C39
Compressive Strength of Lightweight Concrete	ASTM C495
Consolidation, each load of rebound increment with complete time	ASTM D2435
Density and Water Content of Soil by Nuclear Methods (Minimum 4)	ASTM D2922/D3017
Density of Bituminous Concrete in Place by Nuclear Methods (Minimum 4)	ASTM D2950
Density of Soil in Place by the Sand-Cone Method	ASTM D1556
Direct Shear	ASTM D3080
Drilled Cores and Sawed Beams of Concrete	ASTM C42
Extraction of Bituminous Paving Mixtures	ASTM D2172
Freezing and Thawing (up to 55 cycles)	ASTM D5312
Grain size sieve Analysis	ASTM D422
Hydrometer Analysis	ASTM D422
Making and Curing Concrete Test Specimens in the Field (Set of 6)	ASTM C31
Making and Curing Concrete Test Specimens in the Lab (Set of 4)	ASTM C192
Marshall Resistance to Plastic Flow (Set of 3)	ASTM D1559
Material Passing No. 200 Sieve	ASTM D1140
Modulus of Elasticity	ASTM D3148
Moisture Content	ASTM D2216
Munsell Color	Munsell Soil Color Charts
Organic Content, Test Method C	ASTM D2974
Organic Impurities in Fine Aggregate	ASTM C40
Permeability: Constant Head Permeability	ASTM D2434
Permeability: Falling Head Permeability	ASTM D5084
Petrographic Examination	ASTM C295
Sampling Aggregate (Minimum 4 hours)	ASTM D75
Sampling Freshly Mixed Concrete	ASTM C172
Sedimentation Rate	No ASTM
Sieve Analysis of Aggregate	ASTM C136
Slump of Hydraulic-Cement Concrete	ASTM C143
Soil Classification (Boring logs)	ASTM D 2488
Specific Gravity and Absorption of Fine Aggregate	ASTM C128
Specific Gravity for Rock	ASTM C127
Specific Gravity for Soil	ASTM D854
SPLITTING TENSILE STRENGTH	ASTM D3967
Splitting Tensile Strength of Concrete Cylinders	ASTM C496
Subsample Preparation ASTM D4220, Group B	ASTM D4220,
Sulfate Soundness	ASTM C88
Total Evaporable Moisture Content	ASTM C566
Triaxial Compression Test for Rock with Strain Gages or LVDTs (per confining pressure)	ASTM D2664

Test/Procedure	Method
Triaxial compression: Consolidated Undrained (CU) Triaxial Compression Test R Test with Pore Pressure Measurements (per confining pressure)	ASTM D4767
Triaxial compression: Unconsolidated Undrained (UU) Triaxial Compression Test Q Test with Pore Pressure Measurements (per confining pressure)	ASTM D2850
Unbonded Caps for Compressive Strength	ASTM C1231
Unconfined Compressive Strength for Rock Greater than 9,000 psi with Strain	ASTM D2938
Unconfined Compressive Strength for Rock up to 9,000 psi with Strain	ASTM D2938
Unconfined Compressive Strength for Soil	ASTM D2166
Unit Weight and Absorption	ASTM C127
Unit Weight of Aggregate	ASTM C29 -
Visual Percent Shell	No ASTM
Wetting and Drying	ASTM D5313

1.4 GEOMECHANICAL DATA

1.4.1 Summary of Field Investigations

The table below summarizes the historical field investigations data set available for this project.

Table 1. Available Vibracore Boring Data

Designation	State Plane, FL-East, NAD83		Project Location
	X	Y	
VB-IWW06M-DA9-6	942122	571535	Bakers Haulover Inlet
VB-IWW06M-DA9-7	942012	571396	
VB-IWW06M-DA9-8	941799	571086	
VB-IWW06M-DA9-9	940642	569392	
VB-IWW08M-DA9-1	941871	571104	
VB-IWW08M-DA9-2	941605	570635	
VB-IWW08M-DA9-3	940693	569454	
All Coordinates presented correspond to the project coordinate system and datum			

1.4.2 Summary of Index Testing Data

The table below summarizes the index testing available for this project.

Table 2. Index Testing Available for this Project

Boring Designation	Sample Designation	USCS	Visual Shell %	CO ₃ %	Munsell Color
VB-IWW06M-DA9-6	1	SP-SM	2	92.9	7.5YR 6/2
	2	SP-SM	4		7.5YR 6/2
VB-IWW06M-DA9-7	1	SP	45	87.7	10YR 7/2
	2	GP	4		2.5Y 6/3
VB-IWW06M-DA9-8	1	SP	62	87.7	10YR 7/2
	2	SM	9		10YR 7/2

Boring Designation	Sample Designation	USCS	Visual Shell %	CO ₃ %	Munsell Color
	3	GP-GM	2		2.5Y 7/2
VB-IWW06M-DA9-9	1	SM	1	94.2	2.5Y 6/2
	2	SM	1		2.5Y 6/2
VB-IWW08M-DA9-1	1	SP	10	77.1	
	2	SP	25		
VB-IWW08M-DA9-2	1	SP	25	81.1	
VB-IWW08M-DA9-3	1	SM	5	80.6	
	2	SM	5		

1.4.3 Boring Log Notes

All Borings were sampled using an Alpine style, pneumatic vertical hammer, vibracore drilling apparatus having a continuous 10-foot by 3 or 3 1/2-inch core barrel with clear plastic core liner until refusal was encountered. Refusal is defined as no additional penetration of the vibracore with two minutes of additional effort applied to penetrate through the resistant layer at maximum vibration.

1.4.4 Recovered Materials

The material recovered from all borings is available for inspection by prospective offerors at the Corps of Engineers District warehouse listed under below:

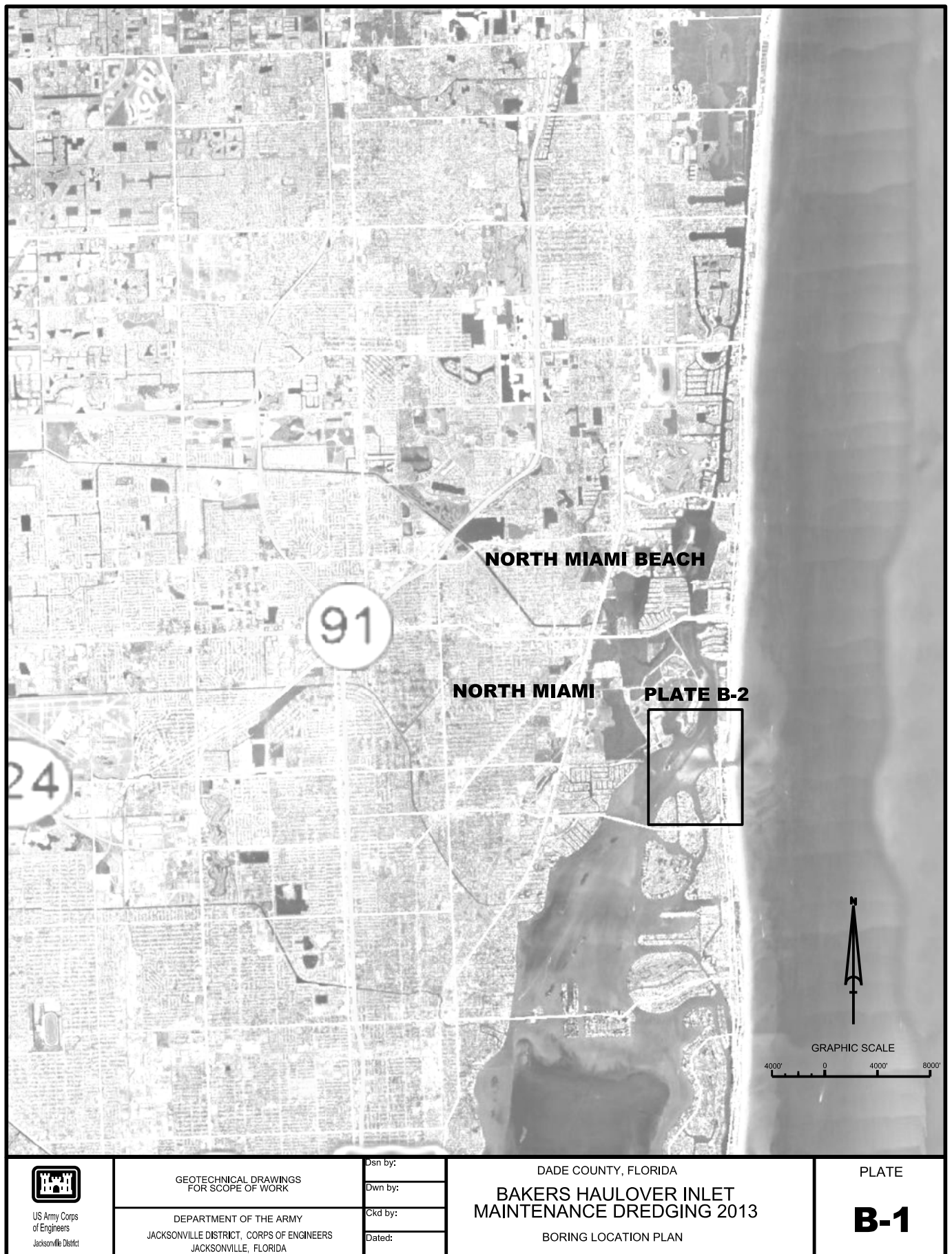
1. Florida

Address: 3077 Talleyrand Avenue
 Jacksonville, Florida

Hours: 7:00 am to 2:30 pm

The recovered materials will be available for inspection during normal business hours as noted above, except Federal holidays, during the entire bid period. Prospective offerors shall notify the project geologist at 904-232-1890 or Chief, Geology and Explorations Section at 904-232-1617 at least four (4) <FL> working days before the visit. The following information will be required to schedule the visit: (1) the project title; (2) the specific borings or entire set which are to be viewed; (3) the date, time, and duration of the visit; the name of the person(s) and company to view the borings; and (5) a point of contact and phone number regarding the visit. Prospective offerors shall record their material examination visit in a record book maintained at the inspection site.

It is strongly suggested that prospective offerors view the samples before submitting their bid.



US Army Corps
 of Engineers
 Jacksonville District

GEOTECHNICAL DRAWINGS
 FOR SCOPE OF WORK

DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
 JACKSONVILLE, FLORIDA

Dsn by:

Dwn by:

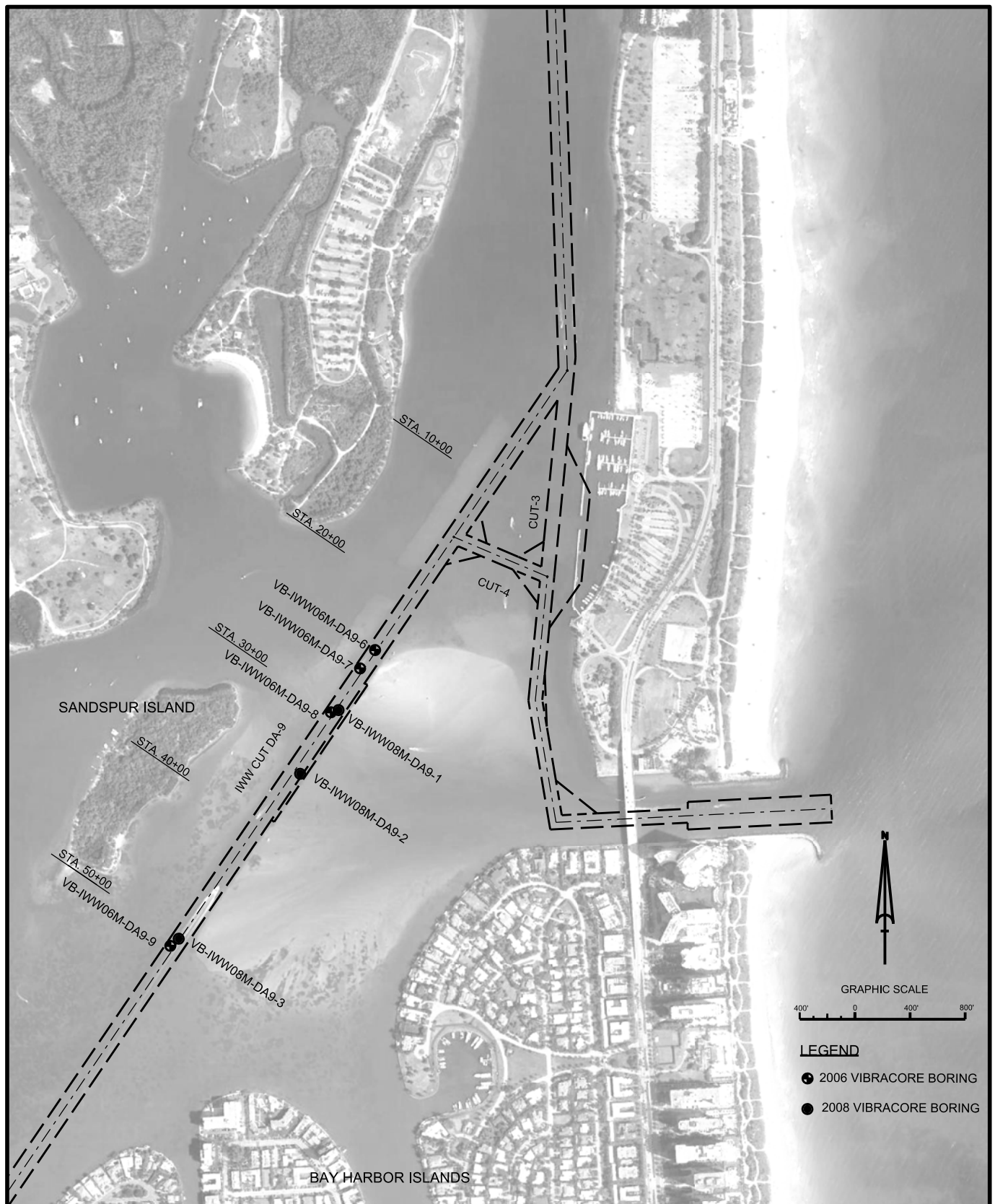
Ckd by:

Dated:

DADE COUNTY, FLORIDA
**BAKERS HAULOVER INLET
 MAINTENANCE DREDGING 2013**
 BORING LOCATION PLAN

PLATE

B-1



 US Army Corps of Engineers Jacksonville District	GEOTECHNICAL DRAWINGS FOR SCOPE OF WORK DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	Desn by: BUN Dwn by: BUN Ckd by: BUN Dated: MAY 2013	DADE COUNTY, FLORIDA BAKERS HAULOVER INLET MAINTENANCE DREDGING 2013 BORING LOCATION PLAN	PLATE B-2
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1.4.5 Boring Logs

Applicable boring logs are presented on the following pages.

The borings presented in this section are available historic borings within the project area. Most of the materials within the project template presented on the boring logs have been removed by previous dredging events with subsequent shoaling of similar materials. The current elevations of the materials at these locations are shown on the contract drawings.

While the Government's borings are representative of subsurface conditions at their respective locations and vertical reaches, local variations in the characteristics of the subsurface materials of this region are to be expected. Accordingly, prospective offerors shall form their own conclusions from the examination of the recovered materials prior to submission of their offer.

Boring Designation VB-IWW06M-DA9-6

DRILLING LOG		DIVISION South Atlantic		INSTALLATION Jacksonville District			SHEET 1 OF 1 SHEETS											
1. PROJECT Intracoastal Waterway, Jacksonville to Miami Cut DA-9				9. SIZE AND TYPE OF BIT See Remarks														
2. BORING DESIGNATION VB-IWW06M-DA9-6				10. COORDINATE SYSTEM/DATUM State Plane, FLE (U.S. Ft.)		HORIZONTAL NAD27		VERTICAL MLW										
3. DRILLING AGENCY Corps of Engineers - CESAW				11. MANUFACTURER'S DESIGNATION OF DRILL Alpine 270 Vibracore on D/B Snell		☐ AUTO HAMMER ☐ MANUAL HAMMER												
4. NAME OF DRILLER L. Gaughf				12. TOTAL SAMPLES 2		DISTURBED 2		UNDISTURBED (UD) 0										
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED				13. TOTAL NUMBER CORE BOXES 0														
6. THICKNESS OF OVERBURDEN N/A				14. ELEVATION GROUND WATER N/A														
7. DEPTH DRILLED INTO ROCK N/A				15. DATE BORING 07-16-06		STARTED 07-16-06		COMPLETED 07-16-06										
8. TOTAL DEPTH OF BORING 3.5 Ft.				16. ELEVATION TOP OF BORING -12.5 Ft.														
				17. TOTAL RECOVERY FOR BORING 94 %														
				18. SIGNATURE AND TITLE OF INSPECTOR														
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE									
-12.5	0.0		SAND, poorly-graded, nonplastic, firm, mostly fine to medium-grained sand-sized quartz, trace shell, trace silt, moist, 5GY 6/1 greenish gray (SP) SAND, poorly-graded with silt, nonplastic, firm, mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized limestone up to 3/4", few silt, moist, 5GY 6/1 greenish gray (SP-SM)	100	1		-12.5		0									
-13.5	1.0						-12.9			Vibracore								
				100			-14.4	Vibracore										
				88	2		-16.0	Vibracore										
-15.8	3.3																	
-16.0	3.5	NO REC																
			NOTES: 1. USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Elevation based on predicted tide 4. Laboratory Testing Results <table border="1"> <thead> <tr> <th>SAMPLE ID</th> <th>SAMPLE DEPTH</th> <th>LABORATORY CLASSIFICATION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.4/0.8</td> <td>SP-SM*</td> </tr> <tr> <td>2</td> <td>1.9/2.3</td> <td>SP-SM*</td> </tr> </tbody> </table> *Lab visual classification based on gradation curve. No Atterberg limits.							SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION	1	0.4/0.8	SP-SM*	2	1.9/2.3	SP-SM*
SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION																
1	0.4/0.8	SP-SM*																
2	1.9/2.3	SP-SM*																

Boring Designation VB-IWW06M-DA9-7

DRILLING LOG		DIVISION South Atlantic		INSTALLATION Jacksonville District			SHEET 1 OF 1 SHEETS	
1. PROJECT Intracoastal Waterway, Jacksonville to Miami Cut DA-9				9. SIZE AND TYPE OF BIT See Remarks				
2. BORING DESIGNATION VB-IWW06M-DA9-7				10. COORDINATE SYSTEM/DATUM State Plane, FLE (U.S. Ft.)		HORIZONTAL NAD27		VERTICAL MLW
3. DRILLING AGENCY Corps of Engineers - CESAW		LOCATION COORDINATES X = 785,775 Y = 571,236		11. MANUFACTURER'S DESIGNATION OF DRILL Alpine 270 Vibracore on D/B Snell			☐ AUTO HAMMER ☐ MANUAL HAMMER	
4. NAME OF DRILLER L. Gaughf				12. TOTAL SAMPLES		DISTURBED 2		UNDISTURBED (UD) 0
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED				13. TOTAL NUMBER CORE BOXES		0		
6. THICKNESS OF OVERBURDEN N/A				14. ELEVATION GROUND WATER N/A				
7. DEPTH DRILLED INTO ROCK N/A				15. DATE BORING		STARTED 07-16-06		COMPLETED 07-16-06
8. TOTAL DEPTH OF BORING 4.0 Ft.				16. ELEVATION TOP OF BORING -11.9 Ft.				
				17. TOTAL RECOVERY FOR BORING 80 %				
				18. SIGNATURE AND TITLE OF INSPECTOR				

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE									
-11.9	0.0						-11.9											
			SAND, poorly-graded, nonplastic, firm, mostly fine-grained sand-sized quartz, some sand to gravel-sized shell up to 1/4", moist, 5Y 6/2 light olive gray (SP)	100	1		-12.3 Vibracore											
-13.2	1.3			100			-13.8 Vibracore											
			LIMESTONE, 5Y 8/2 pale yellow		2													
-15.1	3.2			62			-15.9 Vibracore											
-15.9	4.0	NR																
NOTES: 1. USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Elevation based on predicted tide 4. Laboratory Testing Results <table border="1"> <thead> <tr> <th>SAMPLE ID</th> <th>SAMPLE DEPTH</th> <th>LABORATORY CLASSIFICATION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.4/0.8</td> <td>SP*</td> </tr> <tr> <td>2</td> <td>1.9/2.3</td> <td>GP*</td> </tr> </tbody> </table> *Lab visual classification based on gradation curve. No Atterberg limits.										SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION	1	0.4/0.8	SP*	2	1.9/2.3	GP*
SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION																
1	0.4/0.8	SP*																
2	1.9/2.3	GP*																

Boring Designation VB-IWW06M-DA9-8

DRILLING LOG		DIVISION South Atlantic		INSTALLATION Jacksonville District		SHEET 1 OF 1 SHEETS	
1. PROJECT Intracoastal Waterway, Jacksonville to Miami Cut DA-9				9. SIZE AND TYPE OF BIT See Remarks			
2. BORING DESIGNATION VB-IWW06M-DA9-8				10. COORDINATE SYSTEM/DATUM State Plane, FLE (U.S. Ft.)		HORIZONTAL NAD27	
3. DRILLING AGENCY Corps of Engineers - CESAW				11. MANUFACTURER'S DESIGNATION OF DRILL Alpine 270 Vibracore on D/B Snell		☐ AUTO HAMMER ☐ MANUAL HAMMER	
4. NAME OF DRILLER L. Gaughf				12. TOTAL SAMPLES		DISTURBED 3	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED				13. TOTAL NUMBER CORE BOXES		0	
6. THICKNESS OF OVERBURDEN N/A				14. ELEVATION GROUND WATER		N/A	
7. DEPTH DRILLED INTO ROCK N/A				15. DATE BORING		STARTED 07-16-06 COMPLETED 07-16-06	
8. TOTAL DEPTH OF BORING 4.0 Ft.				16. ELEVATION TOP OF BORING		-12.5 Ft.	
				17. TOTAL RECOVERY FOR BORING		83 %	
				18. SIGNATURE AND TITLE OF INSPECTOR			

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE															
-12.5	0.0						-12.5																	
			SAND, poorly-graded, nonplastic, firm, mostly fine-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, moist, 5Y 6/2 light olive gray (SP) From El. -13.5 to -14.0 Ft., nonplastic, firm, moist, 10Y 6/1 greenish gray LIMESTONE, 10Y 7/1 light greenish gray	100	1		-12.9	Vibracore																
-14.0	1.5			100			-13.8	Vibracore																
				100			-14.4	Vibracore																
-15.8	3.3			67	3		Vibracore																	
-16.5	4.0		NR								-16.5													
			NOTES: 1. USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Elevation based on predicted tide 4. Laboratory Testing Results <table><tr><td>SAMPLE ID</td><td>SAMPLE DEPTH</td><td>LABORATORY CLASSIFICATION</td></tr><tr><td colspan="3">-----</td></tr><tr><td>1</td><td>0.4/0.8</td><td>SP*</td></tr><tr><td>2</td><td>1.3/1.7</td><td>SM*</td></tr><tr><td>3</td><td>1.9/2.3</td><td>GP-GM*</td></tr></table> *Lab visual classification based on gradation curve. No Atterberg limits.	SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION	-----			1	0.4/0.8	SP*	2	1.3/1.7	SM*	3	1.9/2.3	GP-GM*						
SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION																						

1	0.4/0.8	SP*																						
2	1.3/1.7	SM*																						
3	1.9/2.3	GP-GM*																						

Boring Designation VB-IWW06M-DA9-9

DRILLING LOG		DIVISION South Atlantic		INSTALLATION Jacksonville District			SHEET 1 OF 2 SHEETS		
1. PROJECT Intracoastal Waterway, Jacksonville to Miami Cut DA-9				9. SIZE AND TYPE OF BIT See Remarks					
2. BORING DESIGNATION VB-IWW06M-DA9-9				10. COORDINATE SYSTEM/DATUM State Plane, FLE (U.S. Ft.)		HORIZONTAL NAD27		VERTICAL MLW	
3. DRILLING AGENCY Corps of Engineers - CESAW				11. MANUFACTURER'S DESIGNATION OF DRILL Alpine 270 Vibracore on D/B Snell		☐ AUTO HAMMER ☐ MANUAL HAMMER			
4. NAME OF DRILLER L. Gaughf				12. TOTAL SAMPLES 2		DISTURBED 2		UNDISTURBED (UD) 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED				13. TOTAL NUMBER CORE BOXES 0		14. ELEVATION GROUND WATER N/A			
6. THICKNESS OF OVERBURDEN N/A				15. DATE BORING 07-16-06		STARTED 07-16-06		COMPLETED 07-16-06	
7. DEPTH DRILLED INTO ROCK N/A				16. ELEVATION TOP OF BORING -11.7 Ft.		17. TOTAL RECOVERY FOR BORING 90 %			
8. TOTAL DEPTH OF BORING 10.0 Ft.				18. SIGNATURE AND TITLE OF INSPECTOR					
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-11.7	0.0		SAND, poorly-graded with silt, nonplastic, firm, mostly fine-grained sand-sized quartz, few silt, moist, 10Y 6/1 greenish gray (SP-SM)	100	1		-11.7 -11.8 Vibracore		
-14.1	2.4		SAND, silty, low plasticity, soft, mostly, little silt, little organic matter, moist, 10YR 2/1 black (SM)	100			Vibracore		
-14.7	3.0		SAND, silty, nonplastic, hard, mostly sand to gravel-sized limestone up to 1", little fine-grained sand-sized quartz, moist, 10YR 4/2 dark grayish brown (SM)		2		-13.3		
-15.8	4.1		LIMESTONE						
-20.7	9.0		From El. -17.9 to -20.7 Ft., 10YR 6/4 light yellowish brown	88			Vibracore		
-21.7	10.0	NIR					-21.7		
			NOTES: 1. USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Elevation based on predicted tide 4. Laboratory Testing Results SAMPLE ID SAMPLE DEPTH LABORATORY CLASSIFICATION						

Boring Designation VB-IWW06M-DA9-9

DRILLING LOG (Cont. Sheet)			INSTALLATION Jacksonville District			SHEET 2 OF 2 SHEETS			
PROJECT Intracoastal Waterway, Jacksonville to Miami			COORDINATE SYSTEM/DATUM State Plane, FLE (U.S. Ft.)		HORIZONTAL NAD27	VERTICAL MLW			
LOCATION COORDINATES X = 784,405 Y = 569,232			ELEVATION TOP OF BORING -11.7 Ft.						
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
			1 0.1/0.5 SM* 2 1.6/2.0 SM* *Lab visual classification based on gradation curve. No Atterberg limits.						

15
20
25
30
35

Boring Designation VB-IWW08M-DA9-1

DRILLING LOG		DIVISION South Atlantic		INSTALLATION Jacksonville District			SHEET 1 OF 1 SHEETS	
1. PROJECT IWW Jacksonville to Miami Baker Haulover				9. SIZE AND TYPE OF BIT See Remarks				
2. BORING DESIGNATION VB-IWW08M-DA9-1		LOCATION COORDINATES X = 941,871 Y = 571,104		10. COORDINATE SYSTEM/DATUM State Plane, FLE (U.S. Ft.)		HORIZONTAL NAD83	VERTICAL MLLW	
3. DRILLING AGENCY Challenge Engineering & Testing, Inc.		CONTRACTOR FILE NO. 2008D27		11. MANUFACTURER'S DESIGNATION OF DRILL 4" Piston Vibracore Unit		☐ AUTO HAMMER ☐ MANUAL HAMMER		
4. NAME OF DRILLER C. Martin				12. TOTAL SAMPLES 2		DISTURBED 2	UNDISTURBED (UD) 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED				13. TOTAL NUMBER CORE BOXES 1		14. ELEVATION GROUND WATER Tidal		
6. THICKNESS OF OVERBURDEN N/A				15. DATE BORING 11-15-08		STARTED 11-15-08	COMPLETED 11-15-08	
7. DEPTH DRILLED INTO ROCK N/A				16. ELEVATION TOP OF BORING -3.1 Ft.		17. TOTAL RECOVERY FOR BORING 83 %		
8. TOTAL DEPTH OF BORING 7.2 Ft.				18. SIGNATURE AND TITLE OF INSPECTOR V. J. Thompson III, Civil Engineer				

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE								
-3.1	0.0						-3.1										
			SAND, poorly-graded, mostly fine to medium-grained sand-sized carbonate, few subangular shell up to 1/8", moist, 5Y 7/4 pale yellow (SP) At El. -4.7 Ft., 5Y 5/1 gray	100			Vibracore										
				100	1		-4.1										
							-4.6										
				100			Vibracore										
							-7.8										
			At El. -8.1 Ft., little subangular shell up to 1/8"	100	2		Vibracore										
							-8.3										
							Vibracore										
-9.1	6.0			40			Vibracore										
-10.3	7.2	NIR					-10.3										
			BORING TERMINATED IN REFUSAL NOTES: 1. USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Vibracore Borings Were Sampled With A Pneumatic Powered Unit Using A 3 7/8" Lexan Liner To Termination Depth Specified. 4. Laboratory Testing Results <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">SAMPLE ID</th> <th style="text-align: left;">SAMPLE DEPTH</th> <th style="text-align: left;">LABORATORY CLASSIFICATION</th> </tr> <tr> <td>1</td> <td>1.0/1.5</td> <td>SP*</td> </tr> <tr> <td>2</td> <td>4.7/5.2</td> <td>SP*</td> </tr> </table> *Lab visual classification based on gradation curve. No Atterberg limits.	SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION	1	1.0/1.5	SP*	2	4.7/5.2	SP*					
SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION															
1	1.0/1.5	SP*															
2	4.7/5.2	SP*															

Boring Designation VB-IWW08M-DA9-2

DRILLING LOG		DIVISION South Atlantic		INSTALLATION Jacksonville District			SHEET 1 OF 1 SHEETS								
1. PROJECT IWW Jacksonville to Miami Baker Haulover				9. SIZE AND TYPE OF BIT See Remarks											
2. BORING DESIGNATION VB-IWW08M-DA9-2		LOCATION COORDINATES X = 941,605 Y = 570,635		10. COORDINATE SYSTEM/DATUM State Plane, FLE (U.S. Ft.)		HORIZONTAL NAD83	VERTICAL MLLW								
3. DRILLING AGENCY Challenge Engineering & Testing, Inc.		CONTRACTOR FILE NO. 2008D27		11. MANUFACTURER'S DESIGNATION OF DRILL 4" Piston Vibracore Unit		☐ AUTO HAMMER ☐ MANUAL HAMMER									
4. NAME OF DRILLER C. Martin				12. TOTAL SAMPLES		DISTURBED 1	UNDISTURBED (UD) 0								
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED				13. TOTAL NUMBER CORE BOXES		1									
6. THICKNESS OF OVERBURDEN N/A				14. ELEVATION GROUND WATER		Tidal									
7. DEPTH DRILLED INTO ROCK N/A				15. DATE BORING		STARTED 11-15-08	COMPLETED 11-15-08								
8. TOTAL DEPTH OF BORING 2.5 Ft.				16. ELEVATION TOP OF BORING		-7.6 Ft.									
				17. TOTAL RECOVERY FOR BORING		100 %									
				18. SIGNATURE AND TITLE OF INSPECTOR V. J. Thompson III, Civil Engineer											
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE						
-7.6	0.0						-7.6								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized carbonate, little shell up to 3/4", moist, 5Y 6/3 pale olive (SP)	100			-8.1 Vibracore								
			At El. -8.8 Ft., few coral, strong cementation, 5Y 6/4 pale olive	100	1		-8.6 Vibracore								
-9.2	1.6		LIMESTONE, non-fossiliferous, moderately hard, slightly weathered, fine grained, sand filled, 5Y 8/3 pale yellow	100			Vibracore								
-10.1	2.5		BORING TERMINATED IN REFUSAL				-10.1								
			NOTES: 1. USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Vibracore Borings Were Sampled With A Pneumatic Powered Unit Using A 3 7/8" Lexan Liner To Termination Depth Specified. 4. Laboratory Testing Results <table border="1"> <thead> <tr> <th>SAMPLE ID</th> <th>SAMPLE DEPTH</th> <th>LABORATORY CLASSIFICATION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.5/1.0</td> <td>SP*</td> </tr> </tbody> </table> *Lab visual classification based on gradation curve. No Atterberg limits.	SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION	1	0.5/1.0	SP*						
SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION													
1	0.5/1.0	SP*													

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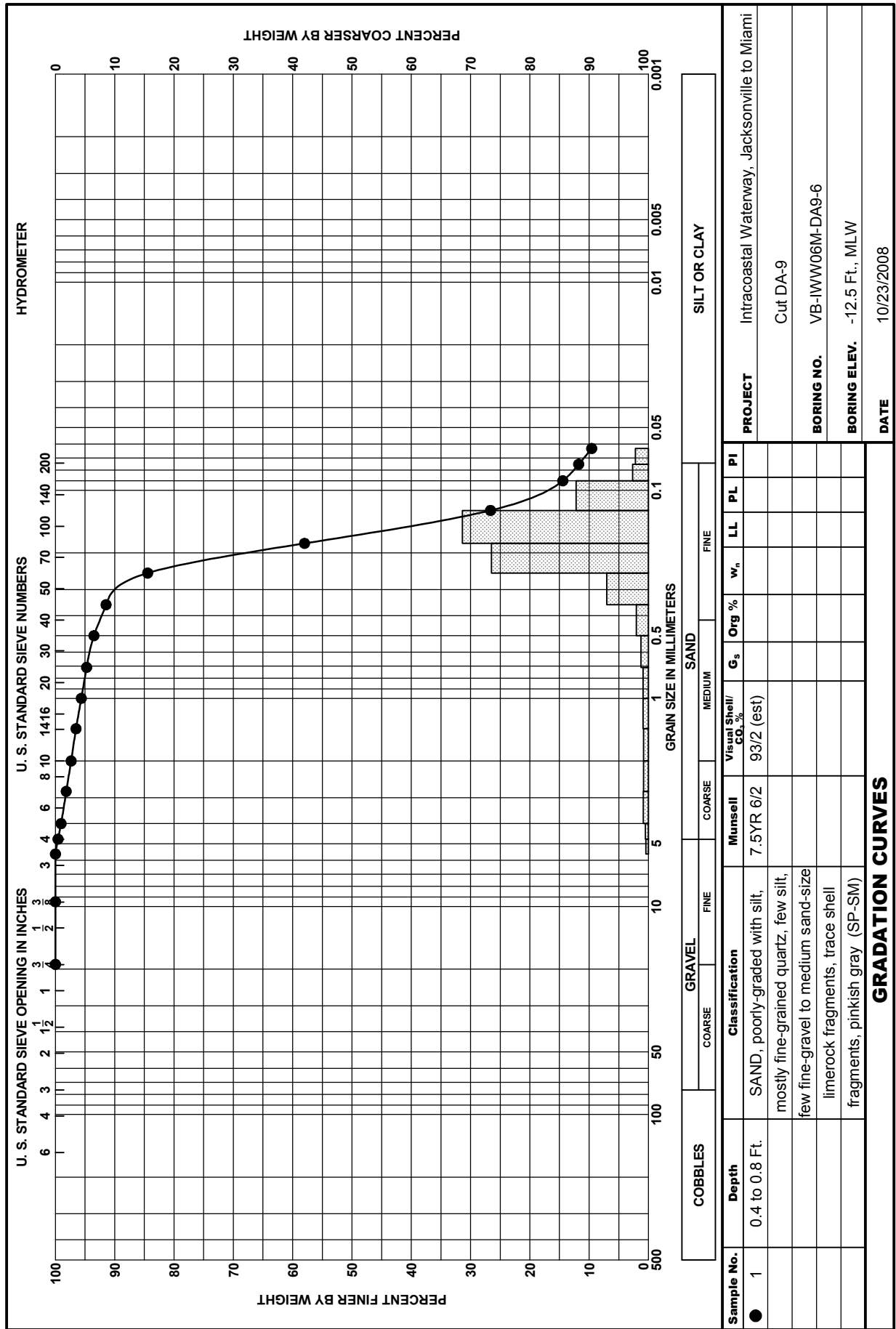
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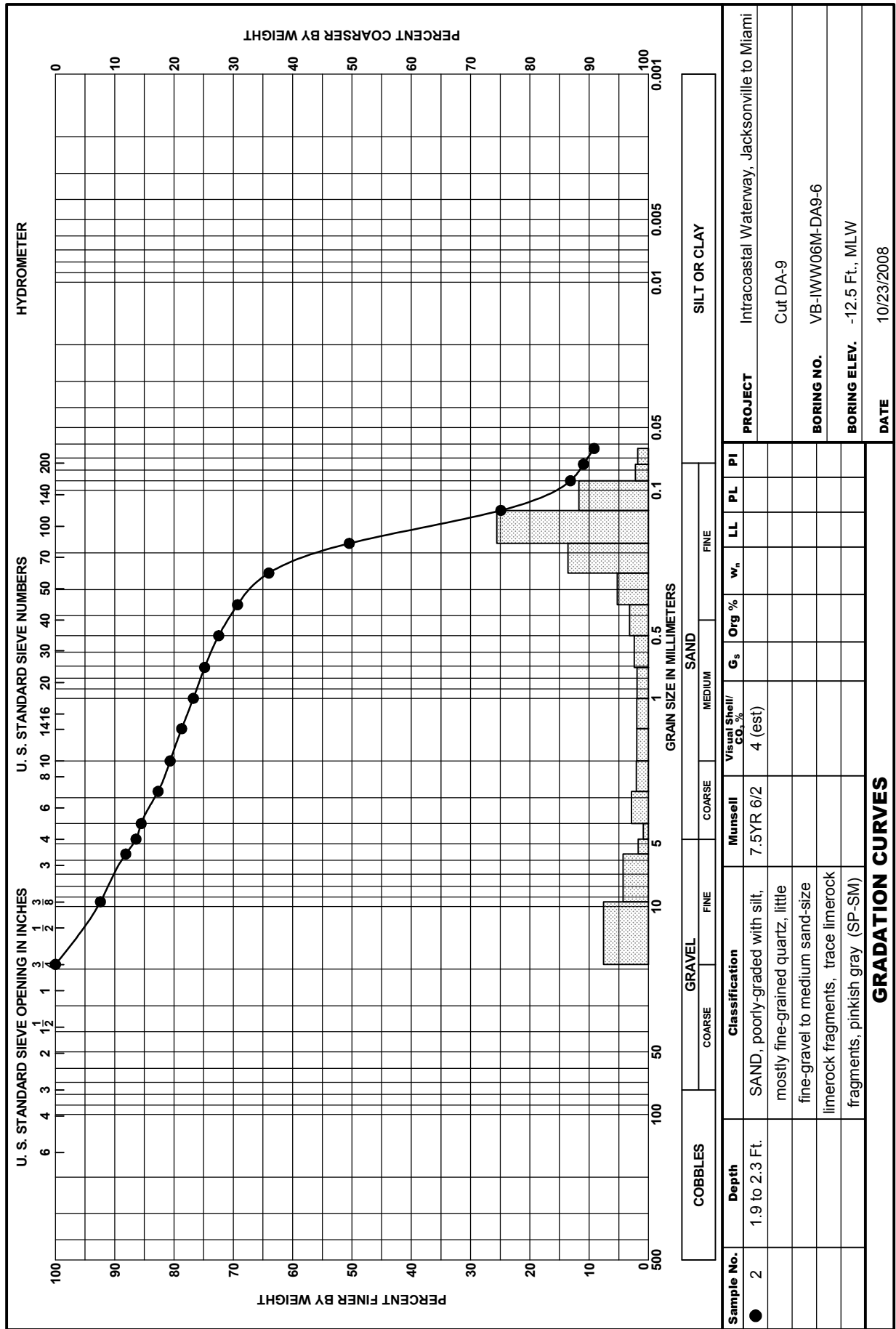
Boring Designation VB-IWW08M-DA9-3

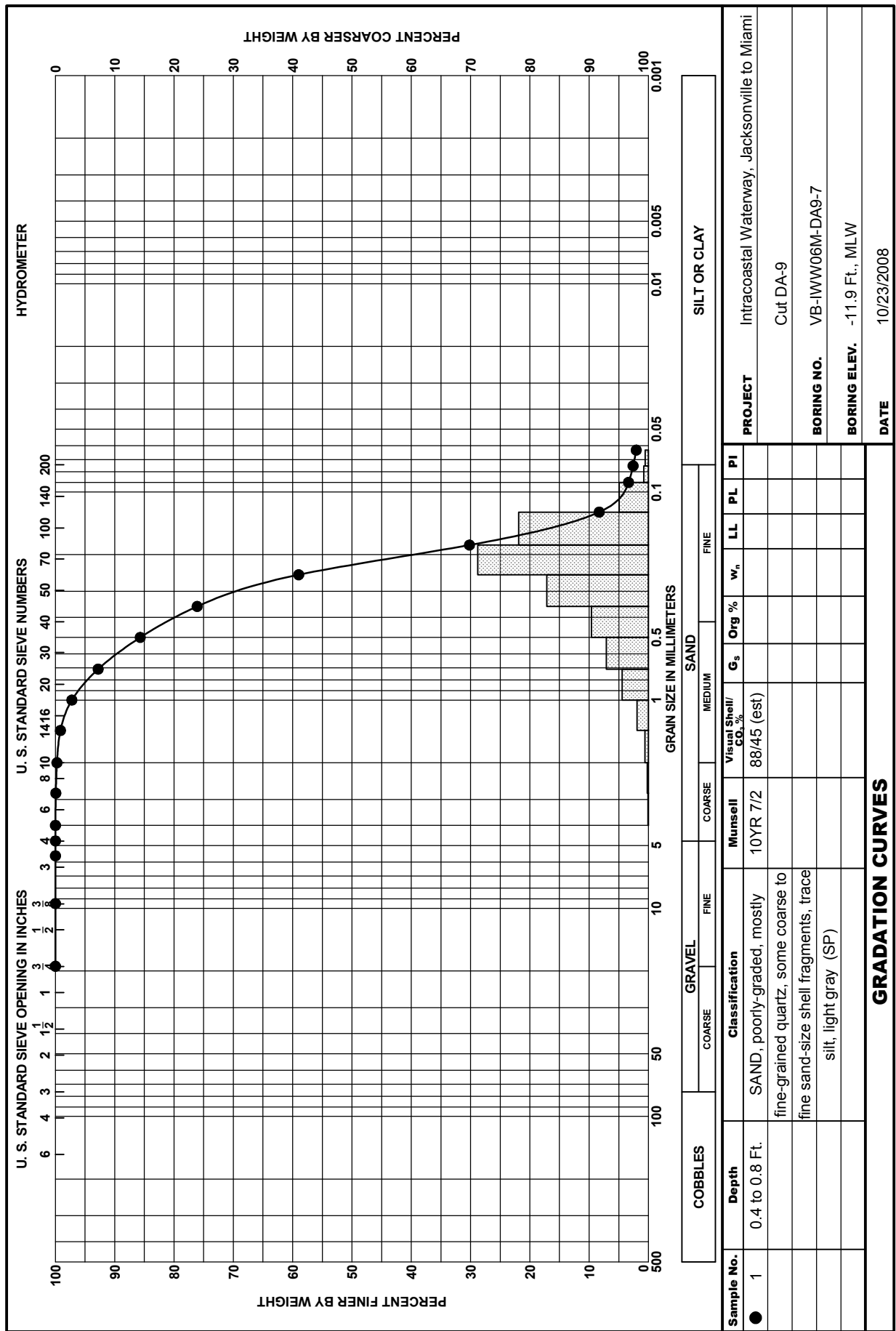
DRILLING LOG		DIVISION South Atlantic		INSTALLATION Jacksonville District			SHEET 1 OF 1 SHEETS										
1. PROJECT IWW Jacksonville to Miami Baker Haulover				9. SIZE AND TYPE OF BIT See Remarks													
2. BORING DESIGNATION VB-IWW08M-DA9-3				10. COORDINATE SYSTEM/DATUM State Plane, FLE (U.S. Ft.)		HORIZONTAL NAD83		VERTICAL MLLW									
3. DRILLING AGENCY Challenge Engineering & Testing, Inc.				11. MANUFACTURER'S DESIGNATION OF DRILL 4" Piston Vibracore Unit		☐ AUTO HAMMER ☐ MANUAL HAMMER											
4. NAME OF DRILLER C. Martin				12. TOTAL SAMPLES 2		DISTURBED 2		UNDISTURBED (UD) 0									
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED				13. TOTAL NUMBER CORE BOXES 1		14. ELEVATION GROUND WATER Tidal											
6. THICKNESS OF OVERBURDEN N/A				15. DATE BORING 11-15-08		STARTED 11-15-08		COMPLETED 11-15-08									
7. DEPTH DRILLED INTO ROCK N/A				16. ELEVATION TOP OF BORING -10.6 Ft.		17. TOTAL RECOVERY FOR BORING 83 %											
8. TOTAL DEPTH OF BORING 3.0 Ft.				18. SIGNATURE AND TITLE OF INSPECTOR V. J. Thompson III, Civil Engineer													
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT. N-VALUE									
-10.6	0.0	NR	SAND, silty, mostly fine-grained sand-sized carbonate, trace organic matter, trace subangular shell up to 1/8", moist, 5Y 5/1 gray (SM) At El. -11.9 Ft., mostly fine-grained sand-sized carbonate, trace subangular shell up to 1/4", 5Y 6/1 gray	100	1		-10.6	0									
	100			-10.8													
				-11.3													
				Vibracore													
				-12.6													
-13.1	2.5			100	2		-13.1										
-13.6	3.0			0			-13.6										
BORING TERMINATED IN REFUSAL																	
NOTES:																	
1. USACE Jacksonville is the custodian for these original files.																	
2. Soils are field visually classified in accordance with the Unified Soils Classification System.																	
3. Vibracore Borings Were Sampled With A Pneumatic Powered Unit Using A 3 7/8" Lexan Liner To Termination Depth Specified.																	
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<table border="1"> <thead> <tr> <th>SAMPLE ID</th> <th>SAMPLE DEPTH</th> <th>LABORATORY CLASSIFICATION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.3/0.8</td> <td>SM*</td> </tr> <tr> <td>2</td> <td>2.0/2.5</td> <td>SM*</td> </tr> </tbody> </table>									SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION	1	0.3/0.8	SM*	2	2.0/2.5	SM*
SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION															
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2	2.0/2.5	SM*															
*Lab visual classification based on gradation curve. No Atterberg limits.																	

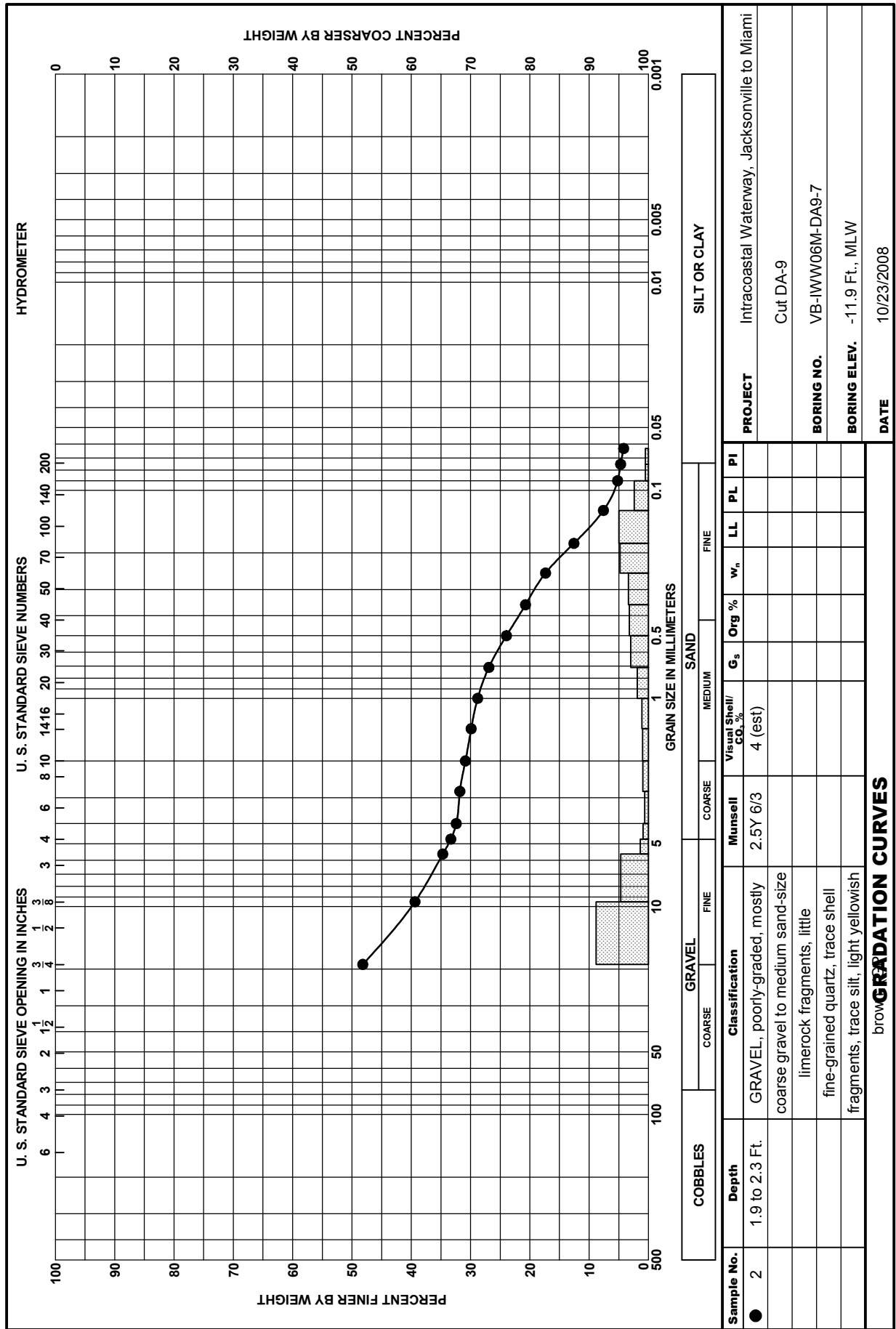
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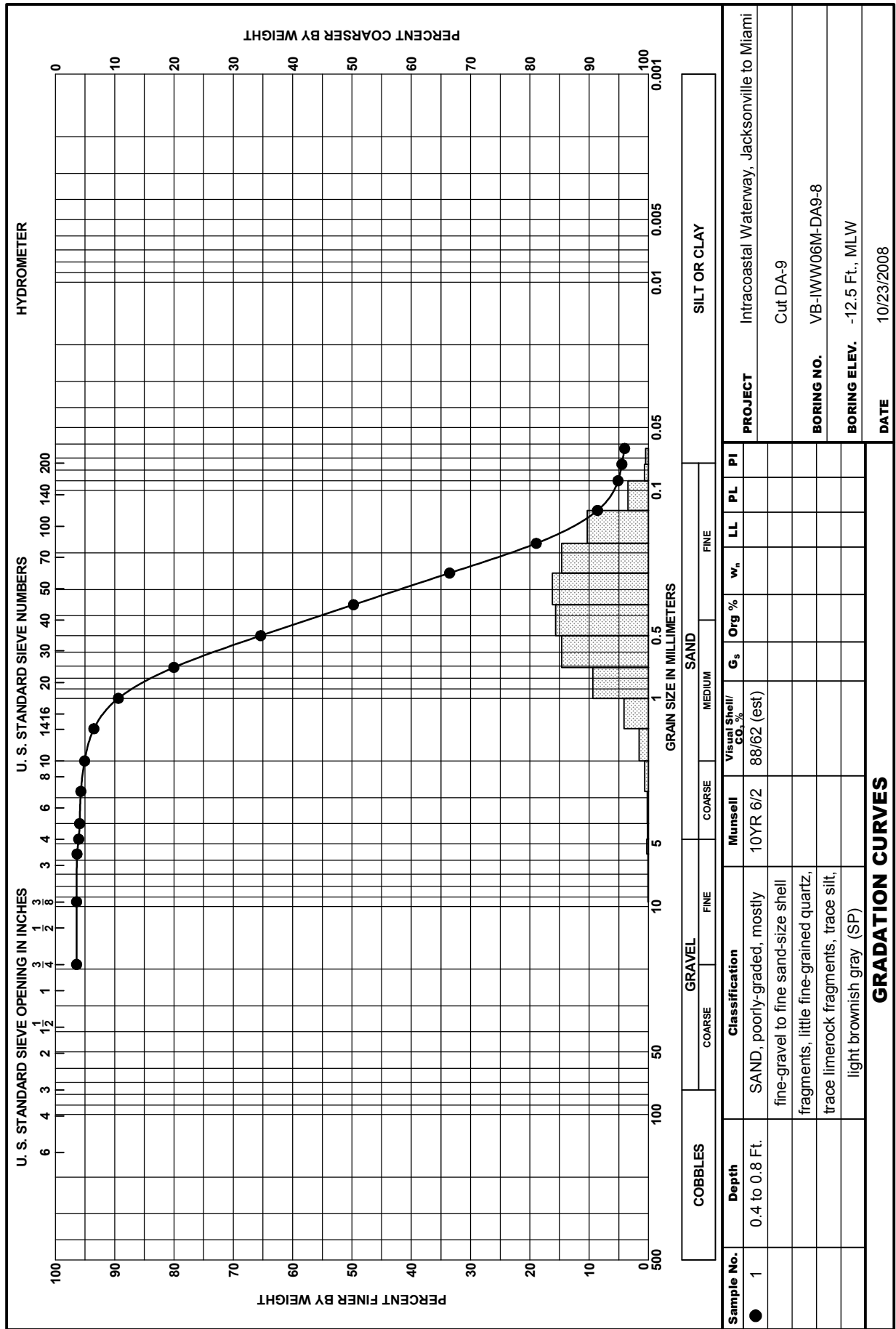
Applicable laboratory testing data are presented on the following pages.

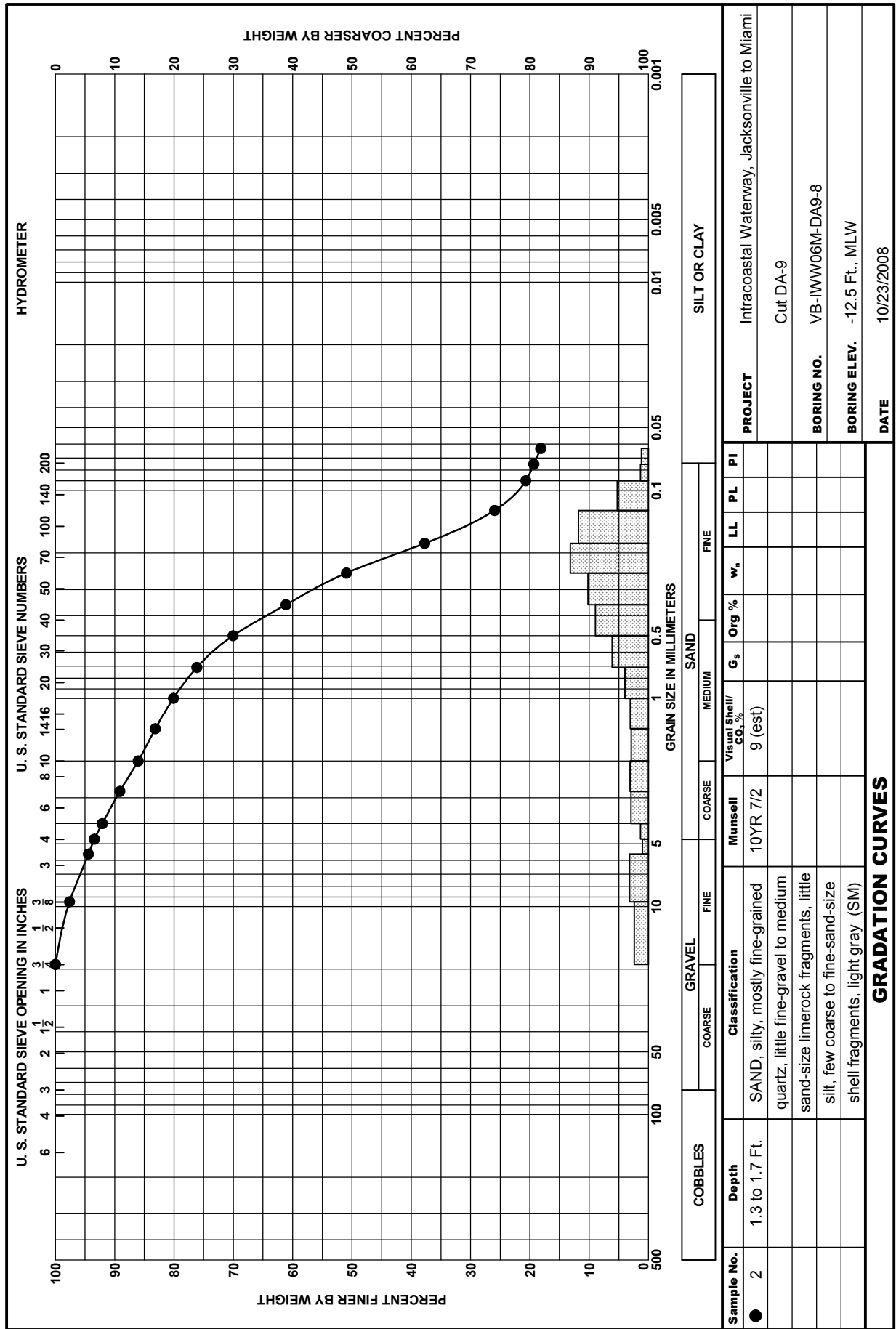


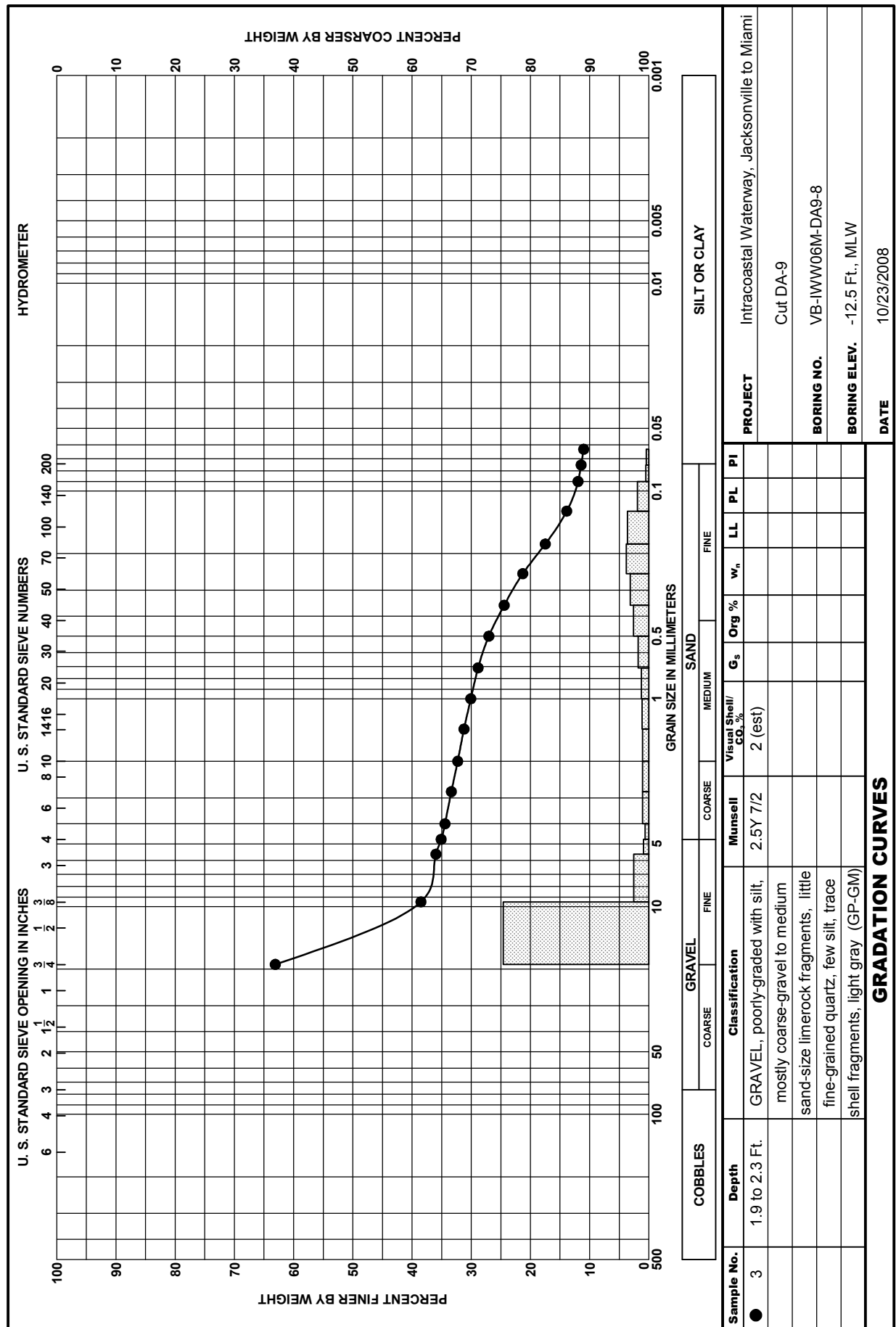


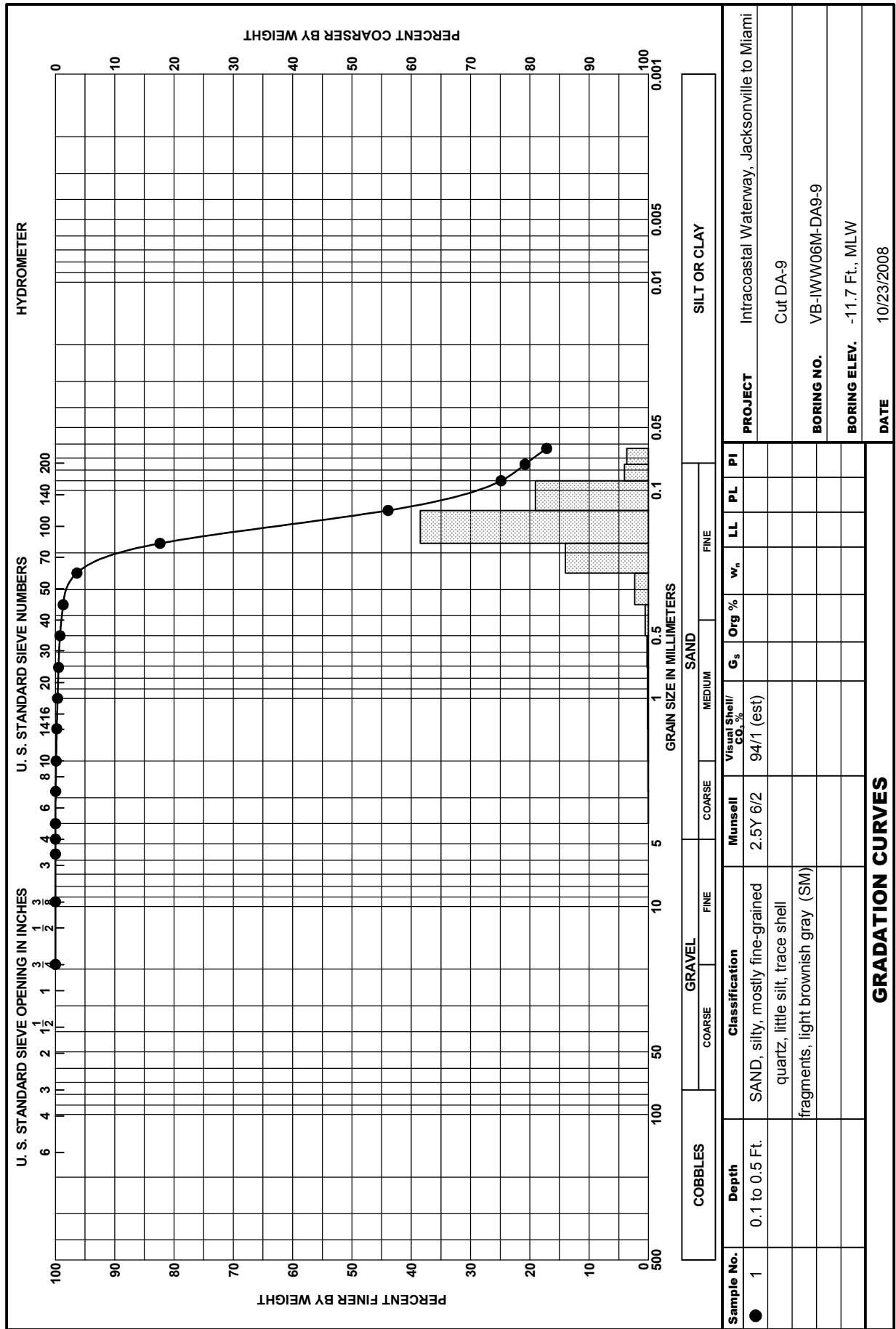


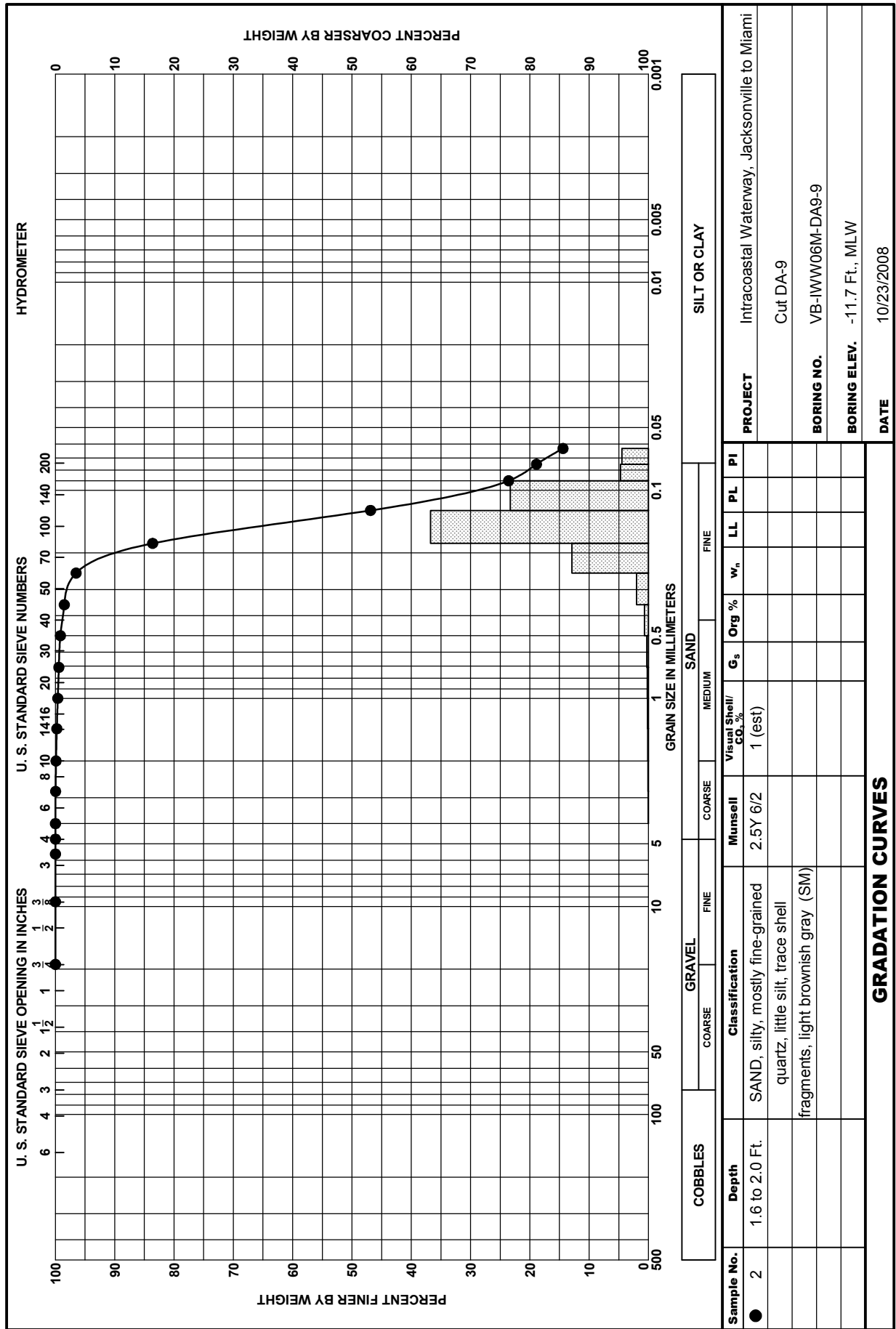


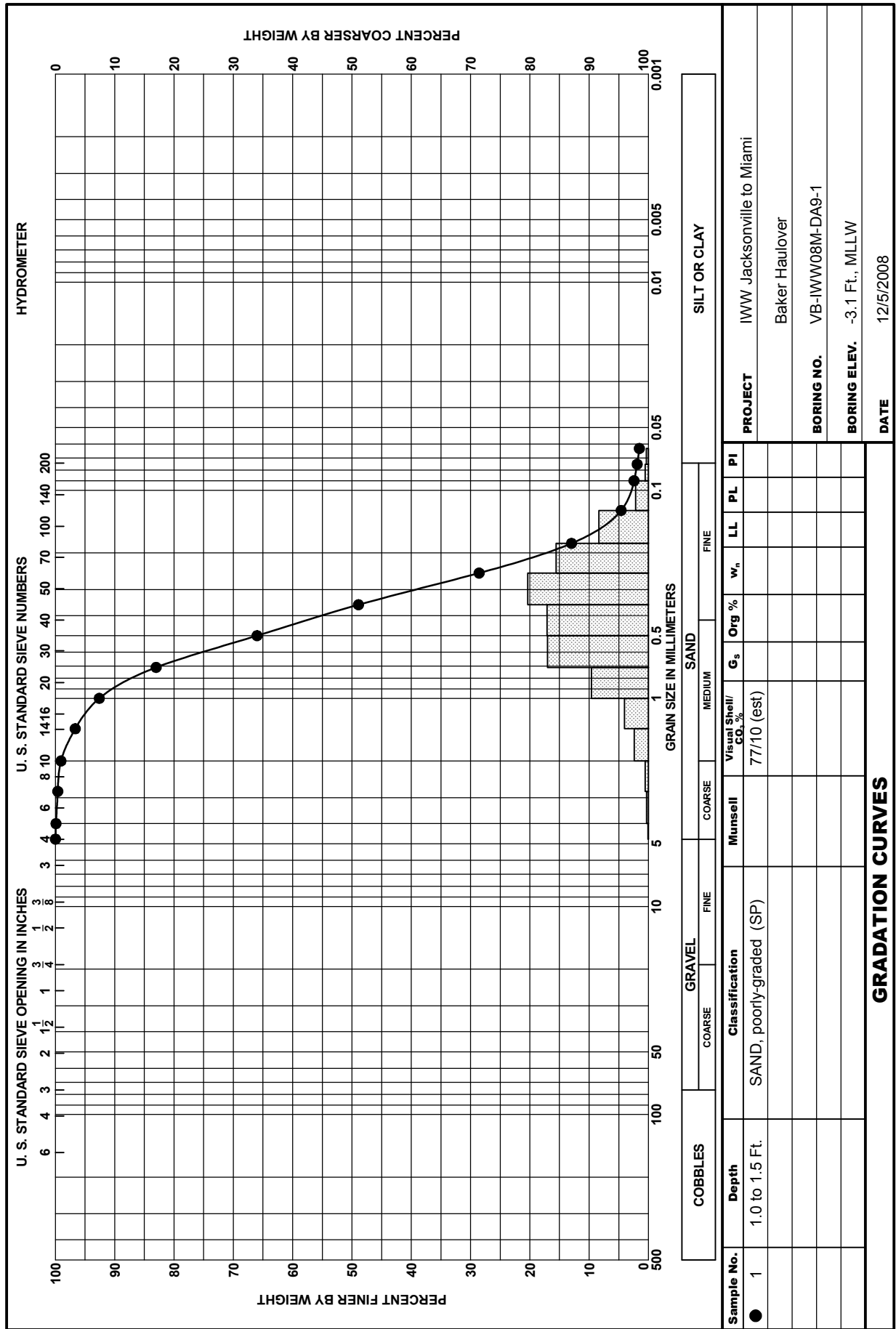


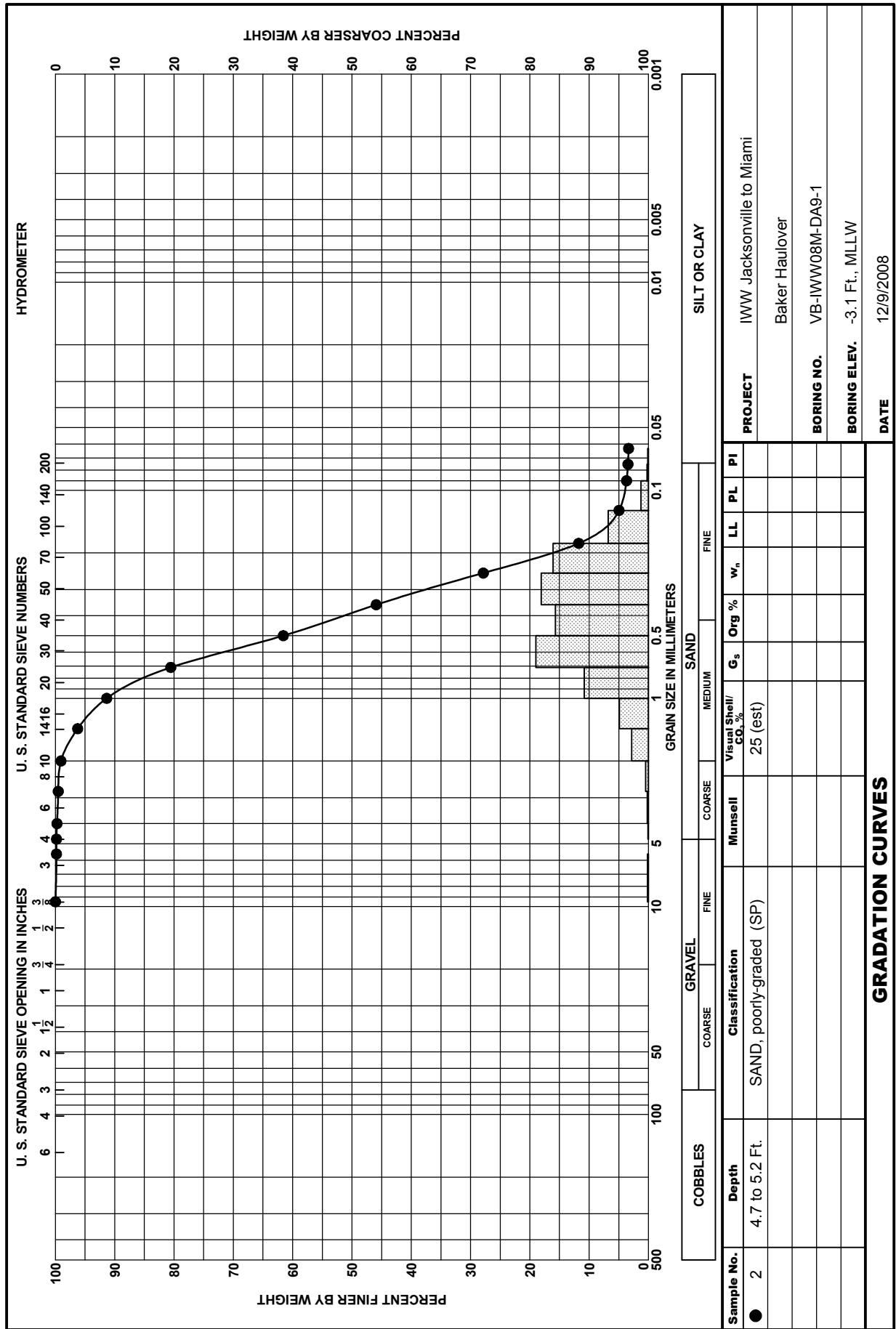


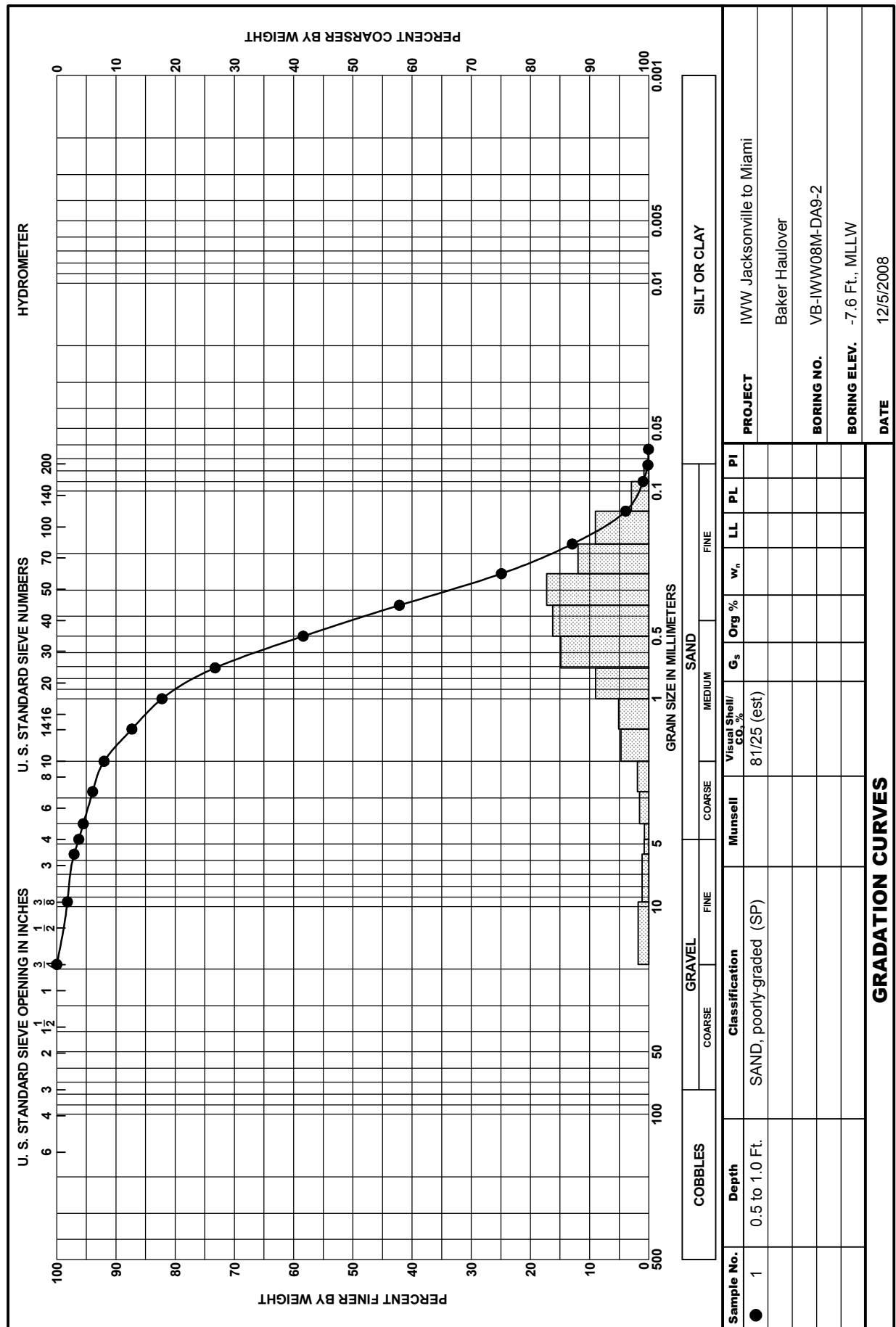


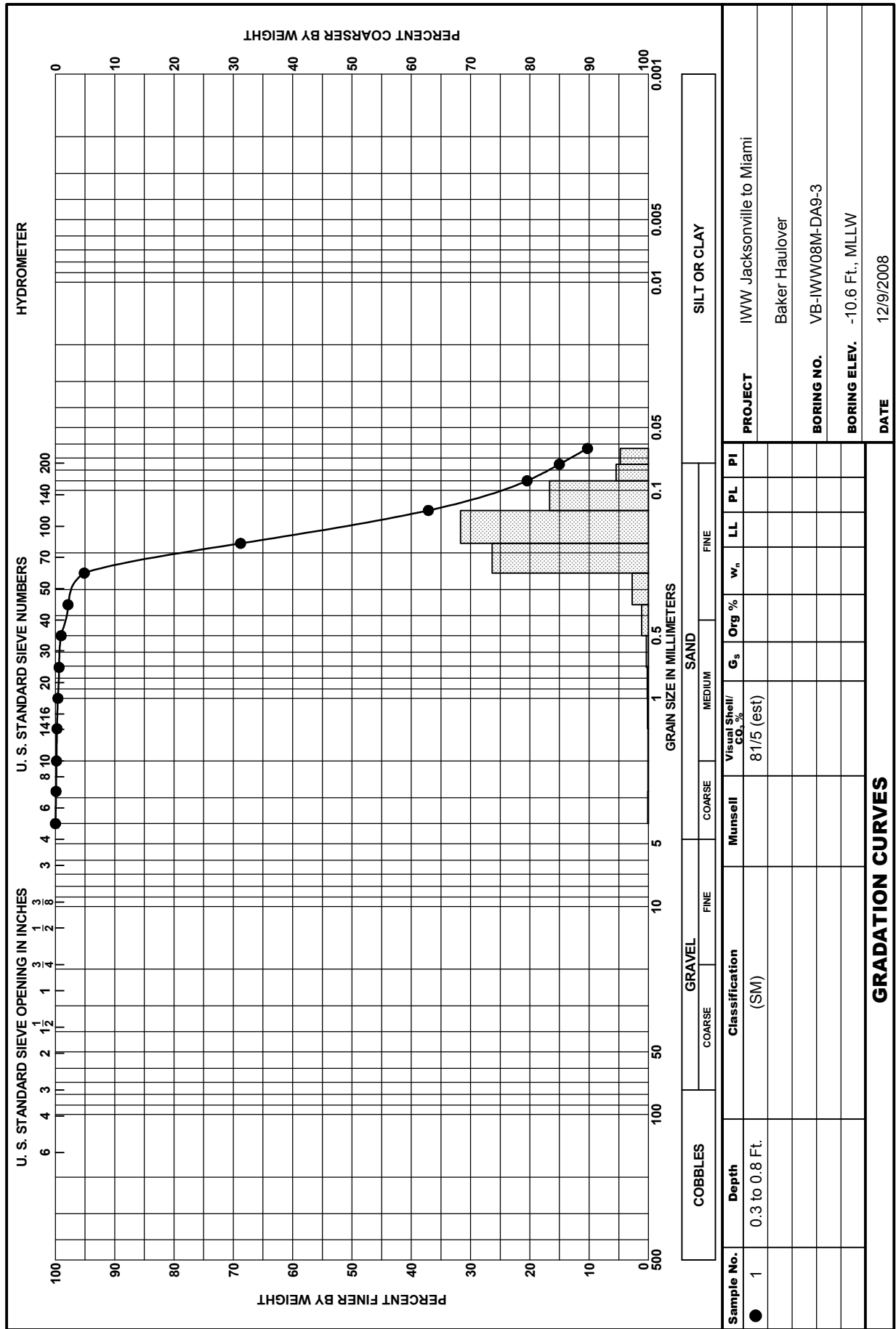












SAJ FORM 2087
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SECTION 00 31 32.20

Geotechnical Data Report

for

Sandy Supplemental Maintenance Dredging
11-foot Project Vicinity of Jupiter Inlet,
Palm Beach County, Florida

Prepared by

Geotechnical Branch

Engineering Division

Jacksonville District Corps of Engineers

13 June 2013

SECTION 00 31 32.20

Geotechnical Data Report

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SECTION 00 31 32

Geotechnical Data Report

1.1 SCOPE

The information provided in this section encompasses the geotechnical field investigations available for this project. The investigations consist of borings. The associated boring logs and laboratory data are presented in paragraphs 1.4.5 and 1.4.6, respectively. A character of materials paragraph is included to provide a comprehensive description of the materials utilizing historical knowledge of the project area. Also included in this section are definitions of terms and boring log notes, which provide additional explanation of the boring logs and drilling techniques.

Items discussed in the character of materials paragraph may not appear explicitly on the boring logs. Based on historic knowledge of the project area, the character of materials paragraph includes items that supplement the data documented by the boring logs. When reviewing the boring logs, use all of the data on the logs, including the materials description, legend, and blow counts. When evaluating the subsurface conditions, use all of the data, including the character of materials paragraph and boring logs.

During the solicitation period, any questions that pertain to the information provided in this section should be addressed to the contract specialist identified in Block 9 of SF1442. After contract award, questions should be addressed to the appointed ACO/COR, which will coordinate with Geotechnical Branch.

1.2 CHARACTER OF MATERIALS

1.2.1 Local Geology

Underneath a thin layer of recent deposited sediments, Pleistocene age Pamlico sands mantle almost all of Palm Beach County. The sand is gray or white and about 10 feet thick along the coastal ridge, and up to 50 feet in the dune areas. Pamlico sand is primarily quartz sand deposited during a lower stand of sea level and lies unconformable over the Anastasia Formation. The Anastasia formation is composed of sand, sandstone, limestone, coquina, and shell beds and underlies all of eastern Palm Beach County and reaches a thickness up to 200 feet beneath the coastal ridge.

1.2.2 Materials Encountered

Boring logs and grain size analysis from historic borings drilled in 1991 and 1994 and lab analysis of grab samples collected in 2006 and 2007 are available for the IWW Channel in the vicinity of Jupiter Inlet. Boring and grab sample locations are summarized in Table 1 and Table 2 and depicted on Plate B-2 and B-3. Most of the materials within the project template presented on the boring logs and gradation curves have

been removed by previous dredging events with subsequent shoaling of similar materials.

The encountered sediments within the dredging depth consist of poorly graded, mostly sand-sized quartz and shell fragments with various amounts of gravel-sized shell and shell fragments. Occasionally sand with silt and silty sands are present

The IWW in the vicinity of Jupiter Inlet has been dredged historically multiple times to 10 feet plus 2 feet overdepth. The materials to be excavated consist of shoaling that has occurred since the channel was last dredged. Any insitu rock, if encountered, is not required to be dredged. Gravel- and cobble-sized rock may be encountered in the overdepth from previous dredging. In-situ rock may be encountered outside the dredge template.

1.3 DEFINITIONS

Definitions not explicitly indicated in the sections below are typical industry standard definitions from their respective ASTMs.

1.3.1 Definitions of Basic Terms

Carbonate - Soil component that reacts with HCl of an indeterminate origin (shell, rock, etc.).

Fill - Material that has been placed by man, described with all soil characteristics.

Layer - Rock or soil with a thickness of 6 inches or less.

Lens - A geologic deposit of variable thickness, which disappears laterally in all directions and cannot be correlated to adjacent borings.

Rock - A naturally occurring substance composed of one or more minerals bound together. This geologic term includes a range of engineering properties: strength, hardness, permeability, weathering, and discontinuity. These properties are noted or can be inferred from the boring logs as blow counts, penetration rate, RQD, hardness, etc.

Shell - Material composed of predominantly (>75%) coarse-grained sand to gravel-sized whole or broken shell.

1.3.2 Current Logging Terms

Definition of terms used on boring logs dated since 2000:

Banded - 0.02' (6 mm) to 0.1' (3.0 cm).

Boulder-Sized - Particles greater than 12 inches in diameter.

Cavity - Voids greater than the diameter of the core.

Coarse Grained - Grain diameter greater than 0.079" (2 mm) for sedimentary rocks or 0.197" (5 mm) for igneous or metamorphic rocks.

Coarse Grained Sand-Sized - Less than 10 percent of fine and medium grained sand sizes are present.

Coarse Gravel-Sized - Particles greater than 3/4 of an inch but less than 3 inches in diameter.

Cobble-Sized - Particles greater than 3 inches but less than 12 inches in diameter.

Decomposed - Applicable to saprolitic rock; rock is essentially reduced to a soil with a relic rock texture; can be molded or crumbled by hand.

Dipping (Dip) - 20 to 45 degrees.

Discontinue - Particles were present within the unit above but are no longer present.

Fine Grained - Grain diameter between 0.004" (0.1 mm) and 0.016" (0.4 mm) for sedimentary rocks or 0.039" (1 mm) for igneous or metamorphic rocks.

Fine Grained Sand-Sized - Less than 10 percent of medium and coarse grained sand sizes are present.

Fine Gravel-Sized - Particles greater than No. 4 sieve but less than 3/4 of an inch in diameter.

Flat (Dip) - 0 to 20 degrees.

Fossiliferous - Greater than 40 percent fossils.

Hard (Hardness) - Difficult to scratch with a knife (cannot be pitted with a geology hammer, but can be chipped with moderate blows of the hammer).

Highly Fractured - Spacing 0.3' (9.1 cm) to 1' (30.5 cm).

Highly Weathered - Entire section is discolored; alteration is greater than 50%; some areas of slightly weathered rock are present; some minerals are leached away; retains only a fraction of its original strength (wet strength usually lower than dry strength).

Intact - Spacing greater than 6' (1.8 m).

Intensely Fractured - Spacing less than 0.3' (9.1 cm).

Massive - Over 3' (0.9 m) thick.

Medium-Bedded - 0.3' (9.1 cm) to 1' (30.5 cm) thick.

Medium Grained - Grain diameters between 0.016" (0.4 mm) to 0.079" (2 mm) for sedimentary rocks or 0.039" (1 mm) to 0.197" (5 mm) for igneous or metamorphic rocks.

Medium Grained Sand-Sized - Less than 10 percent of fine and coarse grained sand sizes are present.

Moderately Fractured - Spacing 1' (30.5 cm) to 3' (0.9 m).

Moderately Hard (Hardness) - Can be scratched easily with a knife, but cannot be scratched by a fingernail (can be pitted with moderate blows of a geology hammer).

Moderately Open (Fracture Aperture) - 0.020" (0.5 mm) to 0.098" (2.5 mm).

Moderately Weathered - Discoloration is evident; surface is pitted and altered, with alterations penetrating well below rock surfaces; 10% to 50% of the rock is altered; strength is noticeably less than unweathered rock.

Non-fossiliferous - No observed fossils.

Open (Fracture Aperture) - 0.098" (2.5 mm) to 0.394" (10 mm).

Pitted - Voids 0.039" (1mm) to 0.236" (6mm) in diameter.

Porous - Voids less than 0.039" (1mm) in diameter.

Slightly Fractured - Spacing 3' (0.9 m) to 6' (1.8 m).

Slightly Weathered - Superficial discoloration, alteration and/or discoloration along discontinuities; less than 10% of the rock volume is altered; strength is essentially unaffected.

Soft (Hardness) - Can be scratched with a fingernail (cannot be crumbled between fingers, but can be easily pitted with light blows of a geology hammer).

Solid - Absence of voids.

Sparsely Fossiliferous - Less than 40 percent fossils.

Steeply Dipping (Dip) - 45 to 90 degrees.

Thick-Bedded - 1' (30.5 cm) to 3' (0.9 m) thick.

Thin-Bedded - 0.1' (3.0 cm) to 0.3' (9.1 cm) thick.

Thin Parting - Paper thin to 0.002' (0.6 mm).

Tight (Fracture Aperture) - 0.004" (0.1 mm) to 0.020" (0.5 mm).

Unweathered - No evidence of any mechanical or chemical alteration.
Very Fine Grained - Grain diameter less than 0.004" (0.1 mm); individual grains or crystals are too small to be seen with the naked eye.
Very Hard (Hardness) - Cannot be scratched with a knife (chips can be broken off only with heavy blows of a geology hammer).
Very Soft (Hardness) - Can be deformed by hand (has a rock-like character, but can be easily broken by hand).
Very Tight (Fracture Aperture) - less than 0.004" (0.1 mm).
Very Wide (Fracture Aperture) - 0.394" (10 mm) to 0.984" (25 mm).
Vuggy - Voids 0.236" (6mm) to the diameter of the core.

1.3.3 Previous Logging Terms

Definition of terms used on boring logs dated before 2000:

Dense - Equivalent to SPT N-value of 30 to 50.
Incompetent - Rock that disintegrates while coring; weak.
Indurated - Rock or soil hardened or consolidated by pressure or cementation. Very difficult to break by hand.
Poorly-Indurated - See semi-indurated.
Seam - Rock or soil with average thickness of 2 to 3 inches.
Semi-Indurated - Rock or soil with a lesser degree of hardening or consolidation by pressure or cementation. Crumbles with little effort by hand.

1.3.4 Testing and Procedure Methods

Test/Procedure	Method
Abrasion Resistance of Large-Size Coarse Aggregate, Los Angeles Machine	ASTM C535
Abrasion Resistance of Small-Size Coarse Aggregate, Los Angeles Machine	ASTM C131
Air Content by the Pressure Method	ASTM C231
Air Content by the Volumetric Method	ASTM C173
Air-Entraining Admixtures for Concrete	ASTM C233
Atterberg Limits, wet preparation method, test method a multipoint	ASTM D4318
Bulk Specific Gravity of Bituminous Mixtures	ASTM D2726
Capping Cylindrical Concrete Specimens	ASTM C617
Carbonate Content	ASTM D4373
Compaction: 4" Mold, Modified Proctor	ASTM D1557
Compaction: 4" Mold, Standard Proctor	ASTM D698
Compaction: 6" Mold, Modified Proctor	ASTM D1557
Compaction: 6" Mold, Standard Proctor	ASTM D698
Compressive Strength of Cast in Place Concrete Cylinders	ASTM C873
Compressive Strength of Cylindrical Concrete Specimens (Set of 4)	ASTM C39
Compressive Strength of Lightweight Concrete	ASTM C495
Consolidation, each load of rebound increment with complete time	ASTM D2435
Density and Water Content of Soil by Nuclear Methods (Minimum 4)	ASTM D2922/D3017

Test/Procedure	Method
Density of Bituminous Concrete in Place by Nuclear Methods (Minimum 4)	ASTM D2950
Density of Soil in Place by the Sand-Cone Method	ASTM D1556
Direct Shear	ASTM D3080
Drilled Cores and Sawed Beams of Concrete	ASTM C42
Extraction of Bituminous Paving Mixtures	ASTM D2172
Freezing and Thawing (up to 55 cycles)	ASTM D5312
Grain size sieve Analysis	ASTM D422
Hydrometer Analysis	ASTM D422
Making and Curing Concrete Test Specimens in the Field (Set of 6)	ASTM C31
Making and Curing Concrete Test Specimens in the Lab (Set of 4)	ASTM C192
Marshall Resistance to Plastic Flow (Set of 3)	ASTM D1559
Material Passing No. 200 Sieve	ASTM D1140
Modulus of Elasticity	ASTM D3148
Moisture Content	ASTM D2216
Munsell Color	Munsell Soil Color Charts
Organic Content, Test Method C	ASTM D2974
Organic Impurities in Fine Aggregate	ASTM C40
Permeability: Constant Head Permeability	ASTM D2434
Permeability: Falling Head Permeability	ASTM D5084
Petrographic Examination	ASTM C295
Sampling Aggregate (Minimum 4 hours)	ASTM D75
Sampling Freshly Mixed Concrete	ASTM C172
Sedimentation Rate	No ASTM
Sieve Analysis of Aggregate	ASTM C136
Slump of Hydraulic-Cement Concrete	ASTM C143
Soil Classification (Boring logs)	ASTM D 2488
Specific Gravity and Absorption of Fine Aggregate	ASTM C128
Specific Gravity for Rock	ASTM C127
Specific Gravity for Soil	ASTM D854
SPLITTING TENSILE STRENGTH	ASTM D3967
Splitting Tensile Strength of Concrete Cylinders	ASTM C496
Subsample Preparation ASTM D4220, Group B	ASTM D4220,
Sulfate Soundness	ASTM C88
Total Evaporable Moisture Content	ASTM C566
Triaxial Compression Test for Rock with Strain Gages or LVDTs (per confining pressure)	ASTM D2664
Triaxial compression: Consolidated Undrained (CU) Triaxial Compression Test R Test with Pore Pressure Measurements (per confining pressure)	ASTM D4767
Triaxial compression: Unconsolidated Undrained (UU) Triaxial Compression Test Q Test with Pore Pressure Measurements (per confining pressure)	ASTM D2850
Unbonded Caps for Compressive Strength	ASTM C1231
Unconfined Compressive Strength for Rock Greater than 9,000 psi with Strain	ASTM D2938

Test/Procedure	Method
Unconfined Compressive Strength for Rock up to 9,000 psi with Strain	ASTM D2938
Unconfined Compressive Strength for Soil	ASTM D2166
Unit Weight and Absorption	ASTM C127
Unit Weight of Aggregate	ASTM C29 -
Visual Percent Shell	No ASTM
Wetting and Drying	ASTM D5313

1.4 GEOMECHANICAL DATA

1.4.1 Summary of Field Investigations

The tables below summarize the historical field investigation data set available for this project.

Table 1. Available Boring Data

Designation	State Plane, FL-East, NAD83		Project Location
	X	Y	
CB-IWWP1-1	955793	956095	Cut P-1
CB-IWWP1-2	955987	955612	
CB-IWWP1-3	956034	955218	
CB-JI91-3	955934	955533	
CB-JI91-4	954608	960141	
CB-JI91-5	954388	960896	
CB-IWWP3-1	956169	951634	Cut P-3
CB-IWWP3-2	956173	951139	
CB-IWWP3-4	956166	952129	
CB-JI91-2	956005	951186	
CB-IWWP3-3	955901	951198	Cut P-3 Widener
CB-IWWP4-1	955691	951074	Cut P-4
CB-IWWP4-2	955764	950807	
CB-IWWP4-3	955933	950572	
CB-JI91-1	955481	950901	
All Coordinates presented in the table are converted from NAD27 and correspond to the project coordinate system and datum.			

Table 2. Available Surficial Samples Data

Designation	State Plane, FL-East, NAD83		Project Location
	X	Y	
J-1	954065	961924	Cut P-1
J-1B	954352	960976	
J-2	954512	960423	
J-2B	954821	959348	
J-3	954945	958932	
J-3B	955074	958507	
J-4	955198	958095	
J-4B	955335	957617	
J-5	955463	957166	
J-5B	955600	956701	
J-6	955729	956241	
J-7	956091	955131	
SS-IWW06M-P1-3	955978	955544	

Designation	State Plane, FL-East, NAD83		Project Location
	X	Y	
J-10	956254	952613	Cut P-2
J-7B	956210	954693	
J-8	956210	954242	
J-8B	956210	953804	
J-9B	956254	952994	
SS-IWW06M-P2-1	956257	952299	
J-11	956207	951916	Cut P-3
SS-IWW06M-P3-1	956124	951606	
SS-IWW06M-P3W-1	955840	951153	Cut P-3 Widener
J-12	955514	951072	Cut P-4
J-13	955005	951125	
SS-IWW06M-P4-1	955946	951013	
SS-IWW06M-P4SB-1	955897	950762	
SS-IWW06M-P4SB-2	955628	950819	
All Coordinates presented in the table are converted from NAD27 and correspond to the project coordinate system and datum.			

1.4.2 Summary of Index Testing Data

The table below summarizes the index testing available for this project.

Table 3. Index Testing Available for this Project

Boring Designation	Sample Designation	USCS	Visual Shell %	Munsell Color
CB-IWWP1-1	1	SP		
CB-IWWP1-2	1	SP		
CB-IWWP1-3	1	SP		
CB-IWWP3-1	1	SP		
CB-IWWP3-2	1	SP		
	2	SP		
CB-IWWP3-3	1	SP		
CB-IWWP3-4	1	SP		
CB-IWWP4-1	1	SP		
CB-IWWP4-2	1	SP		
CB-IWWP4-3	1	SP		
	2	SP-SM		
J-1		SP	10	10YR 6/2
J-1B		SP	11	10YR 6/3
J-2		SP	0	10YR 6/2
J-2B		SP	1	10YR 7/2
J-3		SP	1	10YR 6/2
J-3B		SP	15	10YR 6/2
J-4		SP	15	10YR 4/2
J-4B		SP	33	10YR 5/3
J-5		SP	10	10YR 6/2
J-5B		SP	6	10YR 6/2
J-6		SP	3	10YR 6/2
J-7		SP	1	10YR 6/2
J-7B		SP	22	10YR 3/1
J-8		SP	32	10YR 6/2

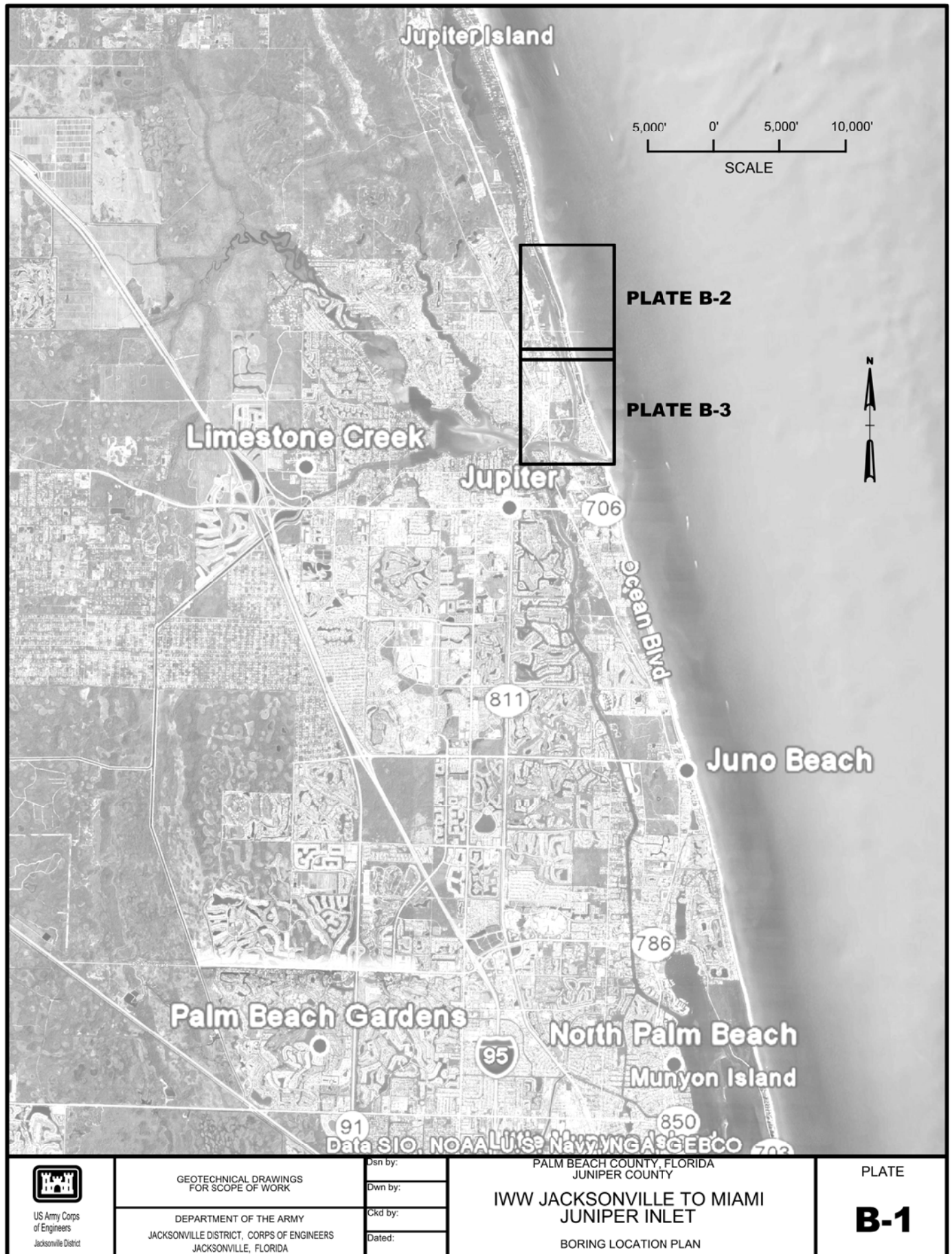
Boring Designation	Sample Designation	USCS	Visual Shell %	Munsell Color
J-8B		SP	12	10YR 6/3
J-9B		SP	1	10YR 6/2
J-10		SP	11	10YR 5/3
J-11		SP	10	10YR 4/2
J-12		SP	12	10YR 5/1
J-13		SP	9	10YR 6/1
SS-IWW06M-P1-3		SP	8	10YR 5/1
SS-IWW06M-P2-1		SP	5	10YR 5/3
SS-IWW06M-P3-1		SP	1	10YR 5/2
SS-IWW06M-P3W-1		SP	16	10YR 5/1
SS-IWW06M-P4-1		SP	12	10YR 5/2
SS-IWW06M-P4SB-1		SP	7	10YR 5/1
SS-IWW06M-P4SB-2		SP	0	10YR 5/1

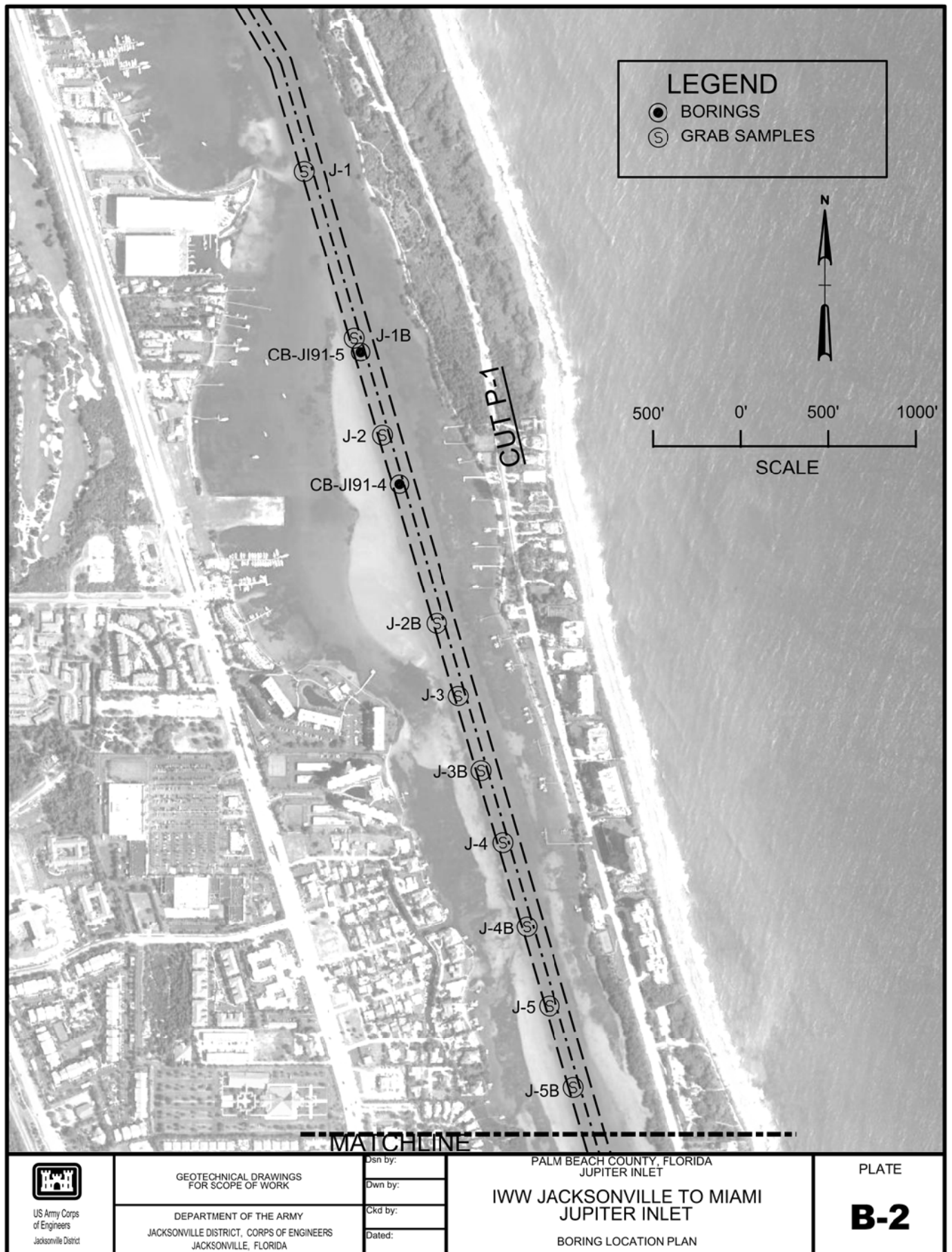
1.4.3 Boring Log Notes

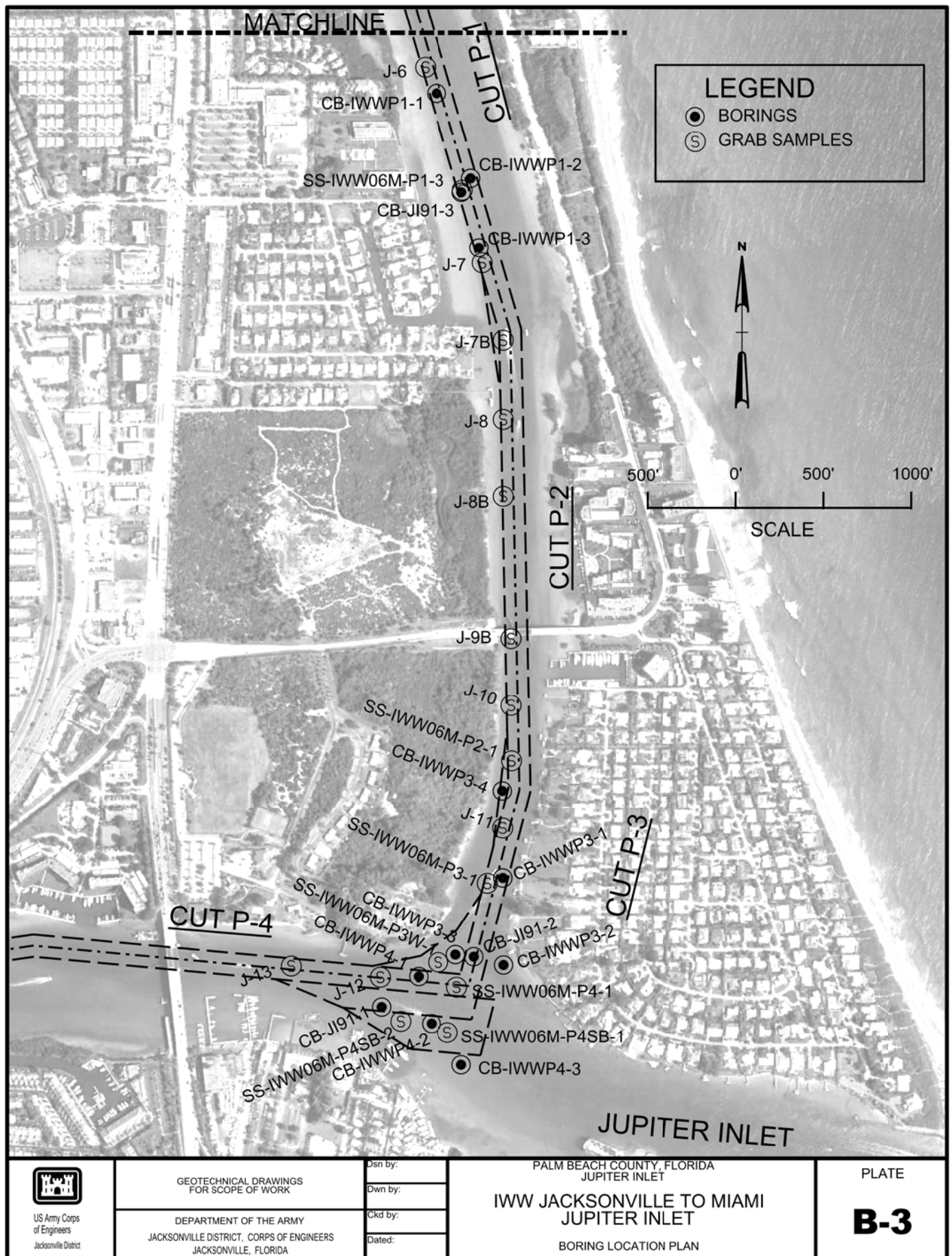
All Borings were driven using a 5' sampler with a procedure similar to the Standard Penetration Test (SPT). The blow counts indicated are those required for sampling only and do not correlate to the N-values of a SPT.

1.4.4 Recovered Materials

The material recovered from all borings and grab samples is not available for inspection.







1.4.5 Boring Logs

Applicable boring logs are presented on the following pages.

The borings presented in this section are available historic borings within the project area. Most of the materials within the project template presented on the boring logs have been removed by previous dredging events with subsequent shoaling of similar materials. The current elevations of the materials at these locations are shown on the contract drawings.

While the Government's borings are representative of subsurface conditions at their respective locations and vertical reaches, local variations in the characteristics of the subsurface materials of this region are to be expected.

Hole No. CB-IWWP1-1

DRILLING LOG			DIVISION South Atlantic	INSTALLATION Savannah District		SHEET 1 OF 1	
1. PROJECT IWW JUPITER			10. SIZE AND TYPE OF BIT See Remarks				
2. LOCATION (Coordinates or Station) X=799,556 Y=955,932			11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW				
3. DRILLING AGENCY Corps of Engineers			12. MANUFACTURER'S DESIGNATION OF DRILL ACKER				
4. HOLE NO. (As shown on drawing title and file number) CB-IWWP1-1			13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 1 undisturbed: 0				
5. NAME OF DRILLER L.C. GREGORY			14. TOTAL NUMBER OF CORE BOXES 1				
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED			15. ELEVATION GROUND WATER TIDAL				
7. THICKNESS OF BURDEN 0 Ft.			16. DATE HOLE STARTED COMPLETED 11/18/94 11/18/94				
8. DEPTH DRILLED INTO ROCK 0 Ft.			17. ELEVATION TOP OF HOLE -10.5 Ft.				
9. TOTAL DEPTH OF HOLE 1.0 Ft.			18. TOTAL CORE RECOVERY FOR BORING 30.0 %				
			19. SIGNATURE OF GEOLOGIST Karen Pitchford				
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS	
-10.5	0.0					-10.5	0
-11.5	1.0		SAND, medium grained quartz, trace shell, tan (SP).	30	1	-11.5 2" SAMPLER	
			Soils are field visually classified in accordance with the Unified Soils Classification System.			140# HAMMER WITH 30" DROP USED ON 2" SAMPLER	2.5
			DEPTH LABORATORY MLW CLASSIFICATION -10.5 TO -11.5 (SP)				5
							7.5
							10
							12.5
							15
							17.5
							20
							22.5

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PROJECT
IWW JUPITER

HOLE NUMBER
CB-IWWP1-1

Hole No.CB-IWWP1-2

DRILLING LOG			DIVISION South Atlantic		INSTALLATION Savannah District		SHEET 1 OF 1	
1. PROJECT IWW JUPITER			10. SIZE AND TYPE OF BIT See Remarks					
2. LOCATION (Coordinates or Station) X=799,750 Y=955,449			11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW					
3. DRILLING AGENCY Corps of Engineers			12. MANUFACTURER'S DESIGNATION OF DRILL ACKER					
4. HOLE NO. (As shown on drawing title and file number) CB-IWWP1-2			13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 1 undisturbed: 0					
5. NAME OF DRILLER L.WOOTERS			14. TOTAL NUMBER OF CORE BOXES 1					
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED			15. ELEVATION GROUND WATER TIDAL					
7. THICKNESS OF BURDEN 0 Ft.			16. DATE HOLE STARTED COMPLETED 11/18/94 11/18/94					
8. DEPTH DRILLED INTO ROCK 0 Ft.			17. ELEVATION TOP OF HOLE -9.8 Ft.					
9. TOTAL DEPTH OF HOLE 3.0 Ft.			18. TOTAL CORE RECOVERY FOR BORING 30.0 %					
			19. SIGNATURE OF GEOLOGIST Karen Pitchford					
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS	BLOWS/ 1'	
-9.8	0.0					-9.8	0	
			SAND, fine grained quartz, organic odor, gray (SP).	30	1	2" SAMPLER	17 21	
-12.8	3.0					-12.8	2.5 30	
			Soils are field visually classified in accordance with the Unified Soils Classification System.			140# HAMMER WITH 30" DROP USED ON 2" SAMPLER	5 7.5 10 12.5 15 17.5 20 22.5	
			DEPTH LABORATORY MLW CLASSIFICATION -9.8 TO -12.8 (SP)					

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PROJECT
IWW JUPITER

HOLE NUMBER
CB-IWWP1-2

Hole No.CB-IWWP1-3

DRILLING LOG			DIVISION South Atlantic	INSTALLATION Savannah District	SHEET 1 OF 1		
1. PROJECT IWW JUPITER			10. SIZE AND TYPE OF BIT See Remarks				
2. LOCATION (Coordinates or Station) X=799,797 Y=955,055			11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW				
3. DRILLING AGENCY Corps of Engineers			12. MANUFACTURER'S DESIGNATION OF DRILL ACKER				
4. HOLE NO. (As shown on drawing title and file number) CB-IWWP1-3			13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 1 undisturbed: 0				
5. NAME OF DRILLER Larry Wooters			14. TOTAL NUMBER OF CORE BOXES 1				
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED			15. ELEVATION GROUND WATER TIDAL				
7. THICKNESS OF BURDEN 0 Ft.			16. DATE HOLE STARTED COMPLETED 11/18/94 11/18/94				
8. DEPTH DRILLED INTO ROCK 0 Ft.			17. ELEVATION TOP OF HOLE -9.3 Ft.				
9. TOTAL DEPTH OF HOLE 4.0 Ft.			18. TOTAL CORE RECOVERY FOR BORING 50.0 %				
			19. SIGNATURE OF GEOLOGIST Karen Pitchford				
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS	BLOWS/ 1'
-9.3	0.0		SAND, fine grained quartz, gray (SP).	30	1	-9.3	0
						2" SAMPLER	15
							30
							34
-13.3	4.0						2.5
							39
			Soils are field visually classified in accordance with the Unified Soils Classification System.			140# HAMMER WITH 30" DROP USED ON 2" SAMPLER	5
			DEPTH LABORATORY MLW CLASSIFICATION -9.3 TO -13.3 (SP)				7.5
							10
							12.5
							15
							17.5
							20
							22.5

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PROJECT
IWW JUPITER

HOLE NUMBER
CB-IWWP1-3

Hole No.CB-IWWP3-1

DRILLING LOG			DIVISION South Atlantic		INSTALLATION Savannah District		SHEET 1 OF 1	
1. PROJECT IWW JUPITER			10. SIZE AND TYPE OF BIT See Remarks					
2. LOCATION (Coordinates or Station) X=799,932 Y=951,471			11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW					
3. DRILLING AGENCY Corps of Engineers			12. MANUFACTURER'S DESIGNATION OF DRILL ACKER					
4. HOLE NO. (As shown on drawing title and file number) CB-IWWP3-1			13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 1 undisturbed: 0					
5. NAME OF DRILLER Larry Wooters			14. TOTAL NUMBER OF CORE BOXES 1					
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED			15. ELEVATION GROUND WATER TIDAL					
7. THICKNESS OF BURDEN 0 Ft.			16. DATE HOLE STARTED COMPLETED 11/19/94 11/19/94					
8. DEPTH DRILLED INTO ROCK 0 Ft.			17. ELEVATION TOP OF HOLE -10.6 Ft.					
9. TOTAL DEPTH OF HOLE 5.0 Ft.			18. TOTAL CORE RECOVERY FOR BORING 26.0 %					
			19. SIGNATURE OF GEOLOGIST Karen Pitchford					
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS	BLOWS/ Ft.	
-10.6	0.0					-10.6	0	
			SAND, fine grained quartz, gray (SP), tan 0.0'-0.2'.				1	
							11	
				26	1	2" SAMPLER	31	
							39	
							55	
-15.6	5.0					-15.6	5	
			Soils are field visually classified in accordance with the Unified Soils Classification System.			140# HAMMER WITH 30" DROP USED ON 2" SAMPLER		
			DEPTH LABORATORY MLW CLASSIFICATION -10.6 TO -15.6 (SP)				7.5	
							10	
							12.5	
							15	
							17.5	
							20	
							22.5	

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PROJECT
IWW JUPITER

HOLE NUMBER
CB-IWWP3-1

Hole No.CB-IWWP3-2

DRILLING LOG		DIVISION South Atlantic		INSTALLATION Savannah District		SHEET 1 OF 1	
1. PROJECT IWW JUPITER				10. SIZE AND TYPE OF BIT See Remarks			
2. LOCATION (Coordinates or Station) X=799,936 Y=950,976				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW			
3. DRILLING AGENCY Corps of Engineers				12. MANUFACTURER'S DESIGNATION OF DRILL ACKER			
4. HOLE NO. (As shown on drawing title and file number) CB-IWWP3-2				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 2 undisturbed: 0			
5. NAME OF DRILLER Larry Wooters				14. TOTAL NUMBER OF CORE BOXES 1			
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED				15. ELEVATION GROUND WATER TIDAL			
7. THICKNESS OF BURDEN 0 Ft.				16. DATE HOLE STARTED COMPLETED 11/18/94 11/18/94			
8. DEPTH DRILLED INTO ROCK 0 Ft.				17. ELEVATION TOP OF HOLE -8.5 Ft.			
9. TOTAL DEPTH OF HOLE 5.0 Ft.				18. TOTAL CORE RECOVERY FOR BORING 34.0 %			
				19. SIGNATURE OF GEOLOGIST Karen Pitchford			
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS	BLOWS/ 1'
-8.5	0.0					-8.5	0
-9.3	.8		SAND, fine grained quartz, gray (SP)		1		17
			Silty SAND, fine to medium grained quartz, little sand size shell gray (SP-SM)	34	2	2" SAMPLER	22
							20
							27
-13.5	5.0					-13.5	40
			Soils are field visually classified in accordance with the Unified Soils Classification System.			140# HAMMER WITH 30" DROP USED ON 2" SAMPLER	
			DEPTH LABORATORY MLW CLASSIFICATION				
			-8.5 TO -9.3 (SP)				
			-9.3 TO -13.5 (SP)				

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PROJECT
IWW JUPITER

HOLE NUMBER
CB-IWWP3-2

Hole No. CB-IWWP3-3

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 1	
1. PROJECT IWW JUPITER		South Atlantic		Savannah District			
2. LOCATION (Coordinates or Station) X=799,664 Y=951,035				10. SIZE AND TYPE OF BIT See Remarks			
3. DRILLING AGENCY Corps of Engineers				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW			
4. HOLE NO. (As shown on drawing title and file number) CB-IWWP3-3				12. MANUFACTURER'S DESIGNATION OF DRILL ACKER			
5. NAME OF DRILLER Larry Wooters				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 1 undisturbed: 0			
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED				14. TOTAL NUMBER OF CORE BOXES 1			
7. THICKNESS OF BURDEN 0 Ft.				15. ELEVATION GROUND WATER TIDAL			
8. DEPTH DRILLED INTO ROCK 0 Ft.				16. DATE HOLE STARTED COMPLETED 11/18/94 11/18/94			
9. TOTAL DEPTH OF HOLE 5.0 Ft.				17. ELEVATION TOP OF HOLE -8.1 Ft.			
				18. TOTAL CORE RECOVERY FOR BORING 38.0 %			
				19. SIGNATURE OF GEOLOGIST Karen Pitchford			
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS	BLOWS/ 1'
-8.1	0.0					-8.1	0
			SAND, fine to medium grained quartz, little sand size shell tan (SP).	30	1	2" SAMPLER	12
						-9.1	17
							30
							67
							74
-13.1	5.0						5
			Soils are field visually classified in accordance with the Unified Soils Classification System.			140# HAMMER WITH 30" DROP USED ON 2" SAMPLER	
			DEPTH MLW -8.1 TO -13.1				7.5
			LABORATORY CLASSIFICATION (SP)				10
							12.5
							15
							17.5
							20
							22.5

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PROJECT
IWW JUPITER

HOLE NUMBER
CB-IWWP3-3

Hole No.CB-IWWP3-4

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Savannah District	SHEET 1 OF 1
1. PROJECT IWW JUPITER		10. SIZE AND TYPE OF BIT See Remarks		
2. LOCATION (Coordinates or Station) X=799,929 Y=951,966		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW		
3. DRILLING AGENCY Corps of Engineers		12. MANUFACTURER'S DESIGNATION OF DRILL ACKER		
4. HOLE NO. (As shown on drawing title and file number) CB-IWWP3-4		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 1 undisturbed: 0		
5. NAME OF DRILLER Larry Wooters		14. TOTAL NUMBER OF CORE BOXES 1		
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED		15. ELEVATION GROUND WATER TIDAL		
7. THICKNESS OF BURDEN 0 Ft.		16. DATE HOLE STARTED COMPLETED 11/19/94 11/19/94		
8. DEPTH DRILLED INTO ROCK 0 Ft.		17. ELEVATION TOP OF HOLE -9.7 Ft.		
9. TOTAL DEPTH OF HOLE 4.0 Ft.		18. TOTAL CORE RECOVERY FOR BORING 33.0 %		
19. SIGNATURE OF GEOLOGIST Karen Pitchford				

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS	BLOWS/ 1'
-9.7	0.0					-9.7	0
			SAND, fine to medium grained quartz, gray (SP), tan 0.0'-0.2'.	33	1	2" SAMPLER	8 19 33 34
-13.7	4.0					-13.7	
			Soils are field visually classified in accordance with the Unified Soils Classification System.			140# HAMMER WITH 30" DROP USED ON 2" SAMPLER	5 7.5 10 12.5 15 17.5 20 22.5
			DEPTH LABORATORY MLW CLASSIFICATION -9.7 TO -13.7 (SP)				

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PROJECT
IWW JUPITER

HOLE NUMBER
CB-IWWP3-4

Hole No.CB-IWWP4-1

DRILLING LOG		DIVISION South Atlantic		INSTALLATION Savannah District		SHEET 1 OF 1	
1. PROJECT IWW JUPITER				10. SIZE AND TYPE OF BIT See Remarks			
2. LOCATION (Coordinates or Station) X=799,454 Y=950,911				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW			
3. DRILLING AGENCY Corps of Engineers				12. MANUFACTURER'S DESIGNATION OF DRILL ACKER			
4. HOLE NO. (As shown on drawing title and file number) CB-IWWP4-1				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 1 undisturbed: 0			
5. NAME OF DRILLER L.WOOTERS				14. TOTAL NUMBER OF CORE BOXES 1			
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED				15. ELEVATION GROUND WATER TIDAL			
7. THICKNESS OF BURDEN 0 Ft.				16. DATE HOLE STARTED COMPLETED 11/21/94 11/21/94			
8. DEPTH DRILLED INTO ROCK 0 Ft.				17. ELEVATION TOP OF HOLE -12.6 Ft.			
9. TOTAL DEPTH OF HOLE 5.0 Ft.				18. TOTAL CORE RECOVERY FOR BORING 38.0 %			
				19. SIGNATURE OF GEOLOGIST Marty Goff			
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS	BLOWS/ 1'
-12.6	0.0		SAND, fine grained quartz, gray (SP).			-12.6	0
				38	1	2" SAMPLER	10 17 37 71 84
-17.6	5.0		Soils are field visually classified in accordance with the Unified Soils Classification System. DEPTH LABORATORY MLW CLASSIFICATION -12.6 TO -17.6 (SP)			140# HAMMER WITH 30" DROP USED ON 2" SAMPLER	5 7.5 10 12.5 15 17.5 20 22.5

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PROJECT
IWW JUPITER

HOLE NUMBER
CB-IWWP4-1

Hole No. CB-IWWP4-2

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 1	
1. PROJECT IWW JUPITER		South Atlantic		Savannah District			
2. LOCATION (Coordinates or Station) X=799,527 Y=950,644				10. SIZE AND TYPE OF BIT See Remarks			
3. DRILLING AGENCY Corps of Engineers				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW			
4. HOLE NO. (As shown on drawing title and file number) CB-IWWP4-2				12. MANUFACTURER'S DESIGNATION OF DRILL ACKER			
5. NAME OF DRILLER L. WOOTERS				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 1 undisturbed: 0			
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED				14. TOTAL NUMBER OF CORE BOXES 1			
7. THICKNESS OF BURDEN 0 Ft.				15. ELEVATION GROUND WATER TIDAL			
8. DEPTH DRILLED INTO ROCK 0 Ft.				16. DATE HOLE STARTED COMPLETED 11/21/94 11/21/94			
9. TOTAL DEPTH OF HOLE 4.0 Ft.				17. ELEVATION TOP OF HOLE -9.6 Ft.			
				18. TOTAL CORE RECOVERY FOR BORING 50.0 %			
				19. SIGNATURE OF GEOLOGIST Marty Goff			
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS	BLOWS/ 1'
-9.6	0.0		SAND, fine grained quartz, gray (SP)	50	1	2" SAMPLER	14
-13.6	4.0		Soils are field visually classified in accordance with the Unified Soils Classification System. DEPTH MLW -9.6 TO -13.6 LABORATORY CLASSIFICATION (SP)			140# HAMMER WITH 30" DROP USED ON 2" SAMPLER	53

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PROJECT
IWW JUPITER

HOLE NUMBER
CB-IWWP4-2

Hole No.CB-IWWP4-3

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 1	
1. PROJECT IWW JUPITER		South Atlantic		Savannah District			
2. LOCATION (Coordinates or Station) X=799,696 Y=950,409				10. SIZE AND TYPE OF BIT See Remarks			
3. DRILLING AGENCY Corps of Engineers				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW			
4. HOLE NO. (As shown on drawing title and file number) CB-IWWP4-3				12. MANUFACTURER'S DESIGNATION OF DRILL ACKER			
5. NAME OF DRILLER Larry Wooters				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 2 undisturbed: 0			
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED				14. TOTAL NUMBER OF CORE BOXES 1			
7. THICKNESS OF BURDEN 0 Ft.				15. ELEVATION GROUND WATER TIDAL			
8. DEPTH DRILLED INTO ROCK 0 Ft.				16. DATE HOLE STARTED COMPLETED 11/19/94 11/19/94			
9. TOTAL DEPTH OF HOLE 5.0 Ft.				17. ELEVATION TOP OF HOLE -6.5 Ft.			
				18. TOTAL CORE RECOVERY FOR BORING 52.0 %			
				19. SIGNATURE OF GEOLOGIST Karen Pitchford			
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS	BLOWS/ft
-6.5	0.0					-6.5	0
-7.4	.9		SAND, fine to medium grained quartz, trace coarse shell, tan (SP)		1		13
			Silty SAND, little coarse shell, gray (SP-SM)	52	2	2" SAMPLER	17
							33
							39
-11.5	5.0					-11.5	47
			Soils are field visually classified in accordance with the Unified Soils Classification System.			140# HAMMER WITH 30" DROP USED ON 2" SAMPLER	5
			DEPTH LABORATORY MLW CLASSIFICATION				7.5
			-6.5 TO -7.4 (SP)				10
			-7.4 TO -11.5 (SP-SM)				12.5
							15
							17.5
							20
							22.5

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PROJECT
IWW JUPITER

HOLE NUMBER
CB-IWWP4-3

Hole No. CB-JI91-1

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS
1. PROJECT IWW, Palm Beach Co., Jupiter		10. SIZE AND TYPE OF BIT See remarks		
2. LOCATION (Coordinates or Station) x=799,244 y=950,738		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW		
3. DRILLING AGENCY Corps of Engineers		12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500		
4. HOLE NO. (As shown on drawing title and file number) CB-JI91-1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER M. Whitson		14. TOTAL NUMBER CORE BOXES 1		
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER Tidal		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED 4/18/91 COMPLETED 4/18/91		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE -11.5		
9. TOTAL DEPTH OF HOLE 5.0'		18. TOTAL CORE RECOVERY FOR BORING 80 %		
		19. SIGNATURE OF INSPECTOR Geologist, G. Holm		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	NUMBER OF SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-11.5	0.0					Bit or Barrel
						-11.5 Blows/Ft
			SAND, medium to fine grained quartz, clean, organic odor, trace silt, dark gray (SP)	80	1	5' Sampler settled settled
						5
						20
-16.5	5.0					-16.5 12
			Soils are field visually classified in accordance with the Unified Soils Classification System.			300# hammer with 30" drop used on 5' sampler.
			SAMPLE LABORATORY ELEVATION ANALYSIS -12.5 to -14.0 (SP-SM)*			
			NOTE: *Visual classification based on Gradation Curve. No Atterberg Limits.			

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET OF 1 SHEETS
1. PROJECT IWW, Palm Beach Co., Jupiter		10. SIZE AND TYPE OF BIT See remarks		
2. LOCATION (Coordinates or Station) x=799,768 y=951,023		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW		
3. DRILLING AGENCY Corps of Engineers		12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500		
4. HOLE NO. (As shown on drawing title and file number) CB-JI91-2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER M. Whitson		14. TOTAL NUMBER CORE BOXES 1		
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER Tidal		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED 4/18/91 COMPLETED 4/18/91		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE -6.1		
9. TOTAL DEPTH OF HOLE 10.0'		18. TOTAL CORE RECOVERY FOR BORING 60 %		
		19. SIGNATURE OF INSPECTOR Geologist, G. Holem		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-6.1	0.0					Bit or Barrel
						-6.1 Blows/Ft
			SAND, medium to fine grained quartz, trace silt, organic odor, trace shell, dark gray (SP)	60	1	5' sampler 4
						8
						15
						17
						-11.1 9
						5' sampler 5
						8
				60	2	10
						16
-16.1	10.0					-16.1 31
			Soils are field visually classified in accordance with the Unified Soils Classification System.			300# hammer with 30" drop used on 5' sampler.
			SAMPLE ELEVATION -7.8 to -8.1			LABORATORY ANALYSIS (SP)*
			NOTE: *Visual classification based on Gradation Curve. No Atterberg Limits.			

DRILLING LOG		DIVISION South Atlantic		INSTALLATION Jacksonville District		SHEET 1 OF 1 SHEETS	
1. PROJECT IWW, Palm Beach Co., Jupiter				10. SIZE AND TYPE OF BIT See remarks			
2. LOCATION (Coordinates or Station) x=799,697 y=955,370				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW			
3. DRILLING AGENCY Corps of Engineers				12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500			
4. HOLE NO. (As shown on drawing title and file number) CB-JI91-3				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
5. NAME OF DRILLER J. Horsley				14. TOTAL NUMBER CORE BOXES 1			
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.				16. DATE HOLE 4/23/91		STARTED COMPLETED 4/23/91	
7. THICKNESS OF OVERBURDEN				17. ELEVATION TOP OF HOLE -8.5			
8. DEPTH DRILLED INTO ROCK				18. TOTAL CORE RECOVERY FOR BORING 44 %			
9. TOTAL DEPTH OF HOLE 8.0'				19. SIGNATURE OF INSPECTOR Geologist, G. Holem			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
-8.5	0.0		SAND, fine to medium grained quartz, trace silt, trace shell, gray (SP)	54	1	Bit or Barrel Blows/Ft 5' sampler 3	
						7	
						7	
						10	
						-13.5 12	
						5' sampler 7	
				27	2	11	
-16.5	8.0		Soils are field visually classified in accordance with the Unified Soils Classification System.			-16.5 12	
			SAMPLE ELEVATION -10.0 to -11.5			LABORATORY ANALYSIS (SP)*	
			NOTE: *Visual classification based on Gradation Curve. No Atterberg Limits.			300# hammer with 30" drop used on 5.0' sampler.	

DRILLING LOG		DIVISION South Atlantic		INSTALLATION Jacksonville District		Hole No. CB-JI91-4 SHEET 1 OF 1 SHEETS	
1. PROJECT IWW, Palm Beach Co., Jupiter				10. SIZE AND TYPE OF BIT See remarks			
2. LOCATION (Coordinates or Station) x=798,372 y=959,980				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW			
3. DRILLING AGENCY Corps of Engineers				12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500			
4. HOLE NO. (As shown on drawing title and file number) CB-JI91-4				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED UNDISTURBED			
5. NAME OF DRILLER J. Horsley				14. TOTAL NUMBER CORE BOXES 1			
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED DEG. FROM VERT.				15. ELEVATION GROUND WATER Tidal			
7. THICKNESS OF OVERBURDEN				16. DATE HOLE STARTED 4/23/91 COMPLETED 4/23/91			
8. DEPTH DRILLED INTO ROCK				17. ELEVATION TOP OF HOLE -8.2			
9. TOTAL DEPTH OF HOLE 10.0'				18. TOTAL CORE RECOVERY FOR BORING 39 %			
19. SIGNATURE OF INSPECTOR Geologist, G. Holm							
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
-8.2	0.0					Bit or Barrel	
						-8.2 Blows/Ft	
			SAND, medium to fine grained quartz, trace silt, trace shell, light gray (SP)	60	1	5' sampler 7	
						8	
						10	
						11	
						12	
						-13.2	
			organics from -14.7 to -18.2			5' sampler 2	
						1	
				18	2	4	
						2	
-18.2	10.0					-18.2 4	
			Soils are field visually classified in accordance with the Unified Soils Classification System.			300# hammer with 30" drop used on 5.0' sampler.	
			SAMPLE ELEVATION LABORATORY ANALYSIS -10.2 to -11.7 (SP-SM)* -14.7 to -15.8 (SP)*				
			NOTE: *Visual classification based on Gradation Curve. No Atterberg Limits.				

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PROJECT
IWW, Palm Bch Co. Jupiter

HOLE NO.
CB-JI91-4

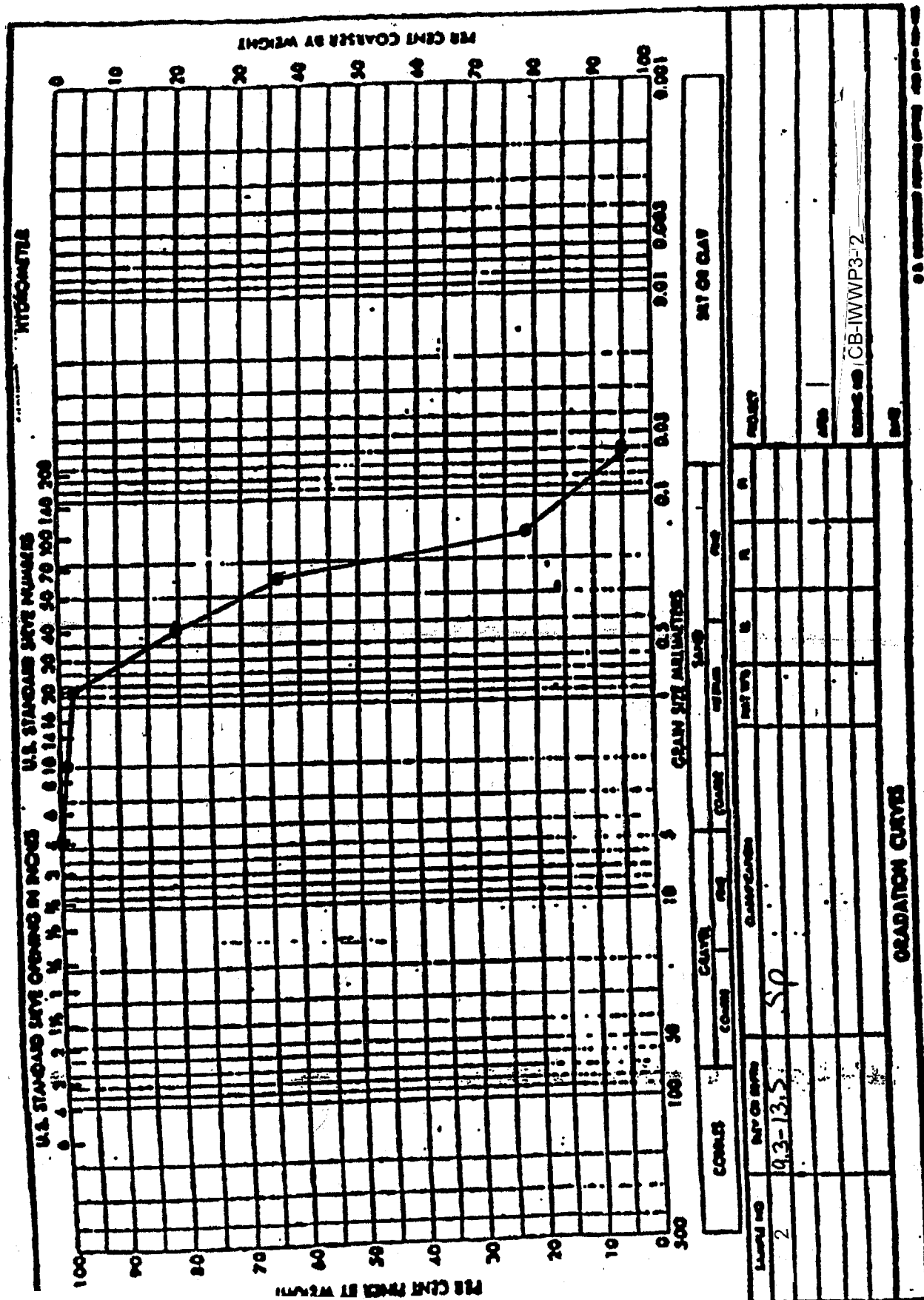
DRILLING LOG		DIVISION South Atlantic		INSTALLATION Jacksonville District		Hole No. CB-JI91-5 SHEET 1 OF 1 SHEETS	
1. PROJECT IWW, Palm Beach Co., Jupiter				10. SIZE AND TYPE OF BIT See remarks			
2. LOCATION (Coordinates or Station) X=798,152 Y=960,735				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW			
3. DRILLING AGENCY Corps of Engineers				12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500			
4. HOLE NO. (As shown on drawing title and file number) CB-JI91-5				13. TOTAL NO. OF OVER- BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
5. NAME OF DRILLER J. Horsley				14. TOTAL NUMBER CORE BOXES 1		15. ELEVATION GROUND WATER Tidal	
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.				16. DATE HOLE STARTED 4/23/91 COMPLETED 4/23/91			
7. THICKNESS OF OVERBURDEN				17. ELEVATION TOP OF HOLE -8.1			
8. DEPTH DRILLED INTO ROCK				18. TOTAL CORE RECOVERY FOR BORING 34 %			
9. TOTAL DEPTH OF HOLE 9.0'				19. SIGNATURE OF INSPECTOR Geologist, G. Holem			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	ROCK CORE SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
-8.1	0.0		SAND, medium to fine grained quartz, trace silt, trace organics, trace shell, dark gray (SP)	42	1	Bit or Barrel	
						-8.1 Blows/Ft	
						5' sampler 3	
						10	
						9	
						7	
						6	
						-13.1	
						5' sampler 4	
						5	
-17.1	9.0		sand, medium grained, clean from -13.6 to -17.1	25	2	-17.1 12	
			Soils are field visually classified in accordance with the Unified Soils Classification System.			300# hammer with 30" drop used on 5.0' sampler.	
			SAMPLE ELEVATION -9.1 to -10.6			LABORATORY ANALYSIS (SP-SM)*	
			NOTE: *Visual classification based on Gradation Curve. No Atterberg Limits.				

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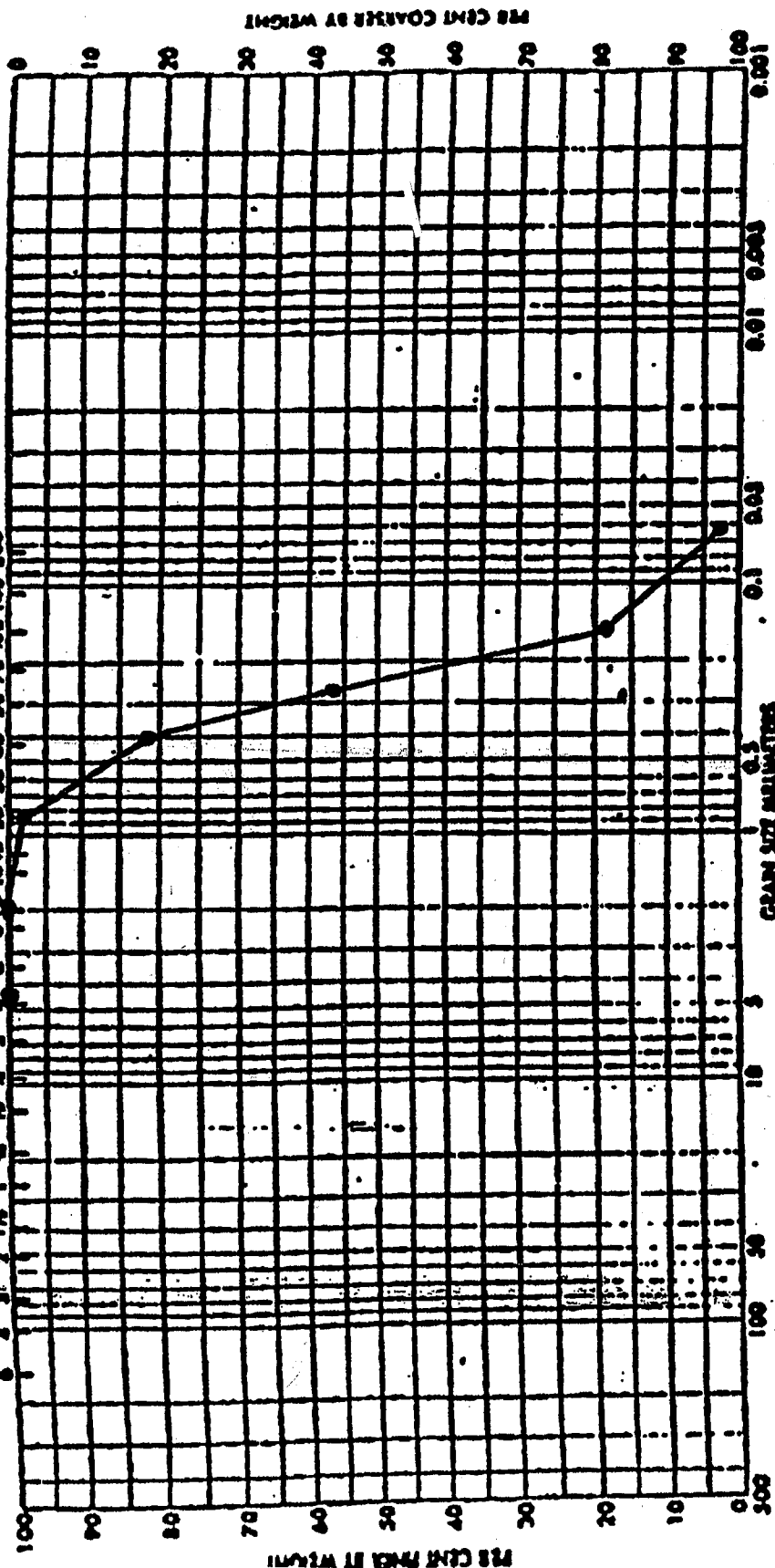
PROJECT IWW, Palm Bch Co., Jupiter HOLE NO. CB-JI91-5

1.4.6 Laboratory Testing Data

Applicable laboratory testing data are presented on the following pages.



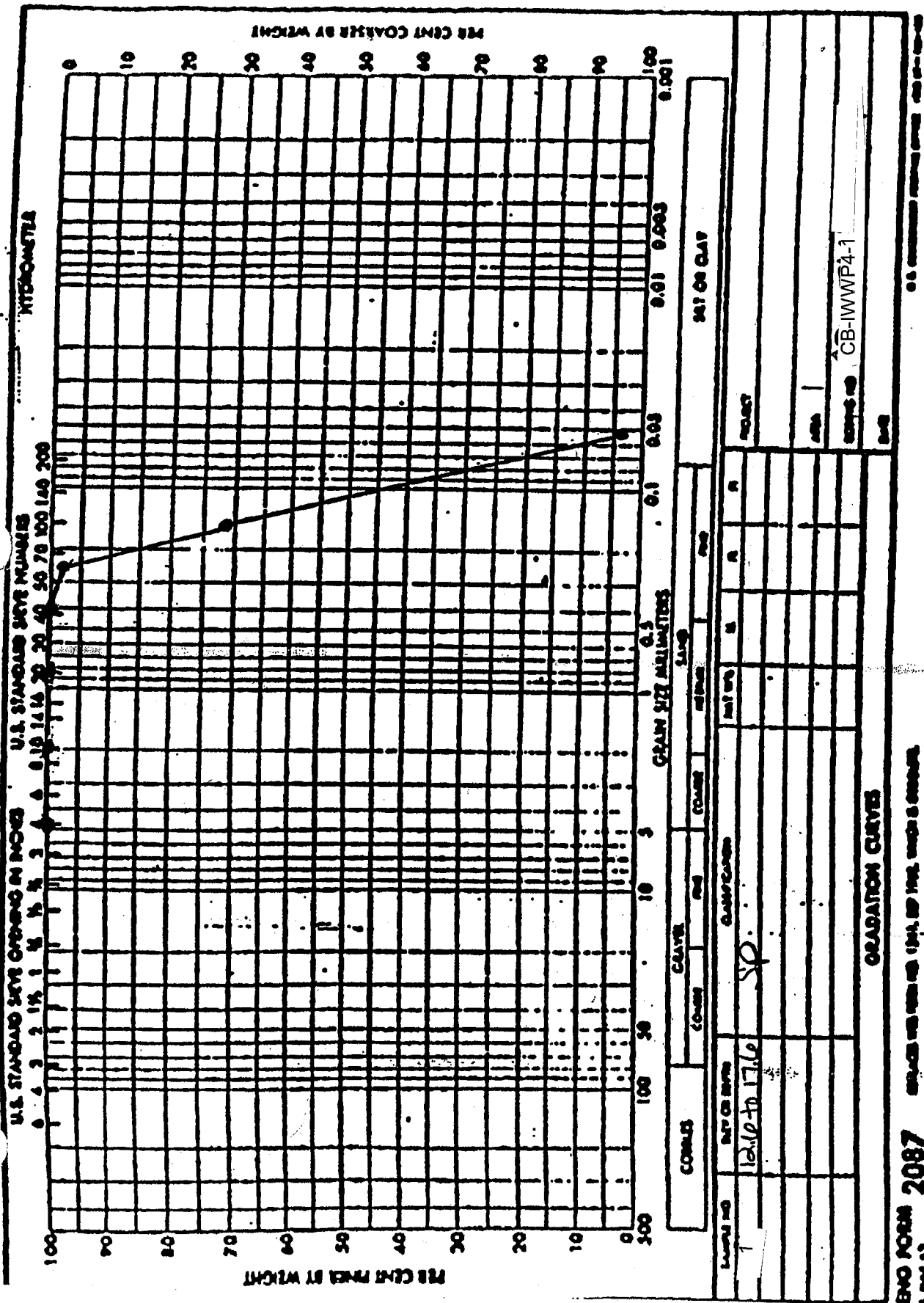


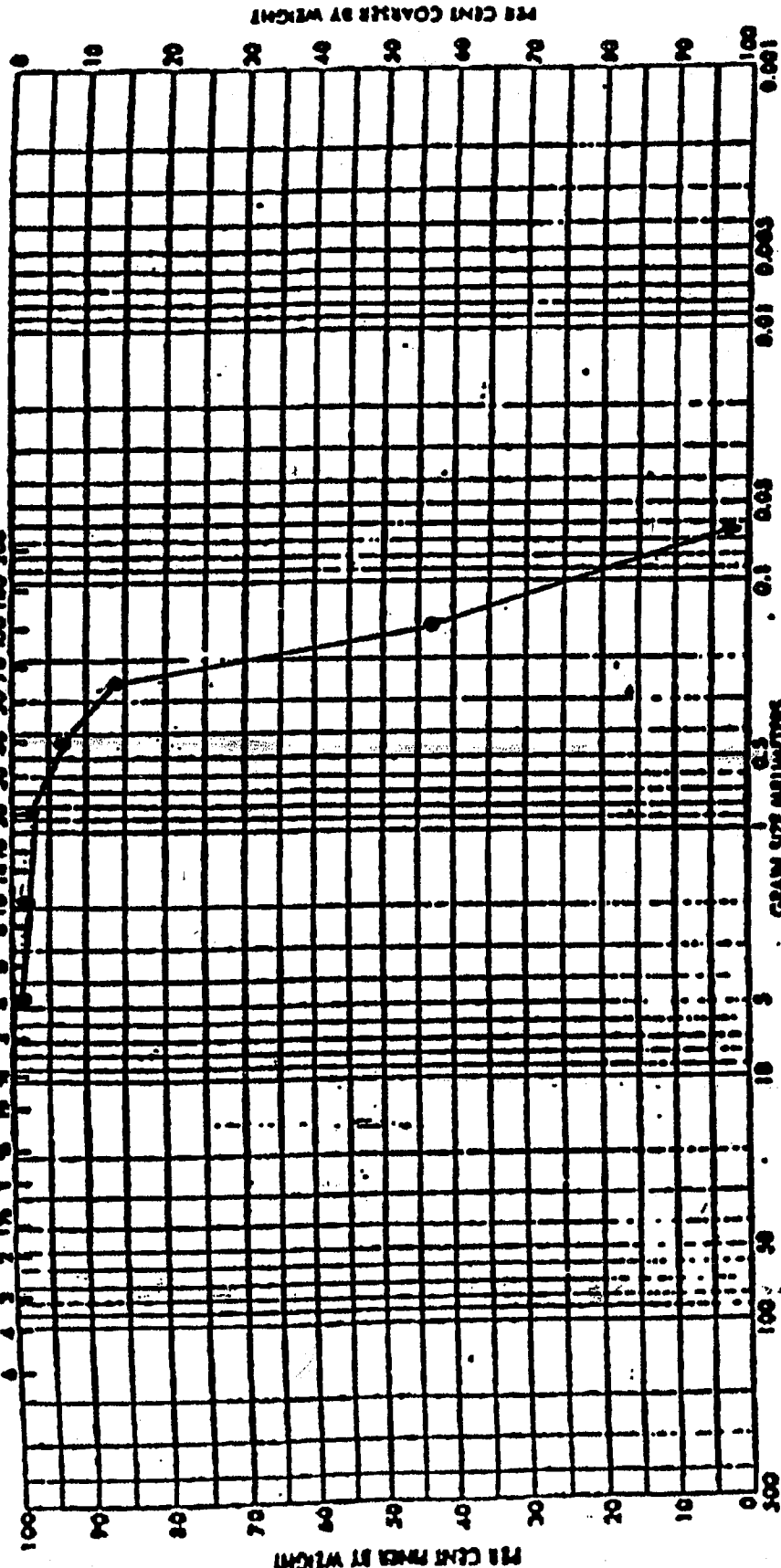


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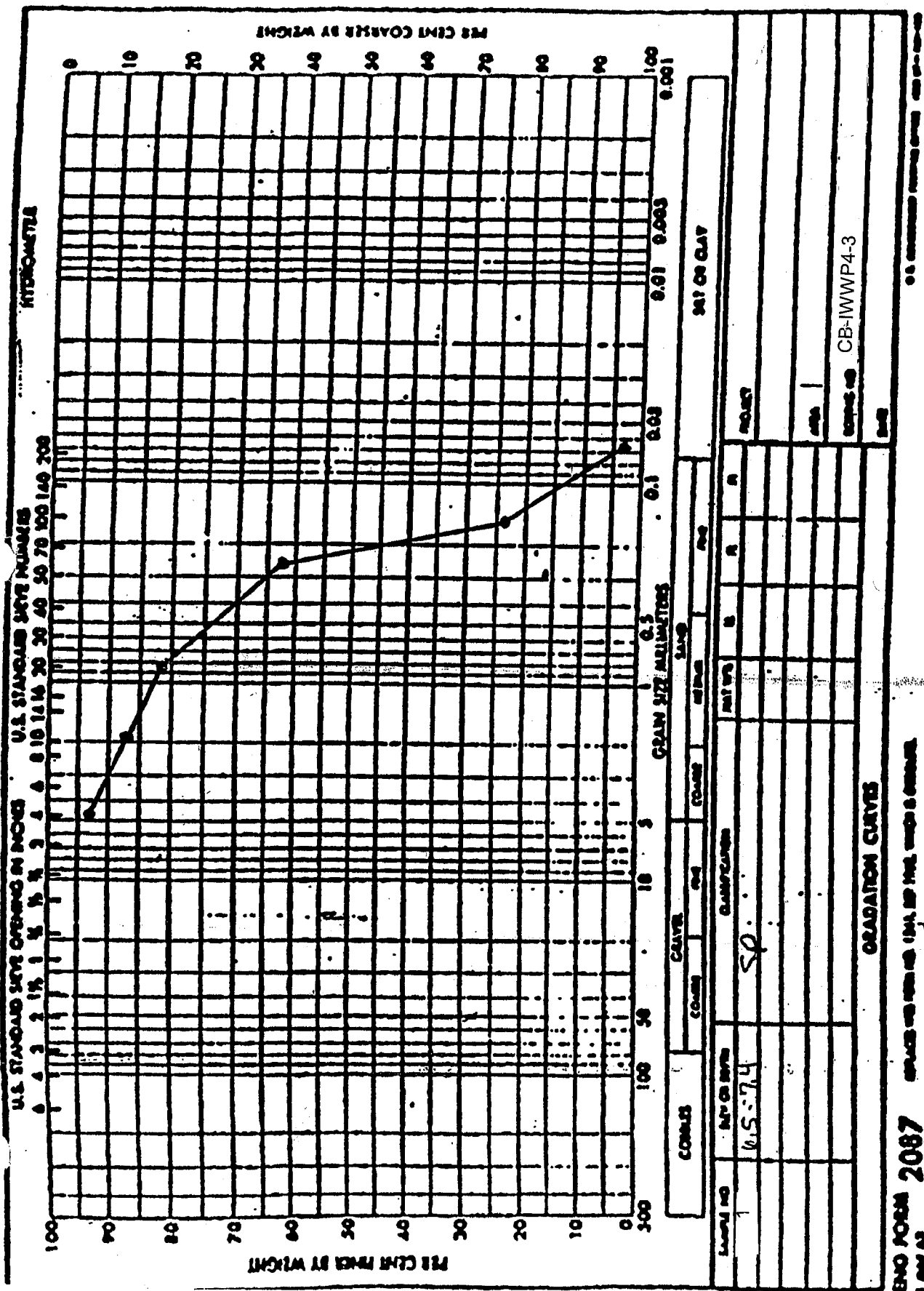
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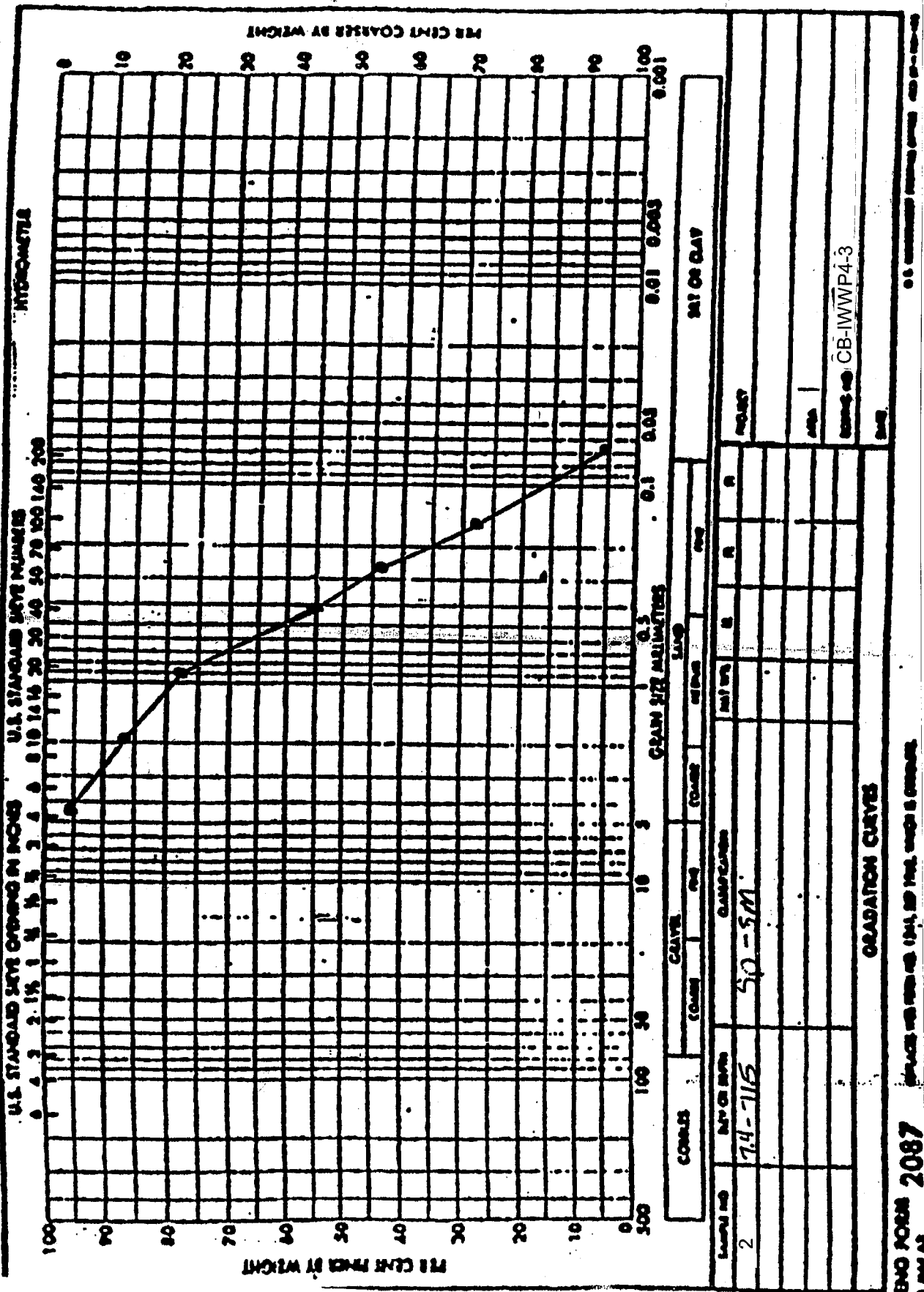


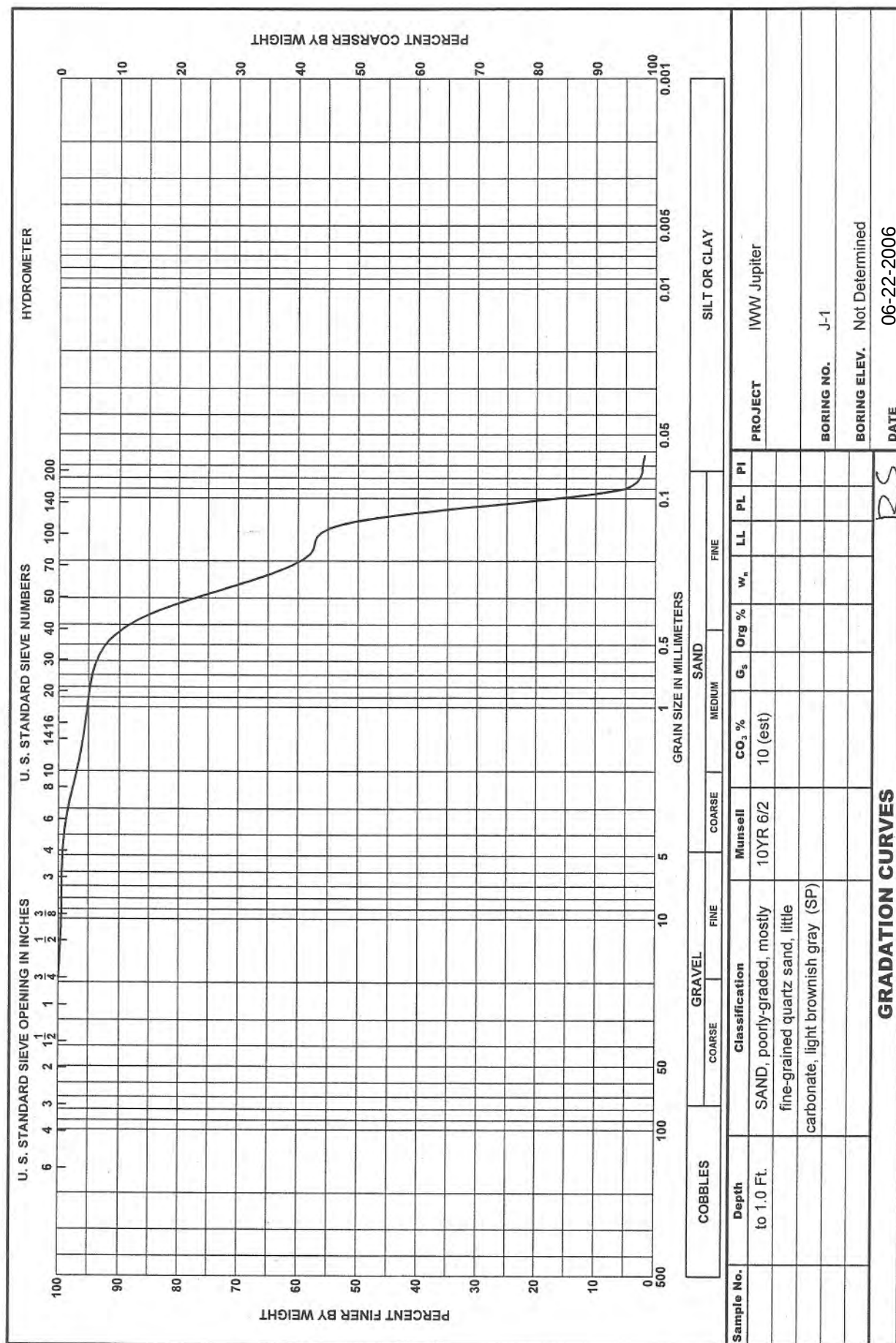
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THE UNIVERSITY OF CHICAGO

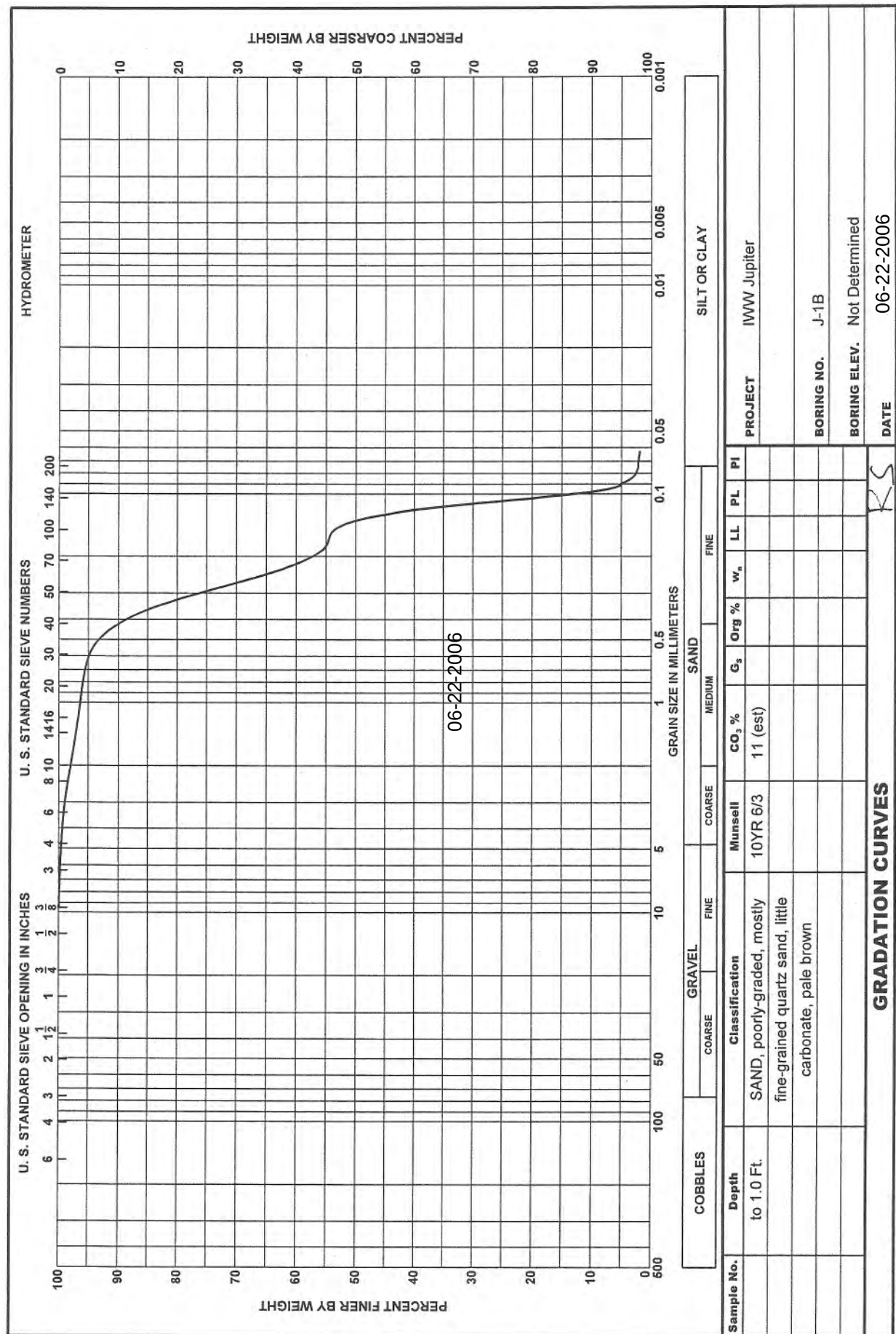
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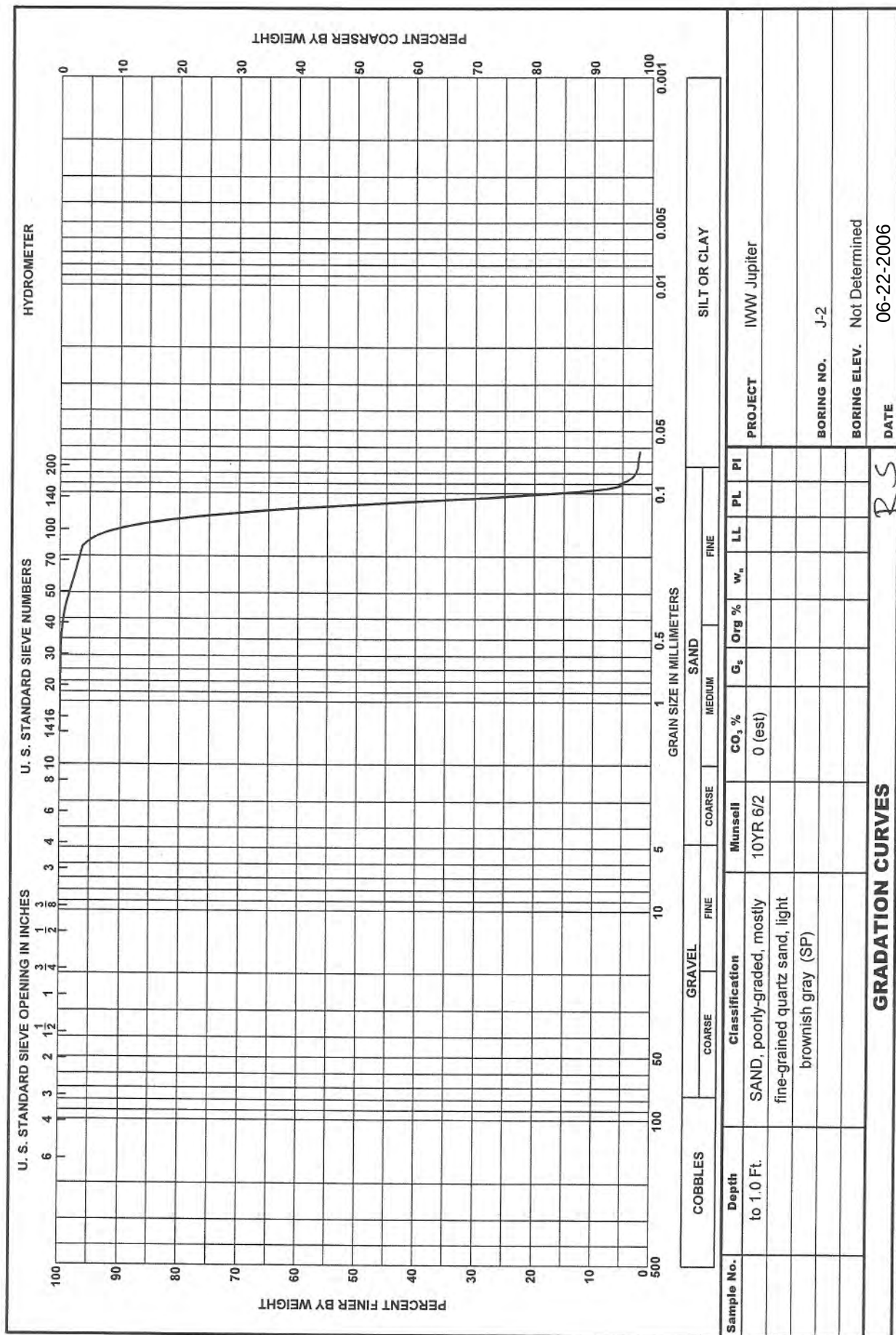


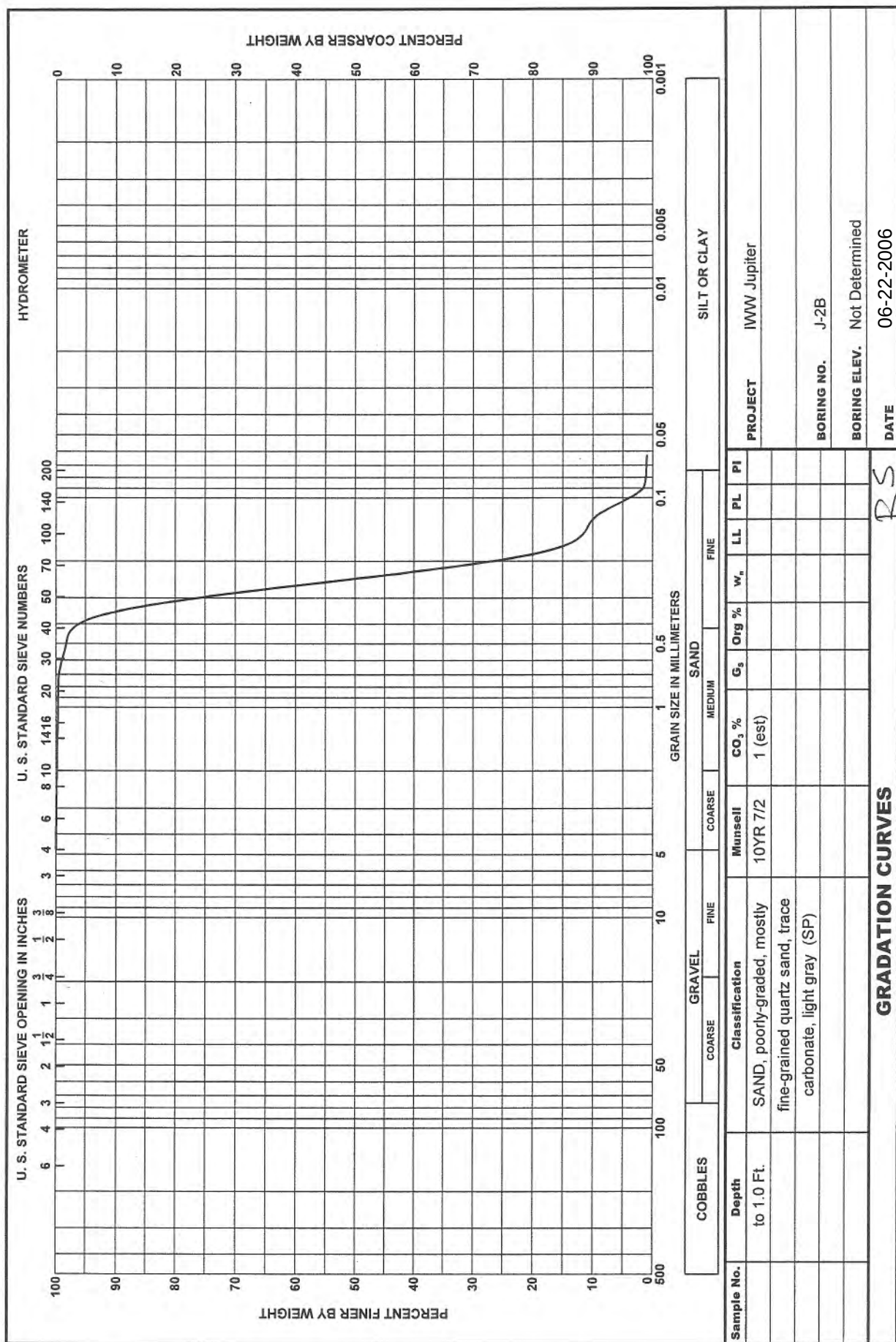


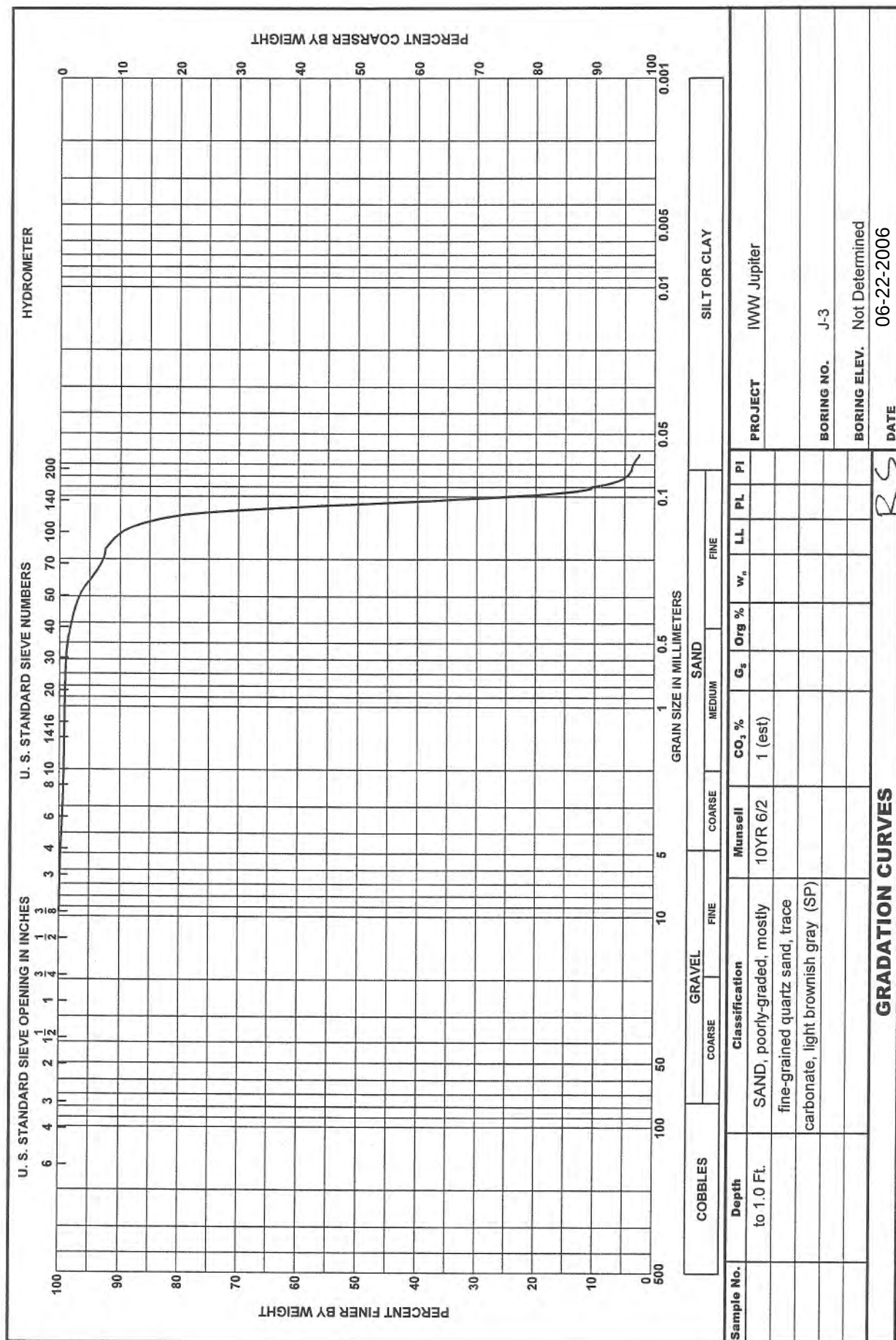


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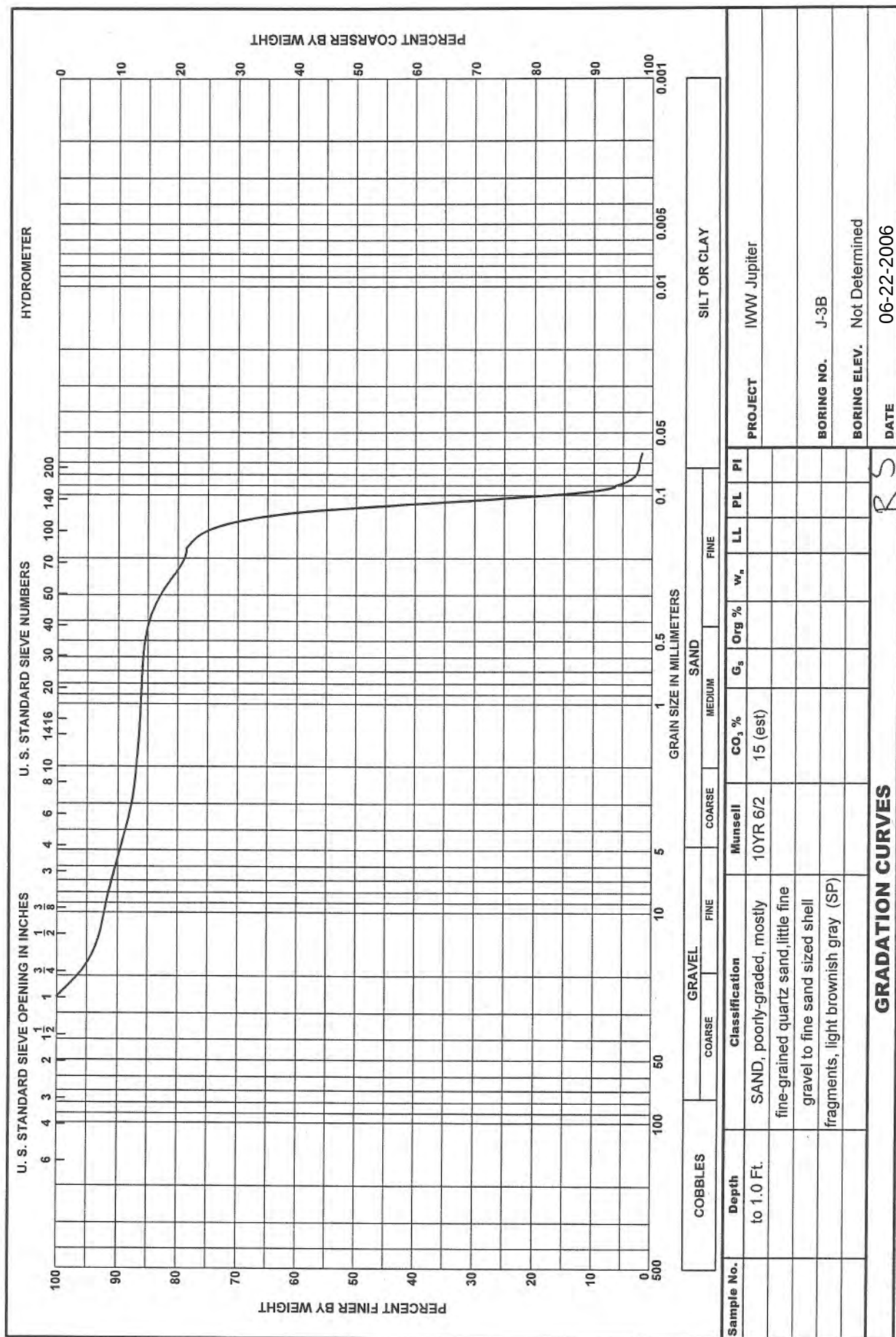
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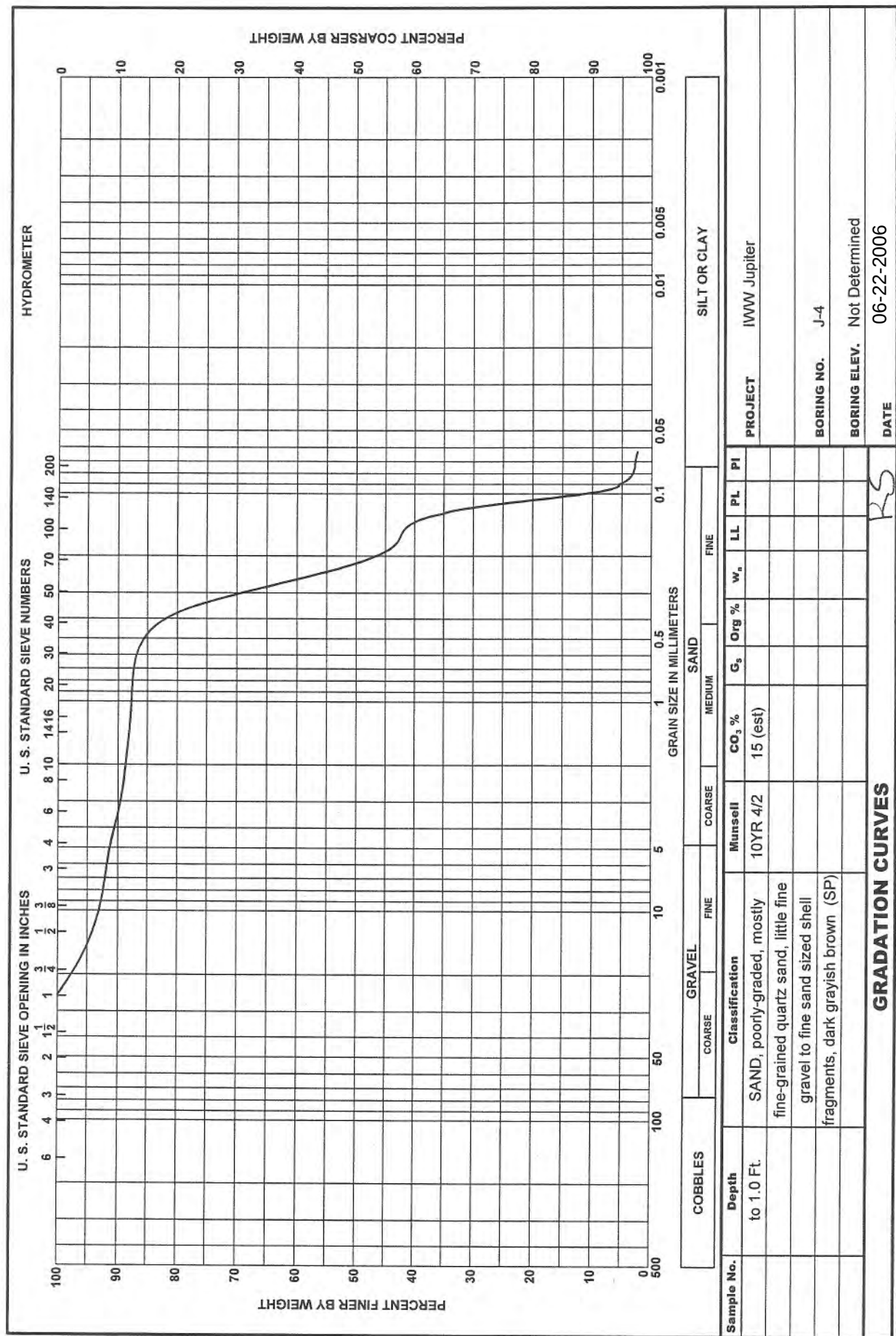


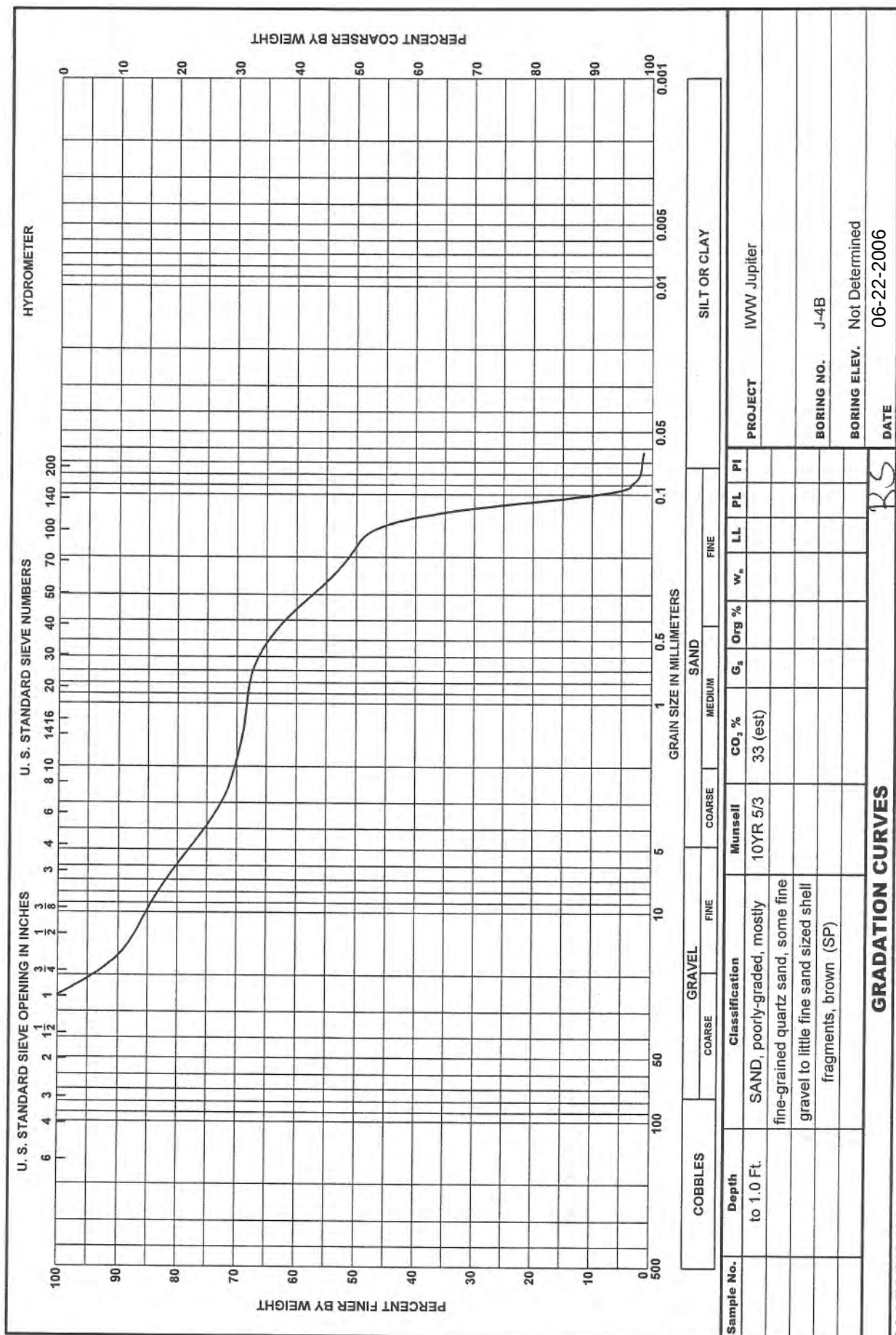


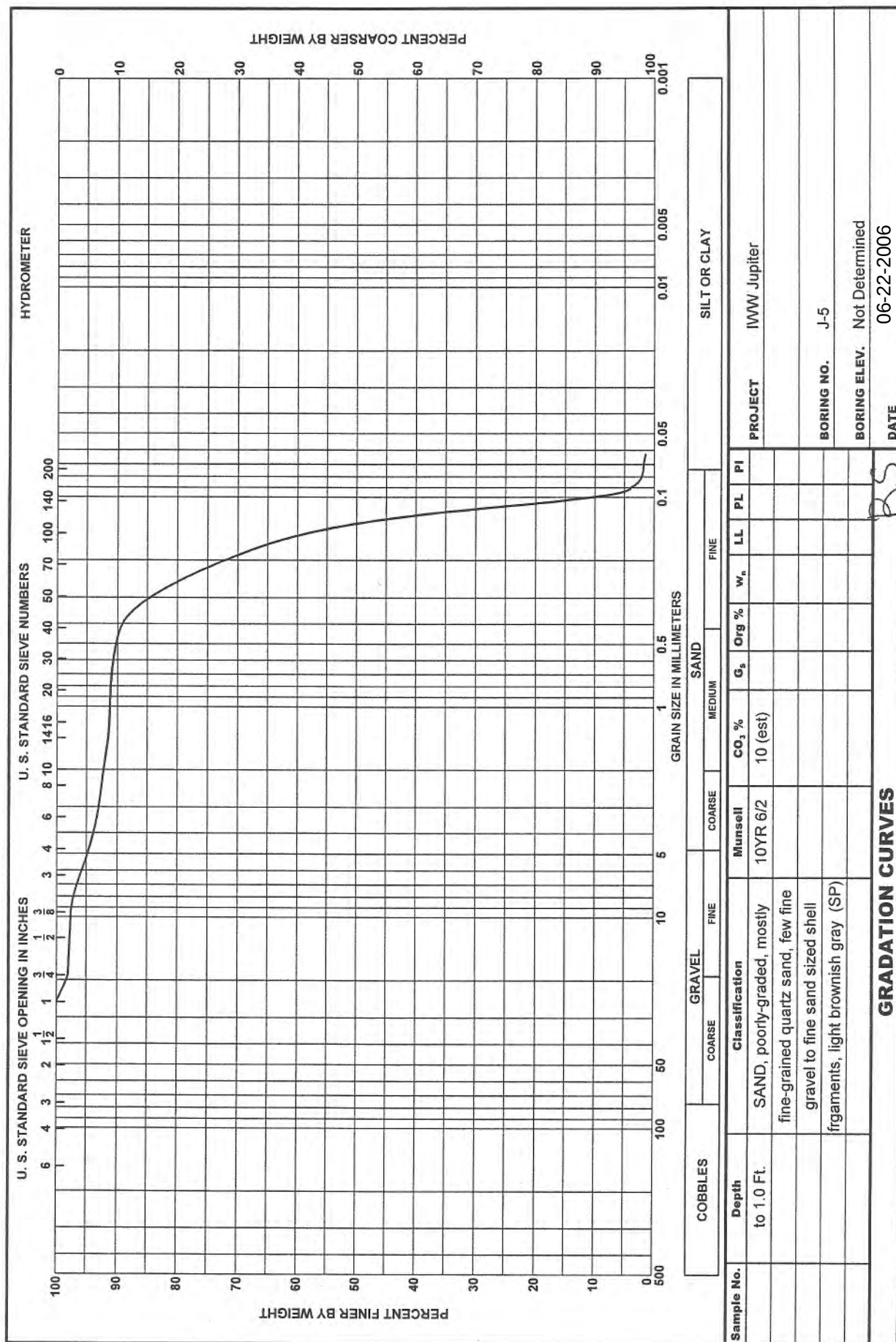


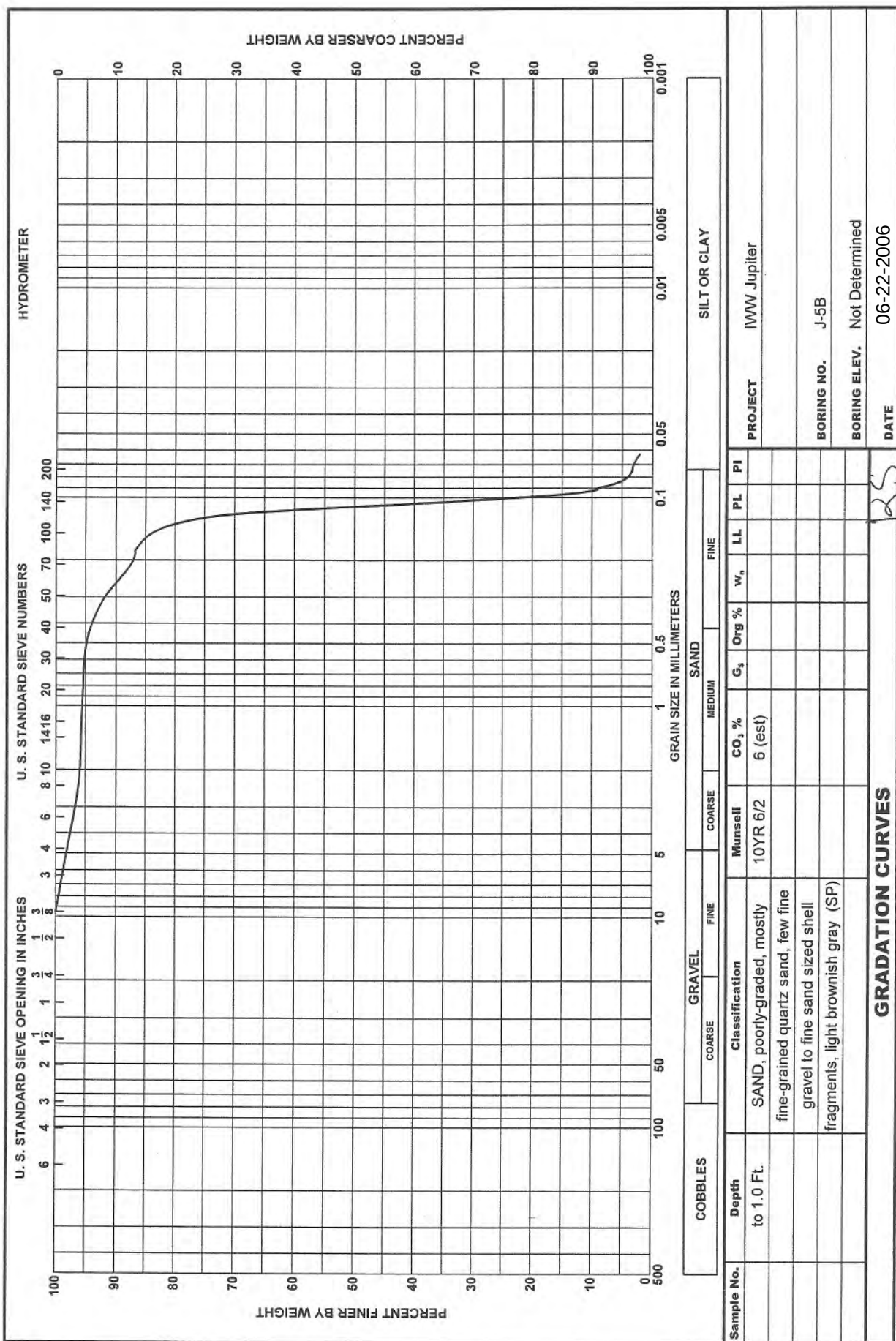
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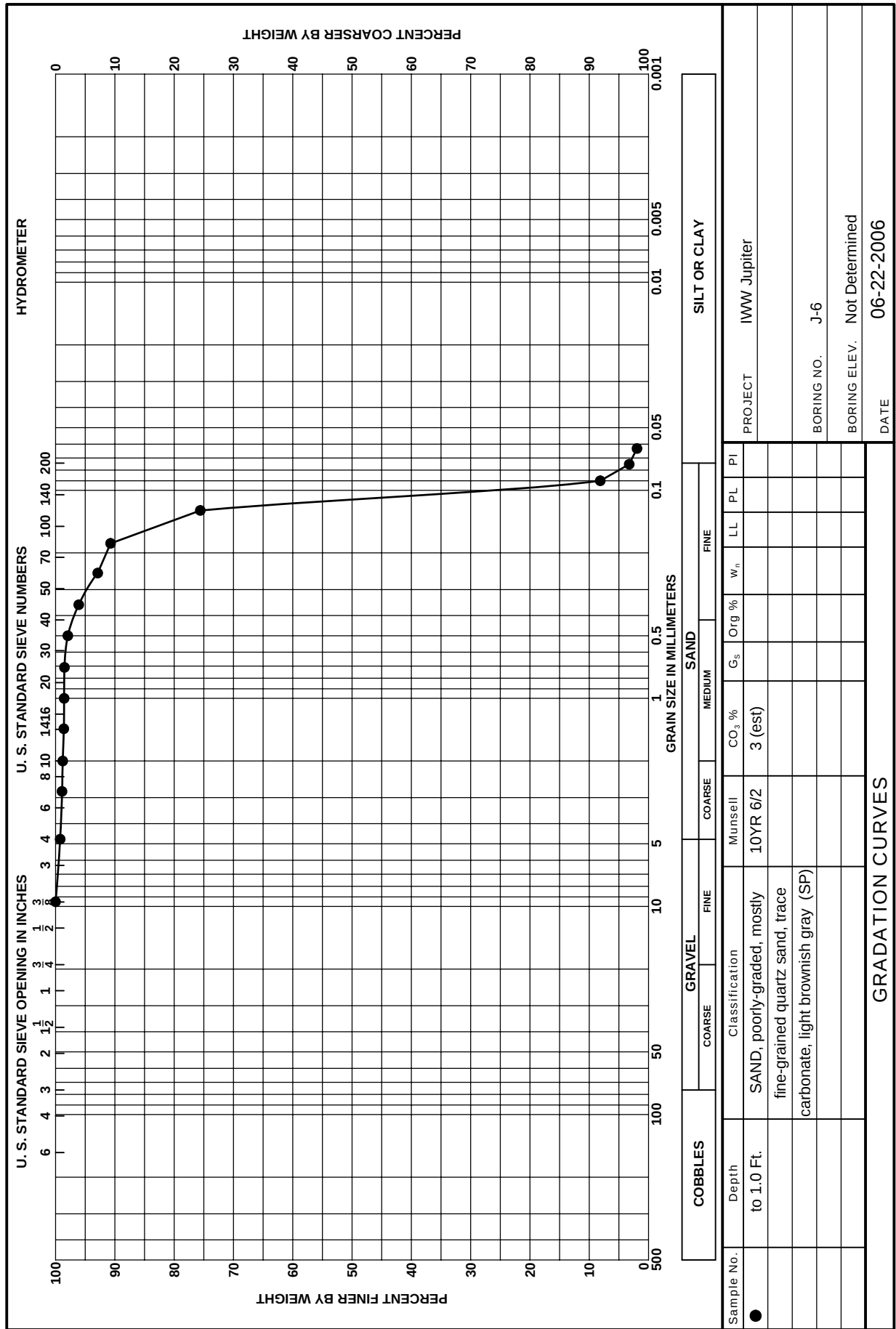


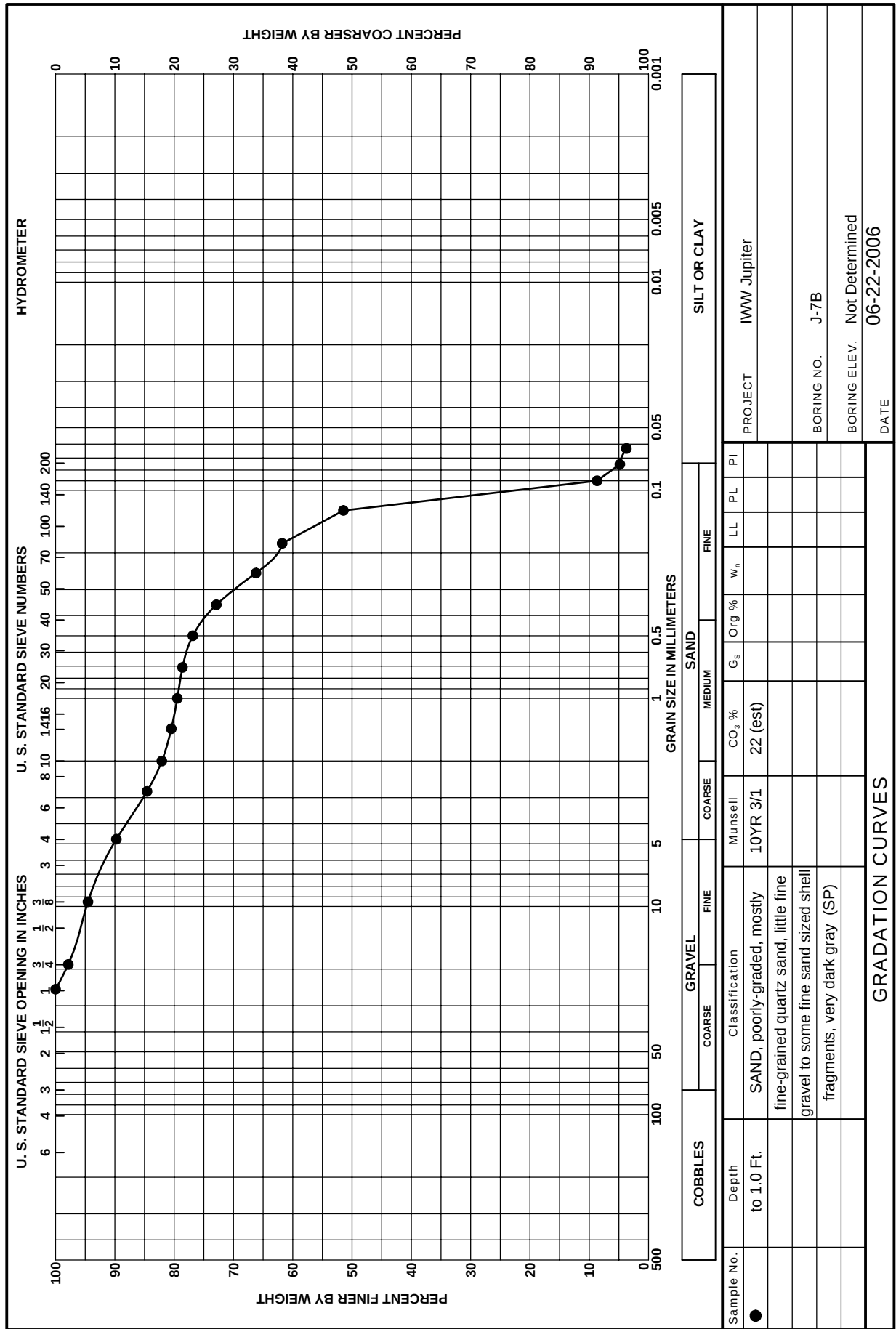


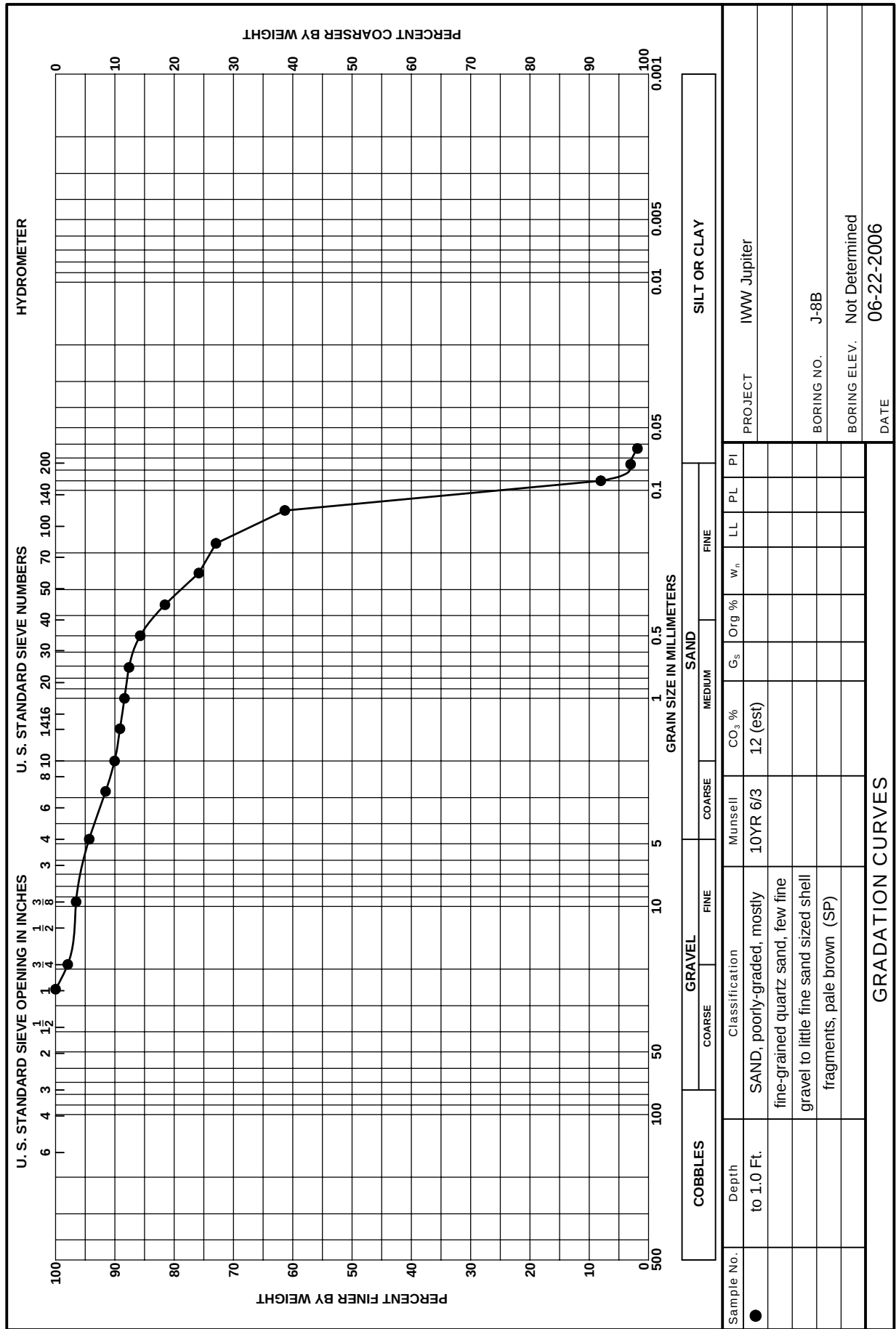


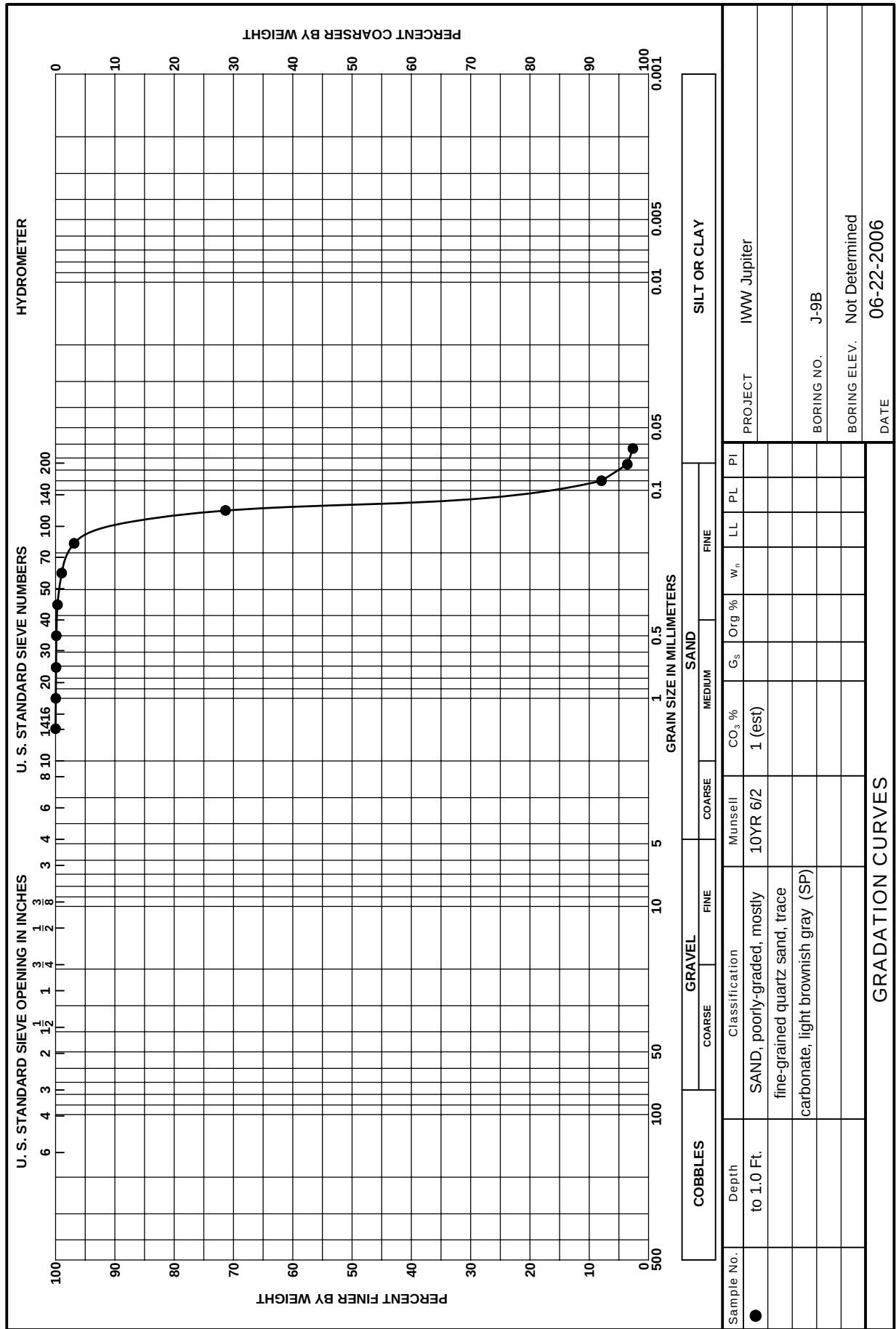




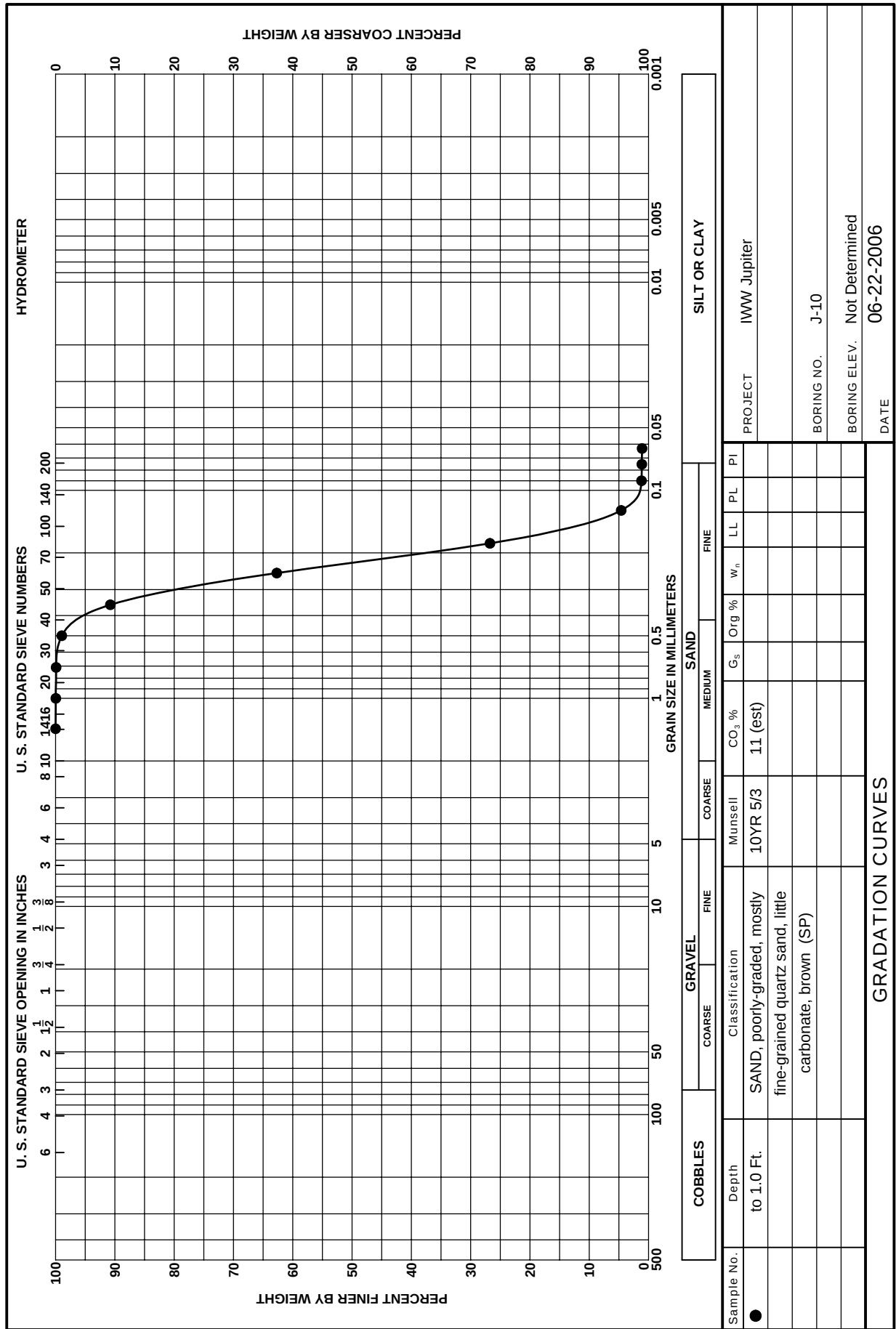




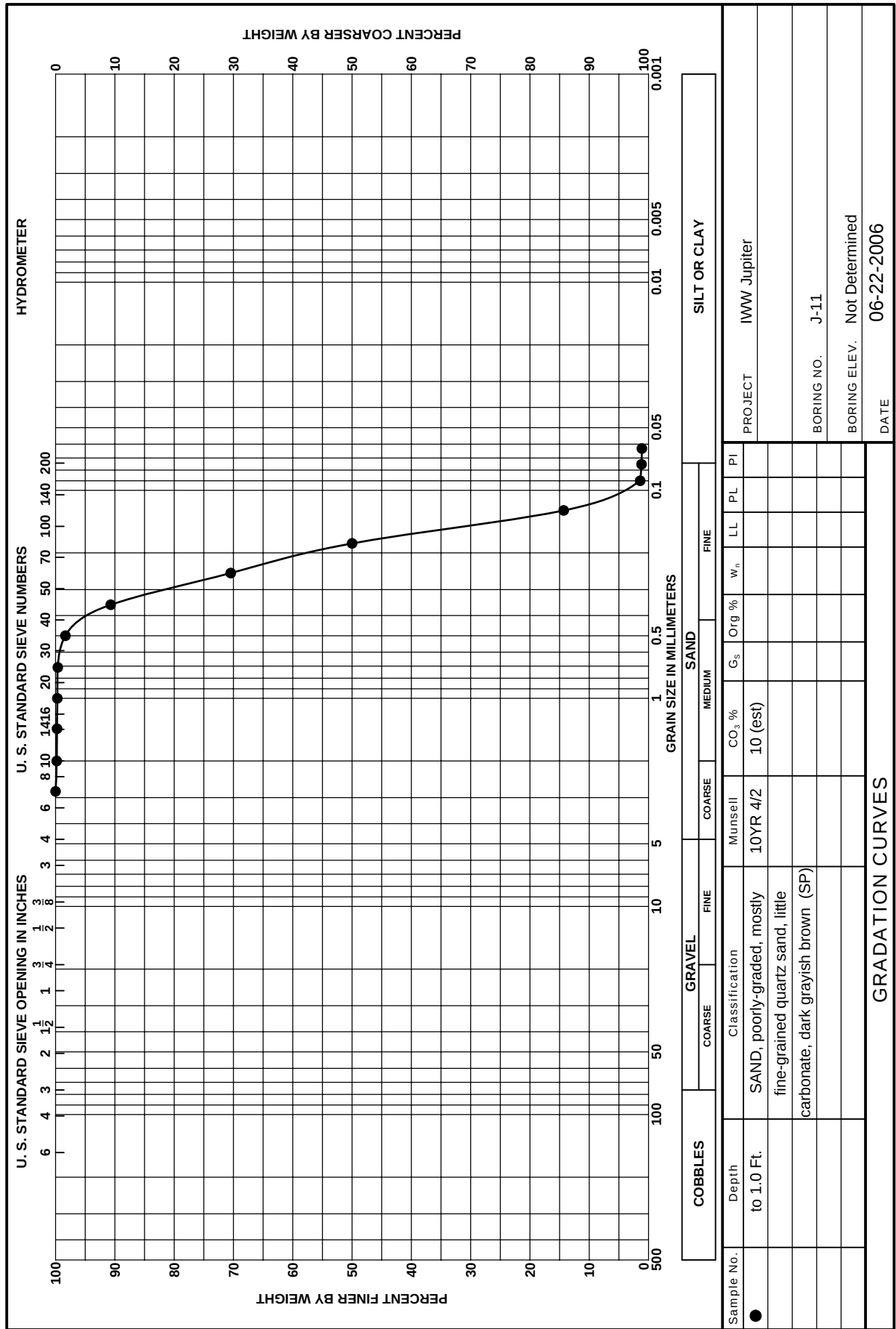


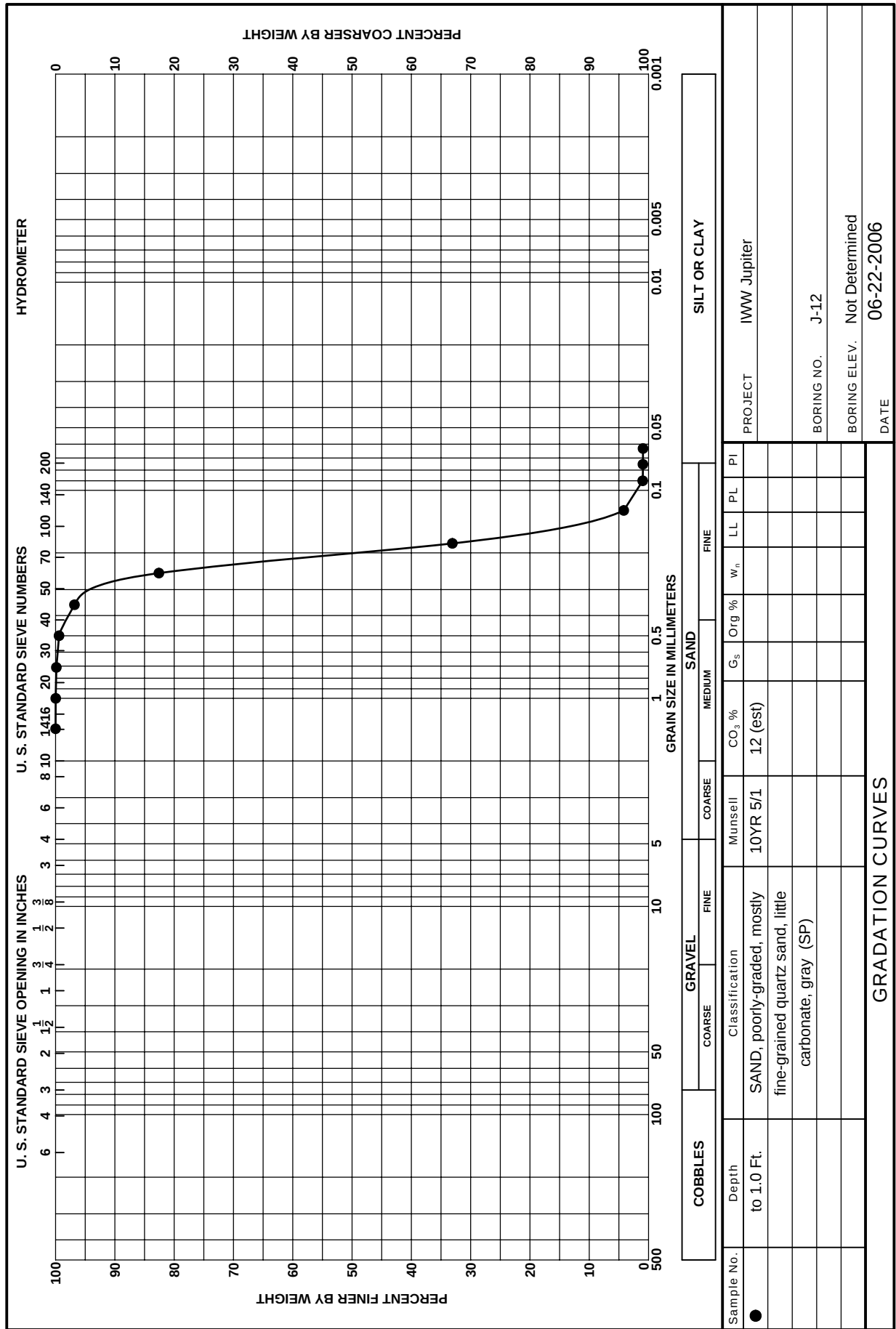


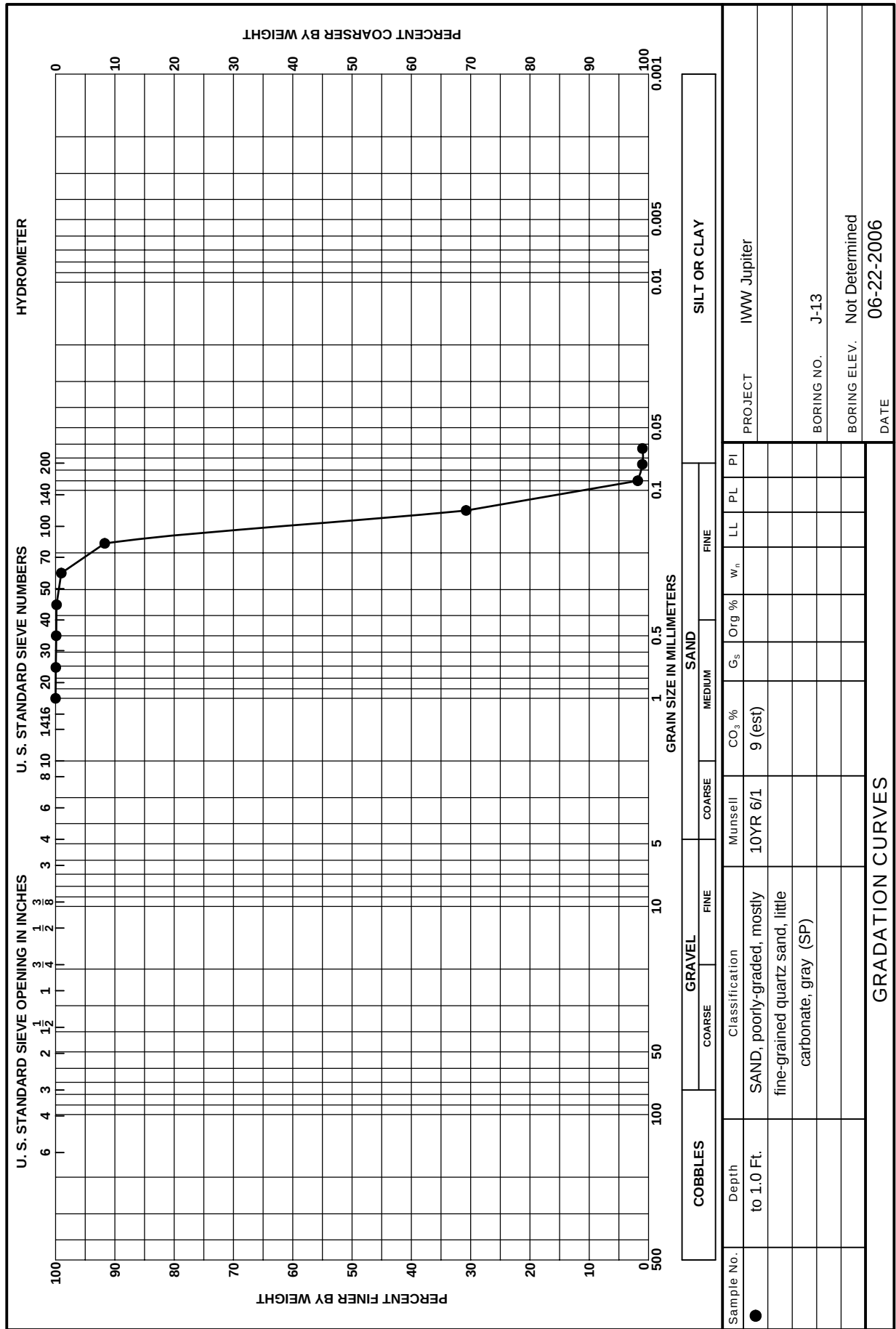
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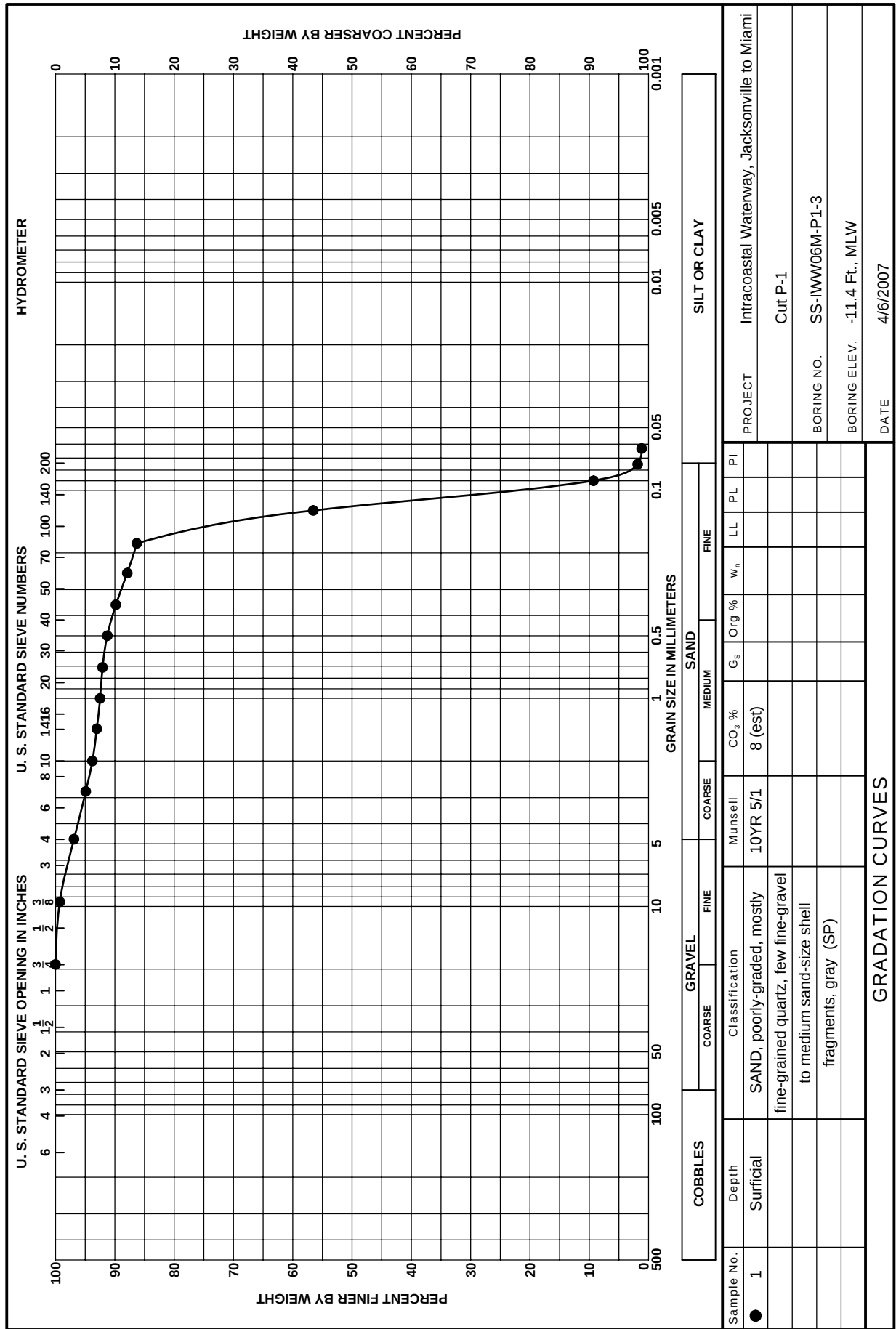


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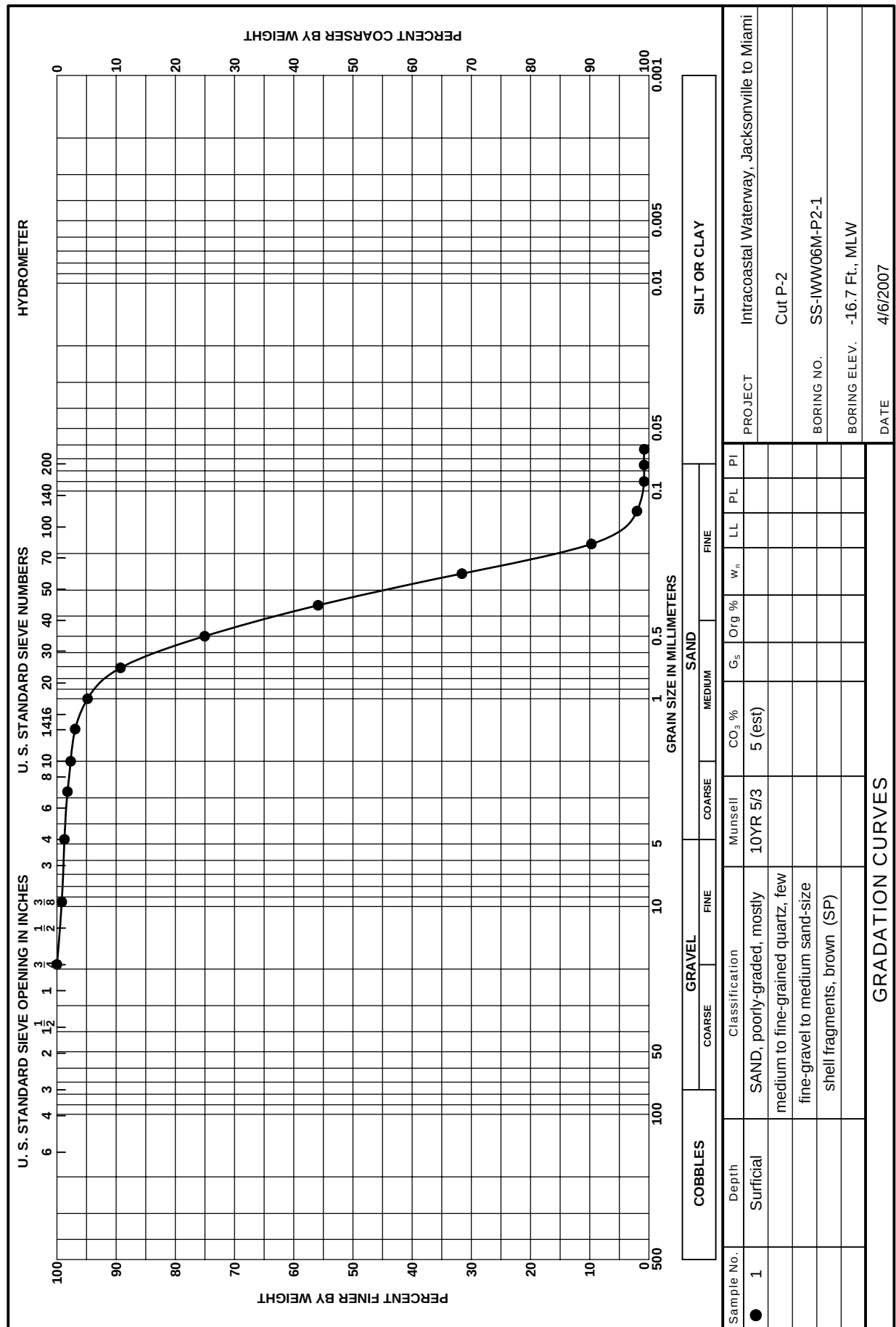




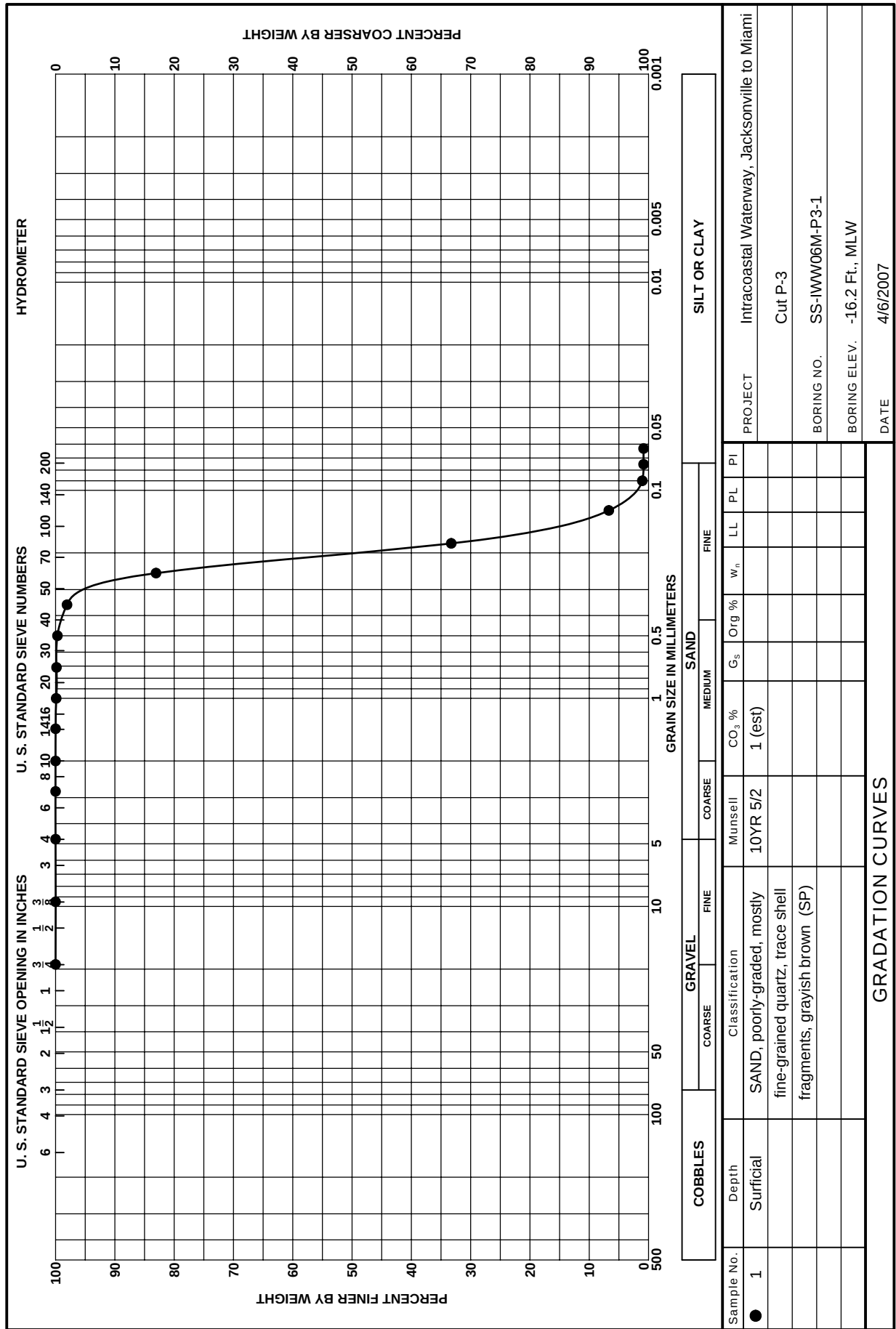




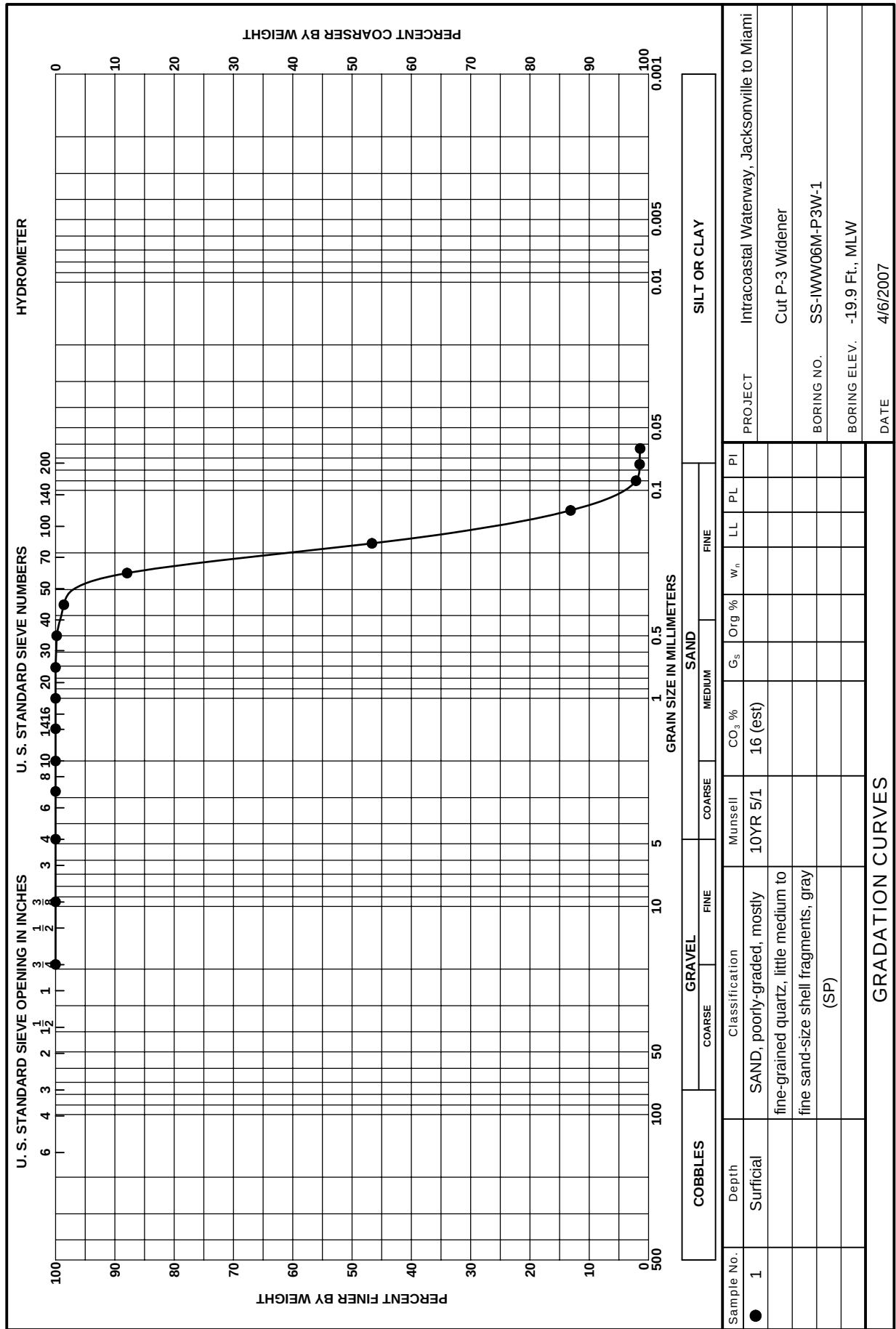
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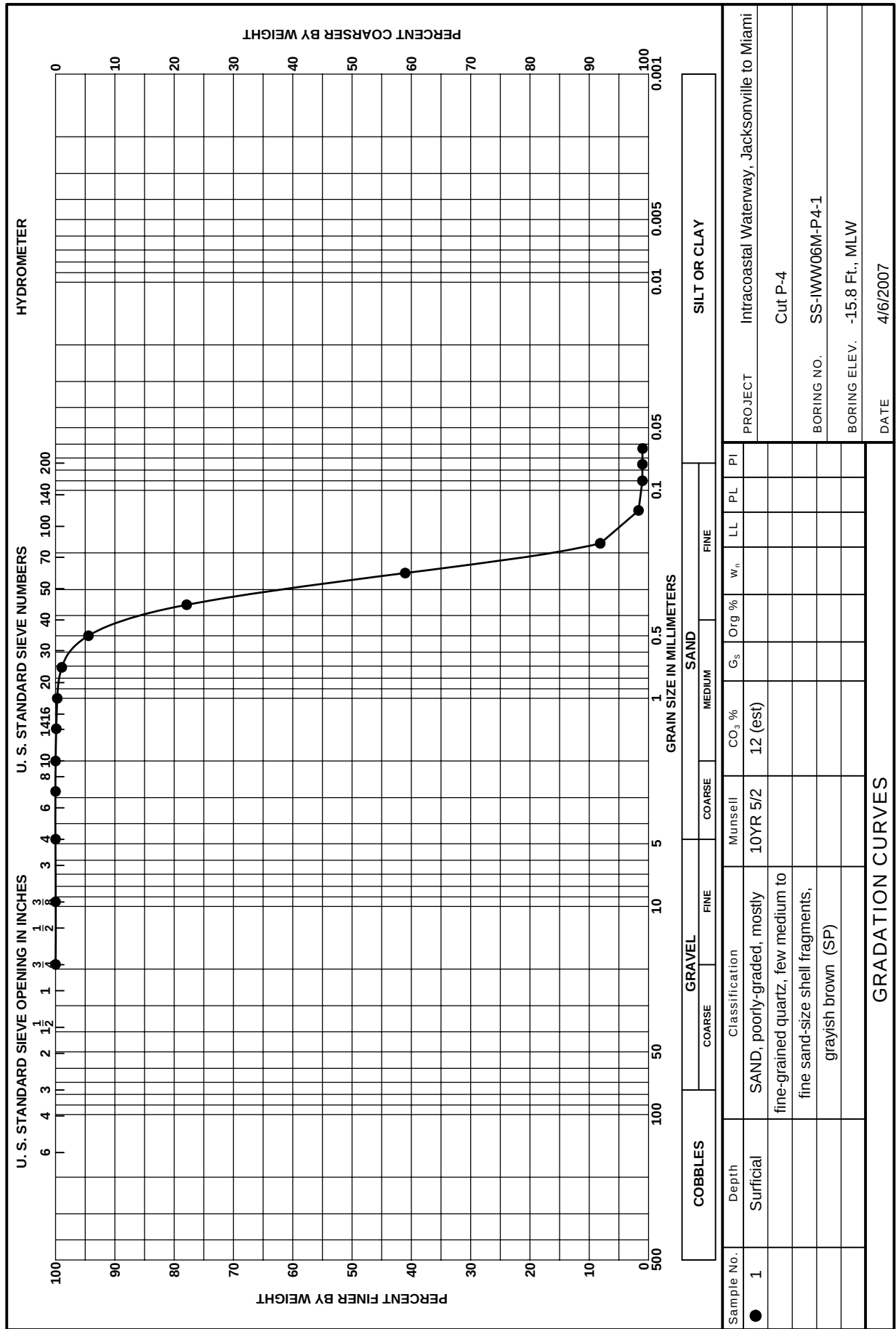


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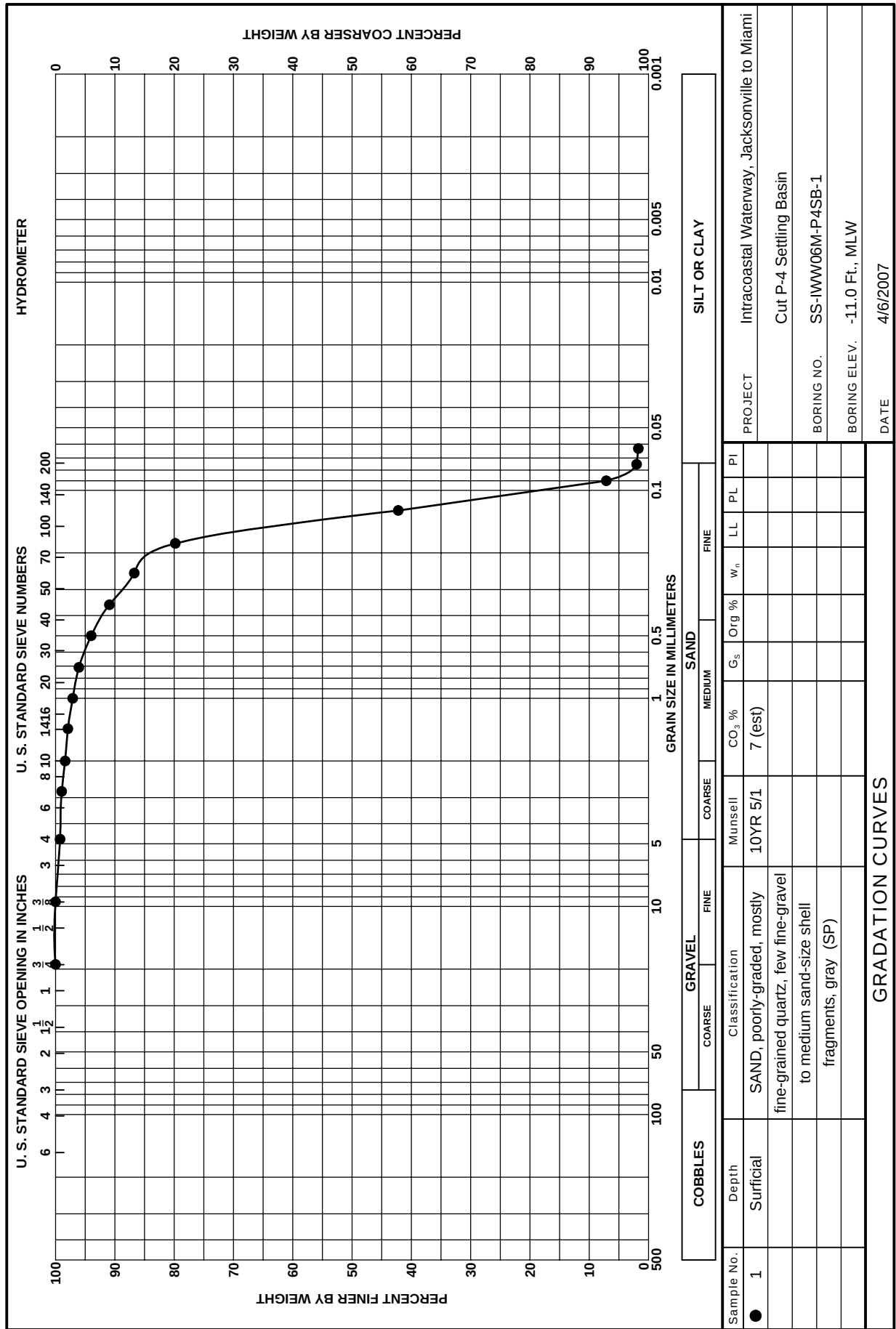


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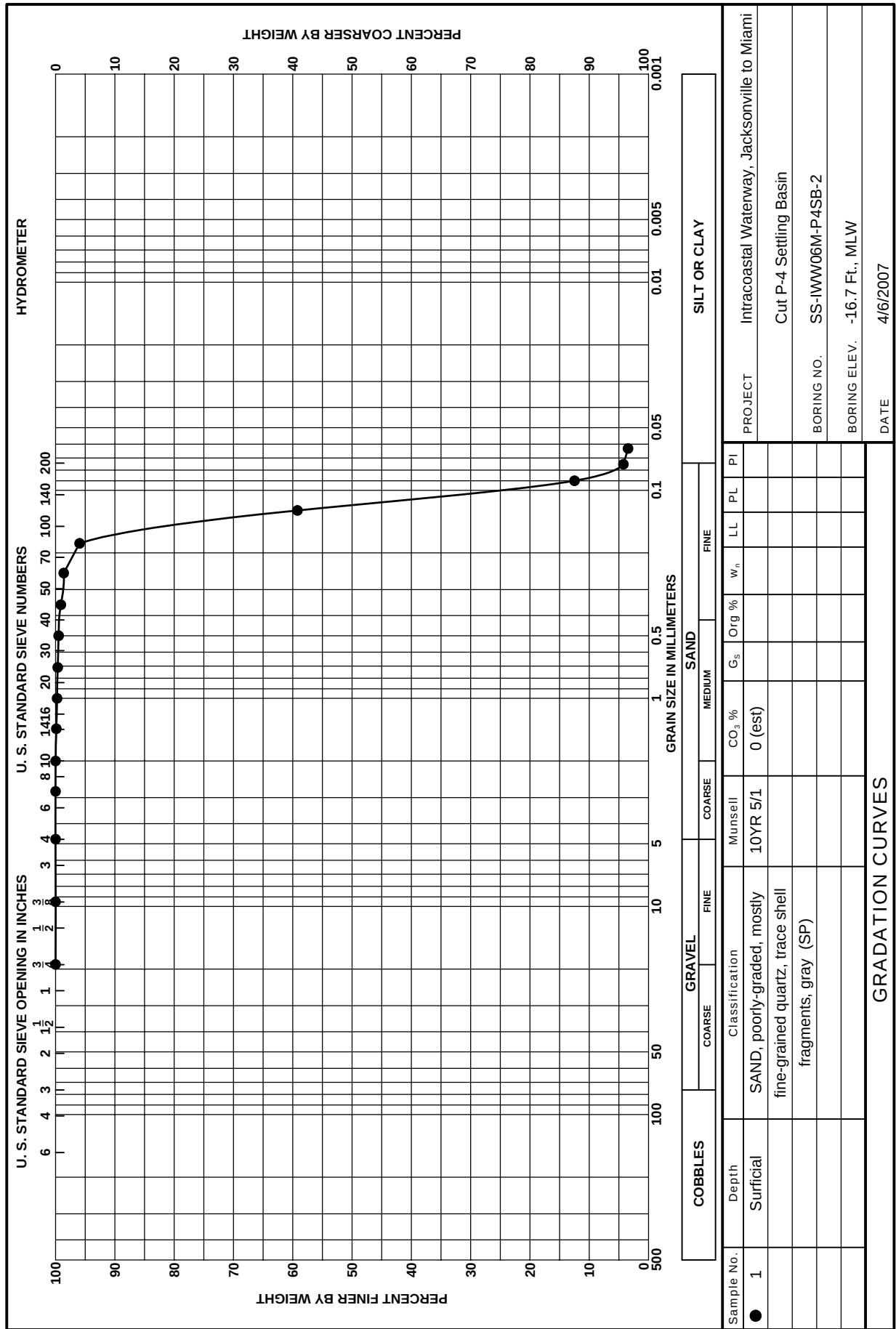




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SECTION 00 33 50

WEATHER, WATER STAGE AND TIDE DATA
09/06

PART 1 GENERAL

**IWW Jacksonville to Miami, 10 & 11 Foot Projects, Vicinity Bakers Haulover &
Jupiter Inlets, O&M FY13
Dade and Palm Beach Counties, Florida**

- 1.1 Bakers Haulover Water Stage Report
- 1.2 Jupiter Inlet Water Stage Report

Coastal Design Section
Water Resources Engineering Branch
Engineering Division
U.S. Army Corps of Engineers
Jacksonville District

11 June 2013

SEE ATTACHED REPORTS

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

-- End of Section --

Bakers Haulover Inlet O&M, FY13
Dade County, Florida

Water Stage Report

Coastal Design Section
Water Resources Engineering Branch
Engineering Division
U.S. Army Corps of Engineers
Jacksonville District

June 11, 2013

1.1 The following water stage, wave, wind, and weather data are provided for inclusion into the subject Plans and Specifications. The following water level datums are provided for information only and are not to be utilized in conjunction with any contract related hydrographic surveying.

a) Water Stages. Water levels in the project area are mainly affected by semi-diurnal tidal fluctuations in the Atlantic Ocean. The project area is also subject to storm surges from hurricanes and tropical storms from June through November. Surges from extratropical storms may affect the area during any time of the year.

Elevations of tidal datums in the vicinity of the project area are provided in the following tables. All datum elevations in these tables are referred to mean lower low water (MLLW). The datums in Table 1 are taken from tide station 8723073 (Haulover Inside, Florida) and are based on a control tide station located in Miami Beach, Florida. These values are applicable to dredging and/or material placement taking place landward of the inlet jetties. Table 2 provides datums taken from tide station 8723080 (Haulover Pier N. Miami Beach), which are based on values from a control tide station located in Key West, Florida. These values are applicable to dredging and/or material placement taking place seaward of the inlet jetties. Both tide stations were established by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS) and are applicable within the project vicinity. Additional information on these and other nearby tide stations is available at this NOAA website:

http://tidesandcurrents.noaa.gov/station_retrieve.shtml?type=Bench+Mark+Data+Sheets

Table 1

Tide Station 8723073 (Bakers Haulover, Florida)
Lat 25° 54.2'N, Lon 80° 7.5'W

Mean Higher High Water (MHHW)	= 2.20 Feet
Mean High Water (MHW)	= 2.14 Feet
North American Vertical Datum 1988 (NAVD)	= 1.94 Feet
Mean Sea Level (MSL)	= 1.13 Feet
Mean Tide Level (MTL)	= 1.09 Feet
Mean Low Water (MLW)	= 0.12 Feet
Mean Lower Low Water (MLLW)	= 0.00 Feet

Table 2

Tide Station 8723080 (Haulover Pier N. Miami Beach)
Lat 25° 54.2'N, Lon 80° 7.2'W

Highest Observed Water Level (11/24/1984)	= 4.45 Feet
Mean Higher High Water (MHHW)	= 2.68 Feet

Mean High Water (MHW)	= 2.61 Feet
North American Vertical Datum 1988 (NAVD)	= 2.25 Feet
Mean Sea Level (MSL)	= 1.39 Feet
Mean Tide Level (MTL)	= 1.37 Feet
Mean Low Water (MLW)	= 0.14 Feet
Mean Lower Low Water (MLLW)	= 0.00 Feet
Lowest Observed Water Level (04/06/1989)	= -1.41 Feet

Daily tidal predictions at locations along the coastline of North and South America, including locations in the vicinity of the project area can be found in the publication East Coast of North and South America Tide Tables, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Service. In addition to daily tidal predictions, this publication also provides mean and spring tide ranges and mean tide levels. Some astronomical data is also included, such as time of sunrise, sunset, moonrise, and moonset. This publication is available through NOAA. Tidal data provided in this publication can also be found at the following NOAA website: <http://tidesandcurrents.noaa.gov>.

b) Wind and Wave Data. The following publications include wind and wave information in the vicinity of the project area, and are available for review in the Jacksonville District Office or may be ordered directly from the agencies indicated.

1. U.S. Coast Pilot Volume 4, Atlantic Coast: Cape Henry to Key West, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Service. This publication supplements the navigational information shown on the NOAA/NOS nautical charts. It also provides miscellaneous meteorological data. This publication is available through NOAA. This publication is available at the following website: <http://nauticalcharts.noaa.gov/nsd/cpdownload.htm>.

2. U. S. Army Corps of Engineers' Coastal & Hydraulics Laboratory, Wave Information Study (WIS) Database. This Internet webpage presents wave hindcast data for various stations located along the Atlantic and Gulf of Mexico coastlines within the United States. The closest of these stations (#63469) lies approximately 13 miles east of the project site. Available data includes a hindcast time series of wave heights, periods, and directions taken at 1-hour intervals for the 20-year period extending from 1980-1999, at a station located in 296 meters (971 feet) of water. This webpage also provides links to WIS summary tables and plots, as well as other sources of wave data. These data products are available at the following website: <http://wis.usace.army.mil/wis.shtml>.

3. National Data Buoy Center (NDBC) Website. This Internet website provides a wide range of real-time and archived meteorological and oceanographic data collected at offshore and nearshore stations worldwide. Data provided on this website includes wind speed, wind gusts, atmospheric pressure, air temperature, sea temperature, wave height, and wave period. Gage readings are updated hourly, and archived data is available for most stations. The website address for data relevant to this project site is: <http://www.ndbc.noaa.gov/maps/Florida.shtml>.

c) Weather Conditions. The project area is subject to tropical storms and hurricanes from June through November, and to windy and/or rainy weather during any time of the year. The climate of the area is essentially tropical, and temperatures below freezing are rare. The wet season in the project area is from May through October. Rainfall during these months is closely associated with convective activity. These rainfall events are normally of short duration and amounts are spatially variable. In general, the winter months constitute the dry season. Rainfall during the winter months is usually associated with mid-latitude systems (fronts and low pressure systems) and is distributed in a more spatially uniform pattern. Occasionally, daily rainfall in the dry season can be quite heavy as mid-latitude systems penetrate into south Florida. Dangerous thunderstorms can occur in this area at any time of the year.

It shall be the contractor's responsibility to obtain information concerning weather conditions in the project area. The publication Local Climatological Data - Monthly Summary published by NOAA's National Climatic Data Center in Asheville, North Carolina contains climatological and meteorological observations and data relevant to this region. The Annual Summary gives a synopsis of these observations for the period of record. This publication is available at the following website: <http://www.ncdc.noaa.gov/>.

1.1.1 The average number of days in each calendar month with rain equal to, or greater than, 0.1 inches is provided for the project area in the following table. This information is based on data obtained from the NOAA rain gage closest to the project area, at Miami Beach (25° 48'N, 80° 8'W). The data were obtained from Climatology of the United States No. 20, Climatic Summaries for Selected Sites in Florida publications by the National Climatic Center, NOAA, for the period of record from 1981 through 2010.

Average Number of Days Per Month
With Rainfall > 0.1 Inches

Gage Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Miami Beach	4.0	4.0	4.0	4.0	6.0	10.0	8.0	10.0	10.0	8.0	5.0	4.0

**Jupiter Inlet O&M, FY13
Palm Beach County, Florida**

Water Stage Report

**Coastal Design Section
Water Resources Engineering Branch
Engineering Division
U.S. Army Corps of Engineers
Jacksonville District**

June 11, 2013

1.2 The following water stage, wave, wind, and weather data are provided for inclusion into the subject Plans and Specifications. The following water level datums are provided for information only and are not to be utilized in conjunction with any contract related hydrographic surveying.

a) Water Stages. Water levels in the project area are mainly affected by semi-diurnal tidal fluctuations in the Atlantic Ocean. The project area is also subject to storm surges from hurricanes and tropical storms from June through November. Surges from extratropical storms may affect the area during any time of the year.

Elevations of tidal datums in the vicinity of the project area are provided in the following tables. All datum elevations in these tables are referred to mean lower low water (MLLW). Table 1 provides datums taken from tide station 8722495 (Jupiter Inlet Jetty, Florida), which are based on values from a control tide station located in Miami Beach, Florida. This tide station was established by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS) and is applicable within the project vicinity. Additional information on these and other nearby tide stations is available at this NOAA website:

http://tidesandcurrents.noaa.gov/station_retrieve.shtml?type=Bench+Mark+Data+Sheets

Table 1
Tide Station 8722495 (Jupiter Inlet Jetty)
Lat 26° 56.6'N, Lon 80° 4.4'W

Mean Higher High Water (MHHW)	= 2.75 Feet
Mean High Water (MHW)	= 2.58 Feet
North American Vertical Datum 1988 (NAVD)	= 2.56 Feet
Mean Sea Level (MSL)	= 1.39 Feet
Mean Tide Level (MTL)	= 1.39 Feet
Mean Low Water (MLW)	= 0.19 Feet
Mean Lower Low Water (MLLW)	= 0.00 Feet

Daily tidal predictions at locations along the coastline of North and South America, including locations in the vicinity of the project area can be found in the publication East Coast of North and South America Tide Tables, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Service. In addition to daily tidal predictions, this publication also provides mean and spring tide ranges and mean tide levels. Some astronomical data is also included, such as time of sunrise, sunset, moonrise, and moonset. This publication is available through NOAA. Tidal data provided in this publication can also be found at the following NOAA website: <http://tidesandcurrents.noaa.gov>.

b) Wind and Wave Data. The following publications include wind and wave information in the vicinity of the project area, and are available for review in the Jacksonville District Office or may be ordered directly from the agencies indicated.

1. U.S. Coast Pilot Volume 4, Atlantic Coast: Cape Henry to Key West, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Service. This publication supplements the navigational information shown on the NOAA/NOS nautical charts. It also provides miscellaneous meteorological data. This publication is available through NOAA. This publication is available at the following website: <http://nauticalcharts.noaa.gov/nsd/cpdownload.htm>.

2. U. S. Army Corps of Engineers' Coastal & Hydraulics Laboratory, Wave Information Study (WIS) Database. This Internet webpage presents wave hindcast data for various stations located along the Atlantic and Gulf of Mexico coastlines within the United States. The closest of these stations (#63457) lies approximately 10 miles southeast of the project site. Available data includes a hindcast time series of wave heights, periods, and directions taken at 1-hour intervals for the 20-year period extending from 1980-1999, at a station located in 190 meters (623 feet) of water. This webpage also provides links to WIS summary tables and plots, as well as other sources of wave data. These data products are available at the following website: <http://wis.usace.army.mil/wis.shtml>.

3. National Data Buoy Center (NDBC) Website. This Internet website provides a wide range of real-time and archived meteorological and oceanographic data collected at offshore and nearshore stations worldwide. Data provided on this website includes wind speed, wind gusts, atmospheric pressure, air temperature, sea temperature, wave height, and wave period. Gage readings are updated hourly, and archived data is available for most stations. The website address for data relevant to this project site is: <http://www.ndbc.noaa.gov/maps/Florida.shtml>.

c) Weather Conditions. The project area is subject to tropical storms and hurricanes from June through November, and to windy and/or rainy weather during any time of the year. The climate of the area is essentially tropical, and temperatures below freezing are rare. The wet season in the project area is from May through October. Rainfall during these months is closely associated with convective activity. These rainfall events are normally of short duration and amounts are spatially variable. In general, the winter months constitute the dry season. Rainfall during the winter months is usually associated with mid-latitude systems (fronts and low pressure systems) and is distributed in a more spatially uniform pattern. Occasionally, daily rainfall in the dry season can be quite heavy as mid-latitude systems penetrate into south Florida. Dangerous thunderstorms can occur in this area at any time of the year.

It shall be the contractor's responsibility to obtain information concerning weather conditions in the project area. The publication Local Climatological Data - Monthly Summary published by NOAA's National Climatic Data Center in Asheville, North Carolina contains climatological and meteorological observations and data relevant to this region. The Annual Summary gives a synopsis of these observations for the period of record. This publication is available at the following website: <http://www.ncdc.noaa.gov/>.

1.2.1 The average number of days in each calendar month with rain equal to, or greater than, 0.1 inches is provided for the project area in the following table. This information is based on data obtained from the NOAA rain gage closest to the project area, at West Palm Beach International Airport (26° 41'N, 80° 6'W). The data were obtained from Climatology of the United States No. 20, Climatic Summaries for Selected Sites in Florida publications by the National Climatic Center, NOAA, for the period of record from 1981 through 2010.

Average Number of Days Per Month
With Rainfall > 0.1 Inches

Gage Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
West Palm Beach International Airport	5.0	5.0	5.0	5.0	6.0	11.0	10.0	11.0	11.0	7.0	5.0	5.0

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SECTION 01 11 00

SUMMARY OF WORK
12/12

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 in the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

GDR

Section 00 31 32, Geotechnical Data Report

EM 385-1-1

Safety and Health Requirements Manual

1.2 WORK COVERED BY CONTRACT DOCUMENTS

1.2.1 **Project Description - Bakers Haulover Inlet**

Work includes maintenance dredging in the vicinity of Bakers Haulover Inlet, Cuts DA-9 to 10 feet required depth plus 2 feet allowable over-depth in the IWW, and the material is to be placed on the beach just south of the inlet. Work also includes turbidity monitoring and manatee observation. All work shall be performed by hydraulic cutter-suction dredge.

1.2.2 Location

Bakers Haulover Inlet work is located near Bal Harbour in Dade County, Florida.

1.2.3 **Project Description - Jupiter Inlet**

Base Bid:

Work is required to dredge shoal material from the Intracoastal Waterway (IWW), Palm Beach County, Florida with placement on Jupiter Inlet Beach south of Inlet Jetty. Dredge IWW Cut P-1, Cut P-2, Cut P-3, Cut P-4, and P-4 Settling Basin to a required depth of 11-feet with a 1-foot allowable over depth. Incidental work also includes but not limited to turbidity monitoring, beach tilling, endangered species monitoring, seagrass monitoring, and vibration control monitoring.

Option A:

Option A work includes advanced dredging of IWW Cut P-4 to a depth of 15-ft with a 1-foot allowable over depth.

1.2.4 Location

The work shall be located at Intracoastal Waterway Federal Channel and South Jupiter Beach, vicinity of Jupiter Inlet, Jupiter, Palm Beach County, Florida.

1.2.5 Safety Requirements

See Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS and EM 385-1-1.

1.2.6 Work Performed by Others

See paragraph PROJECT COORDINATION of Section 01 30 00 ADMINISTRATIVE PROCEDURES.

1.3 COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK

a. Read this paragraph in conjunction with the Clause COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (FAR 52.211-10) of Section 00700 CONTRACT CLAUSES in Volume 1.

b. In addition to the above, the following shall apply: The phrase "commence work" means "commence dredging". The commencement time indicated applies unless precluded by inclement weather as determined by the Contracting Officer.]

1.4 LIQUIDATED DAMAGES - CONSTRUCTION

Refer to the Clause LIQUIDATED DAMAGES - CONSTRUCTION (FAR 52.211-12) of Section 00700 CONTRACT CLAUSES in Volume 1.

1.5 PHYSICAL DATA

Read this paragraph in conjunction with the Clause PHYSICAL DATA (FAR 52.236-4) of Section 00700 CONTRACT CLAUSES in Volume 1.

1.5.1 Physical Conditions

The indications of physical conditions on the drawings and in the specifications are the result of site investigations by surveys and/or by core borings. When the indicated physical conditions are the result of site investigations by core borings, the core boring logs and laboratory data are in Section 00 31 32 GEOTECHNICAL DATA REPORT (GDR) and the core boring locations are shown on the drawings. Also, see the GDR for instructions concerning availability of core borings for inspection.

1.5.2 Weather, Water Stage and Tide Data

See Section 00 33 50 WEATHER, WATER STAGE AND TIDE DATA.

1.5.3 Contractor Investigation

Refer to the Clause SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (FAR 52.236-3) of Section 00700 CONTRACT CLAUSES in Volume 1.

1.5.4 Maritime Traffic

Marine Traffic in the project area consists of cruise ships, commercial, pleasure, and small recreational vessels of all types and sizes which can be accommodated by existing depths.

1.5.5 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 any vessels, said plant shall be promptly moved on the approach of any vessel to such an extent as may be necessary to afford a practicable passage. Upon completion of the work the Contractor shall promptly remove his plant, including ranges, buoys, piles, and other marks placed by him under the contract in navigable waters or on shore.

1.5.6 Hydrographic Surveys

Hydrographic surveys are posted at the following web address:
<http://www.saj.usace.army.mil/Missions/CivilWorks/Navigation/HydroSurveys>
Survey numbers are indicated on the drawings.

1.6 LAYOUT OF WORK

Read this paragraph in conjunction with the Clause LAYOUT OF WORK (FAR 52.236-17) of Section 00700 CONTRACT CLAUSES in Volume 1.

1.6.1 Established Project Control

The Government has established monuments along the work site(s). Each monument is represented in the contract drawings by a Designation and in most cases, an alphanumeric Permanent Identifier (PID). Information concerning the location and elevations can be found within the Survey Notes on the plan sheets. The Survey Notes for each included field survey will cite a particular survey number, and specify the control used to conduct that survey. Additional information is included in the Survey Notes that must be duplicated if an attempt to recreate the subject survey is desired.

For navigation channels, the Government has established tidal calibration sites for projects constructed and maintained to a tidal datum. Each tidal calibration site is represented in the plan sheet drawings by Station ID, and is cited in the Survey Notes. All projects constructed and maintained to a tidal datum shall be calibrated to the Station ID specified in the plan sheet drawings. Information regarding the location and associated benchmarks of the referenced Station ID is included in the Monument Description section of these specifications.

See Section 00 31 21 CONTROL MONUMENT DESCRIPTIONS.

1.6.2 Layout

From the monuments, control data and elevations established by the Government, the Contractor shall complete the layout of the work and shall be responsible for all measurements that may be required for the execution of the work to the location and limit marks prescribed in the specifications or on the contract drawings, subject to such modifications as the Contracting Officer may require to meet changed conditions or as a result of necessary modifications to the contract work.

1.6.3 Survey

The Contractor shall furnish, at his own expense, such stakes, templates, platforms, equipment, tools and material, and all labor as may be required

in laying out any part of the work from the monuments, control data and elevations established by the Government. It shall be the responsibility of the Contractor to maintain and preserve all stakes and other marks established by the Contracting Officer until authorized to remove them, and if such marks are destroyed by the Contractor or through his negligence, prior to their authorized removal, they may be replaced by the Contracting Officer, at his discretion, and the expense of replacement will be deducted from any amounts due or to become due the Contractor. The Contracting Officer may require that work be suspended at any time when location and limit marks established by the Contractor are not reasonably adequate to permit checking of the work.

1.7 DAMAGE TO WORK

The responsibility for damage to any part of the permanent work shall be as set forth in Clause PERMITS AND RESPONSIBILITIES of Section 00700 CONTRACT CLAUSES in Volume 1. However, if, in the judgment of the Contracting Officer, any part of the permanent work performed by the Contractor is damaged by flood, earthquake, hurricane, or tornado, 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 will 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, an equitable adjustment pursuant to Clause CHANGES of Section 00700 CONTRACT CLAUSES in Volume 1 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, damage 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.

1.8 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (31 OCT 1989)

This provision specifies the procedure for the determination of time extensions for unusually severe weather in accordance with the Clause DEFAULT (FIXED-PRICE CONSTRUCTION) of Section 00700 CONTRACT CLAUSES in Volume 1. In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

a. The weather experienced at the project site during the contract period must be found to be unusually severe; that is, more severe than the adverse weather anticipated for the project location during any given month.

b. The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.

1.8.1 Schedule of Monthly Anticipated Adverse Weather Delays

The schedule of monthly anticipated adverse weather delays is based upon National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities. See Section 00 33 50 WEATHER, WATER STAGE AND TIDE DATA to obtain MONTHLY

ANTICIPATED ADVERSE WEATHER DELAY WORK DAYS BASED ON 5-DAY WORK WEEK. A reasonable number of anticipated weather delay work days is obtained from the average number of days per month with precipitation greater than or equal to 0.10 inch. Anticipated weather days shown in Section 00 33 50 WEATHER, WATER STAGE AND TIDE DATA and when listed in decimals, will be rounded to the nearest whole number using conventional rounding methods when comparing the effect of weather on construction activities.

1.8.2 Contractor Responsibility

Upon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor will record on the daily CQC report the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in Section 00 33 50 WEATHER, WATER STAGE AND TIDE DATA, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the Clause DEFAULT (FIXED PRICE CONSTRUCTION) of Section 00700 CONTRACT CLAUSES in Volume 1.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

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SECTION 01 22 00

MEASUREMENT AND PAYMENT
05/13

PART 1 GENERAL

1.1 SUMMARY

This section describes how Line Items will be measured and paid for when making progress payments. Work to be measured is described in specification sections listed for each Line Item. Measurement procedures for payment, required quantity survey or procurement documentation and payment restrictions are described in applicable specification sections. Allocate costs for work not specifically mentioned to the Line Item most closely associated with work involved. Unless there is a specific Line Item for administrative costs, such as Quality Control and Safety, allocate such costs proportionally across all Line Items.

1.1.1 Reference

The publication listed below forms a part of this specification to the extent referenced. This publication is referred to in the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 1110-2-1003

(2002; 2004 Change 1) Engineering and
Design, Hydrographic Surveying

1.2 QUALITY CONTROL SYSTEM (QCS)

1.2.1 Definition

The terms "Contract Line Item Number (CLIN)" and "Line Item" are interchangeable herein (e.g.: CLIN 0001 is Line Item 0001). The term "CLIN" is a contracting term used in the Quality Control System (QCS) payment data base.

1.2.2 Instructions

See Section 01 45 05 DREDGING/BEACH FILL PLACEMENT - CONTRACTOR QUALITY CONTROL for instructions on linking a CLIN to a schedule of values of pay activities and construction schedule, and in-depth payment procedure.

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. Transmit submittal items in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Schedule of Values; G, RO

Provide a breakdown of lump sum items into proposed pay activities. Schedule of Values will become basis for CLIN and Pay Activity data in the QCS payment data base.

1.4 LUMP SUM PAYMENT ITEMS

Payment items for the work of this contract for which contract lump sum payments will be made are listed in the LINE ITEMS AND PRICING SCHEDULE and described below. All costs for items of work, which are not specifically mentioned to be included in a particular lump sum or unit price payment item, shall be included in the listed lump sum item most closely associated with the work involved. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.

Progress payments for lump sum CLINs will be made in accordance with the Payments Under Fixed-Price Construction Contracts clause of Section 00700 CONTRACT CLAUSES in Volume 1. Provide a list of pay activities, (Schedule of Values) to breakdown bid for each lump sum CLIN. Within 20 calendar days after receiving Notice to Proceed, submit Schedule of Values for Government approval. An unbalanced Schedule of Values and Pay Activity Schedule will be returned for revision. If this contract contains either the Continuing Contracts clause or the Continuing Contracts (Alternate) clause, the Contractor should take into account the amount reserved for contract payments when preparing the construction schedule.

1.4.1 Mobilization and Demobilization (Line Item 0001)

Payment will be made for costs associated with or incidental to mobilization and demobilization and establishment of initial project management and coordination. See Clause PAYMENT FOR MOBILIZATION AND DEMOBILIZATION of Section 00700 CONTRACT CLAUSES in Volume 1.

1.4.2 Turbidity Monitoring (Line Item 0002)

Payment will be made for costs associated with or incidental to obtaining, analyzing, and reporting the results of monitoring for turbidity. See Section 01 57 25 TURBIDITY AND DISPOSAL MONITORING.

1.4.3 Endangered Species Observers (Line Item 0004 And 0012)

Payment will be made for costs associated with or incidental to endangered species observers. See Section 01 57 20 ENVIRONMENTAL PROTECTION.

1.4.4 Vibration Control Monitoring (Line Item 0005 and 0010)

Payment will be made for costs associated with or incidental to the protection of existing structures from construction activities and monitoring. See Section 02 22 13 VIBRATION MONITORING REQUIREMENTS FOR EXISTING STRUCTURES.

1.4.5 Liability Insurance (Line Item 0007 and 0011)

Payment will be made for the cost associated with the ten million dollar (\$10,000,000) aggregate property damage liability insurance policy; five million dollars (\$5,000,000) property insurance policy per occurrence (per location). This policy shall meet all the requirements of FAR 52.228-5 in Section 00700 and paragraph 999.228-4000 in Section 00800 SPECIAL CONTRACT REQUIREMENTS.

1.4.6 Seagrass Monitoring (Line Item 0013)

Payment will be made for costs associated with or incidental to seagrass monitoring. See Section 01 57 20.10 ENVIRONMENTAL PROTECTION.

1.5 UNIT PRICE PAYMENT ITEMS

Payment items for the work of this contract on which the contract unit price payments will be made are listed in the LINE ITEMS AND PRICING SCHEDULE and described below. The unit price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for each of the unit price items.

Each Unit Price CLIN may be a single pay activity item or may be broken down into pay activities with smaller quantities equal to CLIN total. Contract unit price multiplied by agreed quantity is full compensation.

1.5.1 Excavation, Unclassified (Line Item 0003 and 0008)

1.5.1.1 Payment

a. Payment will be made for costs associated with or incidental to excavation, transportation, and disposal of materials; providing and maintaining access to the work site(s) and disposal area(s); noise control; debris removal; installation, operation or maintenance of the electronic tracking system for surveillance of all dredging and disposal activities; and, monitoring sea turtles. See Sections 35 20 23 DREDGING and 01 57 20 ENVIRONMENTAL PROTECTION.

b. Insofar as consistent with the paragraph CONTINUITY OF WORK of Section 35 20 23 DREDGING, monthly partial payments will be based on approximate quantities determined by soundings or sweepings performed by the Contractor behind the dredge. The term "area designated by the Contracting Officer" as used in the CONTINUITY OF WORK paragraph, is defined as "acceptance section".

c. Hydrographic surveys for final measurement and payment and for channel clearance will be made by the Government. All surveys will be performed in accordance with USACE EM 1110-2-1003. Survey frequencies will be the same as those shown in the drawings and will remain consistent throughout the contract.

1.5.1.2 Measurement

a. The maps and/or drawings already prepared (clause CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS of Section 00700 CONTRACT CLAUSES in Volume 1) are believed to represent accurately average existing

conditions, but the depths shown thereon may be verified and corrected by soundings taken before dredging. Once quantities within a specified reach or section have been determined through the use of in-place measurement, they will not be reopened except on evidence of collusion, fraud, or obvious error.

b. The total amount of material removed, and to be paid for under the contract, will be measured by the cubic yard in place and quantities determined by the average end area method. The volume computed shall be between the bottom surface shown by soundings taken within 3 weeks before dredging and the bottom surface shown by the soundings taken within 3 weeks after the work specified in each acceptance section indicated on the drawings has been completed. The Contractor shall give 10 days advance notice, in writing, to the Contracting Officer's Representative of the need for a pre-dredging survey or after-dredging survey for final acceptance for each acceptance section. The quantity shall include the volume within the limits of the side slopes described in subparagraph "Side Slopes" of paragraph REQUIRED DEPTH, ALLOWABLE OVERDEPTH, AND SIDE SLOPES of Section 35 20 23 DREDGING, less any deductions that may be required for misplaced material described in subparagraph "Misplaced Materials" of paragraph DISPOSAL OF EXCAVATED MATERIAL of Section 35 20 23 DREDGING.

1.5.1.3 Unit of Measure

Cubic yard.

1.5.2 Beach Tilling (Line Item 0006 and 0009)

1.5.2.1 Payment

a. Payment will be made for costs associated with or incidental to beach tilling. See Section 01 57 20 ENVIRONMENTAL PROTECTION.

1.5.2.2 Measurement

a. Beach Tilling will be measured for payment based upon the actual acreage tilled within the limits of the beach placement areas.

1.5.2.3 Unit of Measure

Acre.

1.5.3 Option A: Jupiter Inlet-Advanced Maintenance Dredging (Line Item 0014)

1.5.3.1 Payment

a. Payment will be made for costs associated with or incidental to the advanced excavation of Jupiter Inlet Cut P-4, transportation, and disposal of materials; providing and maintaining access to the work site(s) and disposal area(s); noise control; debris removal; installation, operation or maintenance of the electronic tracking system for surveillance of all dredging and disposal activities; and, monitoring sea turtles. See Sections 35 20 23 DREDGING and 01 57 20 ENVIRONMENTAL PROTECTION.

b. Insofar as consistent with the paragraph CONTINUITY OF WORK of Section 35 20 23 DREDGING, monthly partial payments will be based on

approximate quantities determined by soundings or sweepings performed by the Contractor behind the dredge. The term "area designated by the Contracting Officer" as used in the CONTINUITY OF WORK paragraph, is defined as "acceptance section".

c. Hydrographic surveys for final measurement and payment and for channel clearance will be made by the Government. All surveys will be performed in accordance with USACE EM 1110-2-1003. Survey frequencies will be the same as those shown in the drawings and will remain consistent throughout the contract.

1.5.3.2 Measurement

a. The maps and/or drawings already prepared (clause CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS of Section 00700 CONTRACT CLAUSES in Volume 1) are believed to represent accurately average existing conditions, but the depths shown thereon may be verified and corrected by soundings taken before dredging. Once quantities within a specified reach or section have been determined through the use of in-place measurement, they will not be reopened except on evidence of collusion, fraud, or obvious error.

b. The total amount of material removed, and to be paid for under the contract, will be measured by the cubic yard in place and quantities determined by the average end area method. The volume computed shall be between the bottom surface shown by soundings taken within 3 weeks before dredging and the bottom surface shown by the soundings taken within 3 weeks after the work specified in each acceptance section indicated on the drawings has been completed. The Contractor shall give 10 days advance notice, in writing, to the Contracting Officer's Representative of the need for a pre-dredging survey or after-dredging survey for final acceptance for each acceptance section. The quantity shall include the volume within the limits of the side slopes described in subparagraph "Side Slopes" of paragraph REQUIRED DEPTH, ALLOWABLE OVERDEPTH, AND SIDE SLOPES of Section 35 20 23 DREDGING, less any deductions that may be required for misplaced material described in subparagraph "Misplaced Materials" of paragraph DISPOSAL OF EXCAVATED MATERIAL of Section 35 20 23 DREDGING.

1.5.3.3 Unit of Measure

Cubic Yard.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 PAYMENT PROCEDURES

Upon receiving initial Resident Management System import file, go to "Pay Activities" and establish a link between bid breakdown schedule of values of "Pay Activities" to contract CLINs using "Schedule Activities" data entry page.

3.1.1 Requesting Progress Payment

For progress payments, ensure "Activity Schedule", "Feature Schedule", submittal register, and punchlists are all up to date. Use "Progress Payments" to "request Activity Earnings" for both "Activity Earnings" data

entry page and "Other Earning". Provide hard copies of supporting invoices and quantity measurements to support all requested earnings. Ensure that sum of payment activities do not exceed contract award CLIN funding amounts, or "unbalanced" CLINs error will prevent processing the payment.

3.1.2 Options and Modification CLINS

When additional work is added by modification, existing CLINs funding amounts must be updated, or new CLINs for modification will be created. If contract has option CLINs not yet awarded, option CLINs will appear as zero dollar CLINs until option is awarded by modification. No payment may be requested for Options or Modification CLINs until contract modification has been funded and signed.

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SECTION 01 30 00

ADMINISTRATIVE PROCEDURES
06/08

PART 1 GENERAL

1.1 SUMMARY

Manage project and coordinate activities of own employees, subcontractors, suppliers and offsite fabricators. Contractor shall use computers, E-mail, and Internet resources for administrative work. Notify Contracting Officer of important meetings, schedule events and activities. Furnish labor and materials and equipment required to plan and execute project management functions and coordination. Coordinate activities and manage resources to construct project conforming to contract, on time and within budget. Related Sections are 01 32 10 CONSTRUCTION PROGRESS DOCUMENTATION, and 01 45 05 DREDGING/BEACH FILL PLACEMENT - CONTRACTOR QUALITY CONTROL.

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 that will review the submittal for the Government. Transmit submittal items in accordance with Section 01 33 00 SUBMITTAL PROCEDURES. Bring following administrative submittal items to Preconstruction Conference:

SD-01 Preconstruction Submittals

List of Subcontractors

Documentation of compliance with Clauses SUBCONTRACTS (LABOR STANDARDS) and LIMITATIONS ON SUBCONTRACTING of Section 00700 CONTRACT CLAUSES in Volume 1, and, if included, paragraph LIMITATIONS ON SUBSTITUTIONS FOR CERTAIN POSITIONS AND/OR SUBCONTRACTORS of Section 00800 SPECIAL REQUIREMENTS in Volume 1. Submit a list of proposed subcontractors with company name, person to contact, street address, mail address, phone number, type of specialty and estimated subcontract quote.

Signature Authority

Furnish a power of attorney or a notarized letter of authority from Contractor identifying local representatives authorized to sign contract documents.

Drug-Free Work Place Record

Documentation of compliance with Clause DRUG-FREE WORKPLACE of Section 00700 CONTRACT CLAUSES in Volume 1 (see subparagraphs (b) (1) through (b) (7)).

1.3 PROJECT COORDINATION

1.3.1 Resident Management System (RMS)

Contractor shall use Corps of Engineers' Resident Management System, referred to as Quality Control System (QCS), for construction information management. See Section 01 45 05 DREDGING/BEACH FILL PLACEMENT - CONTRACTOR QUALITY CONTROL.

1.3.2 Access to Others

Maintain access to power poles and other items owned or operated by utility companies. Coordinate with utility companies as required for line marking, hookups, and relocations as needed to perform work. Incoming electrical utilities become the responsibility of Contractor at transformers. Coordinate emergency incident response with local law enforcement and fire rescue authorities. Notify Contracting Officer in writing of coordination problems encountered effecting work.

1.4 PROJECT MEETINGS

Contracting Officer requires following types of project meetings:

- Preconstruction Conference
- Partnering Meeting
- Partnering Regroup Meetings
- Coordination Meeting
- Preparatory and Initial Phase meeting for each feature of work
- Project Progress Meetings

Project meetings are described in detail in subparts below.

1.5 PRECONSTRUCTION CONFERENCE

Contracting Officer will conduct a Preconstruction Conference for this project in accordance with Clause PRECONSTRUCTION CONFERENCE of Section 00700 CONTRACT CLAUSES in Volume 1. Preconstruction Conference will be after Notice of Award (NOA) but prior to Notice to Proceed (NTP). (Refer to subparagraph "Preconstruction Conference Submittals" below.) Contracting Officer will notify Contractor of time, place, and agenda. Contractor shall notify key subcontractors and suppliers to attend. Contracting Officer will discuss contract "ground rules" and general issues including:

- Lines of Contracting Officer authority
- Lines of Contractor authority
- 00700 Contract Clauses
- 00800 Special Contract Requirements
- Contract Administration
- Progress Payment
- Correspondence Procedures
- Project Schedule
- Submittal Register
- Labor requirements
- General Site Safety

1.5.1 Preconstruction Conference Minutes

Contracting Officer will take detailed minutes of Preconstruction

Conference discussions and may use an audio or video tape. Copies of typed minutes will be provided to the Contractor to review for accuracy, sign and return. Signed minutes become part of the contract file. Audio or video tapes if used will be made available for Contractor to review or copy at Area Office.

1.5.2 Preconstruction Conference Submittals

The timing of submission of submittals and completion of the Preconstruction Conference is intended to allow the Contractor and the Government adequate time to prepare for commencement of work. However, should the Contractor fail to submit required items within the times stated, the Contracting Officer may issue NTP prior to receipt of submittals and prior to the Preconstruction Conference. If NTP is issued prior to the Contractor's compliance with submittal requirements and prior to the Preconstruction Conference, the Contractor will not be permitted to commence work until these requirements have been satisfied. Any delays attributable to the Contractor's failure to comply with these pre-work requirements shall be at the Contractor's expense and may be cause for remedial action by the Contracting Officer. Submittals required by this Section are described in paragraph SUBMITTALS above.

1.5.2.1 Other Division 01 Submittals

In addition to the above, bring listed Division 01 submittals in draft form to Preconstruction Conference:

- Construction Schedule - See Section 01 32 10 CONSTRUCTION
PROGRESS DOCUMENTATION
- Submittal Register - See Section 01 33 00 SUBMITTAL PROCEDURES
- Environmental Protection Plan - See Section 01 57 20
ENVIRONMENTAL PROTECTION
- Quality Control Plan - See Section 01 45 05 DREDGING/BEACH FILL
PLACEMENT - CONTRACTOR QUALITY CONTROL
- Temporary Facilities Plan - See Section 01 50 02 TEMPORARY
CONSTRUCTION FACILITIES
- Accident Prevention Plan - See Section 01 35 26 GOVERNMENTAL
SAFETY REQUIREMENTS

Contracting Officer reviews submitted draft plans to prepare Coordination Meeting agenda and understand Contractor procedures.

1.5.2.2 Divisions 02 through 48 Submittals

In addition to the above, bring submittal items for materials, workmanship, plans or events required early in project schedule which are ready for transmittal to Contracting Officer. Prepare transmittal of submittal items in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.

1.6 PARTNERING

Contracting Officer wants to have a bilateral project partnership with Contractor that draws on strengths of both organizations to identify and achieve common goals. Typical partnering goals include:

- Effective and efficient contract performance
- Project completion on time and within budget
- Construction completed according to plans and specifications
- Development of cooperative management teams

- Project success with customer (stakeholders) satisfaction
- Improved Project communication

1.6.1 Initial Partnering Meeting

Contractor, key subcontractors and suppliers shall attend a one-day project "Partnering Meeting". The Partnering Meeting is a project team building workshop facilitated by trained persons. Contracting Officer attendees and invited persons may include:

- Administrative Contracting Officer Representative (Area Engineer)
- Construction Quality Assurance Representatives
- Jacksonville District - Construction Branch persons
- Jacksonville District - Engineering Division Designers
- Local Sponsor (Owner) - Florida Inland Navigation District

Goal of initial Partnering Meeting is to build trust, identify common goals, and understand individual project members expectations and organizational values. Usual results include better communication between contract parties, shortened project learning curve and a cohesive two party contract partnership. Participants usually sign a voluntary partnering agreement generally describing mutual obligation to cooperate to achieve project goals and maintain effective communication. Contracting Officer will pay costs for workshop site rental and facilitator fees.

1.6.2 Partnering Regroups

After initial Partnering Meeting participation will be voluntary in accordance with a signed Partnering Agreement. After initial Partnering Workshop, partnering sessions will be hosted by both parties on an alternating basis with the hosting party being responsible for all costs associated with their meeting. At no time will these costs be used to change the contract price. Partnering Agreements include provisions for Contracting Officer and Contractor to request "Partnering Regroups" when needed. A "Partnering Regroup" is usually a short (4 hours - 1 day) informal partnering session where senior level Contractor and Contracting Officer project members and other interested parties review project issues of concern. Issues of conflict are reviewed, attempt to affirm common project goals and understand concerns of other partner.

1.7 NOTICE TO PROCEED

Notice to proceed (NTP) will be issued shortly after completion of the preconstruction conference. If the Contractor has failed to submit specified plans, including, but not limited to, Accident Prevention Plan - Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS, Quality Control Plan - Section 01 45 05 DREDGING/BEACH FILL PLACEMENT - CONTRACTOR QUALITY CONTROL, and Environmental Protection Plan - Section 01 57 20 ENVIRONMENTAL PROTECTION, or has not yet received the Contracting Officer's conditional approval to work under an interim plan, the Contractor shall not proceed with the work and shall consider the work to be suspended in accordance with the Suspension Of Work clause of the contract. While the Contractor is working under a conditionally accepted interim plan, funds may be retained from progress payments in accordance with the Payments Under Fixed-Price Construction Contracts clause of this contract until such time as the Contractor submits an acceptable plan. If the Contractor does not submit an acceptable plan within a reasonable time, as determined by the Contracting Officer, the Contracting Officer may order the Contractor to suspend work. Any suspension order issued for the Contractor's failure to

submit an acceptable plan will not constitute unreasonable delay under the Suspension Of Work clause and the Contractor will not be entitled to an equitable adjustment of either performance period or contract price.

1.8 COORDINATION MEETING

Coordination Meeting is scheduled, convened and conducted by Contracting Officer after a Preconstruction Conference and prior to starting physical construction. Draft plans submitted after NOA (i.e., Quality Control Plan, Environmental Protection Plan and Accident Prevention Program) will have been reviewed. Coordination Meeting is primarily for on-site Contractor Quality Control staff, including subcontractor and supplier employees performing quality control, to meet and discuss the project in detail with Contracting Officer's Quality Assurance Representatives. Purposes of Coordination Meeting are:

- Achieve mutual understanding with Contractor of required Quality Control
- Jointly review submitted draft plans; resolve issues of concern
- Discuss project plans and specifications, schedule, documentation
- Establish a good working relationship between the Contractors Quality Control Staff and Quality Assurance Representatives

1.9 PROGRESS MEETINGS

Schedule, convene and preside over progress meetings as required. As project activities increase ("ramp up"), a minimum of one progress meeting per week is typical of a project of this scope. Convene additional meetings as required, or when requested by Contracting Officer. Notify persons needed to be present to discuss agenda issues. Contracting Officer may direct attendance by key Contractor suppliers, or fabricators as needed. A sample meeting agenda is provided in paragraph GENERAL MEETING REQUIREMENTS below.

1.9.1 Progress Meeting Participants

Typical participants include:

- Contracting Officer or Contracting Officer's Representative
- Contractor's Site Superintendent
- Contractor's Quality Control Manager
- Contractor's Safety Coordinator
- Subcontractors, as appropriate to the agenda
- Suppliers, as appropriate to the agenda
- Others as appropriate to the agenda

1.10 CONTRACTOR PERFORMANCE EVALUATIONS

Contractors are given an opportunity to provide and/or enter performance evaluation comments directly into the Contractor Performance Assessment Reporting System (CPARS), Architect-Engineer Contract Administration Support System (ACASS), and the Construction Contractor Appraisal Support System (CCASS). The systems are web-enabled applications that support the completion, distribution, and retrieval of contract performance evaluations. Provide to the responsible area office the name and email address of the contractor user that will be accessing CPARS/ACASS/CCASS. Read this paragraph in conjunction with Paragraph 999.236-4003 CONSTRUCTION CONTRACTOR PERFORMANCE EVALUATIONS of Section 00800 SPECIAL REQUIREMENTS.

1.10.1 Training

Contractor online training is available at the following web site:
<http://www.cpars.csd.disa.mil/allapps/cpartrng/onlinetrn.htm>. Training will give the student an understanding of the Contractor Representative and Contractor Corporate Senior Management levels of access, the policies and regulations governing CPARS/ACASS/CCASS, and the electronic workflow with particular attention to the Contractor comment function.

1.11 ALTERNATE DISPUTE RESOLUTION (ADR)

Contracting Officer wants disputes resolved in a timely, professional, and non-adversarial manner. ADR is a voluntary, non-binding procedure available for use in this contract. ADR combines business administration methods of issue clarification and problem solving techniques. ADR is used in place of formal dispute resolution procedures to promote and maintain amicable working relationships.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 GENERAL MEETING REQUIREMENTS

See Section 01 45 05 DREDGING/BEACH FILL PLACEMENT - CONTRACTOR QUALITY CONTROL for Preparatory and Initial Phase meeting checklists. Contractor is responsible for phase and progress meetings to include:

- Meeting notification to participants
- Prepare agenda for meetings
- Use phase checklists for Preparatory and Initial Phase meetings
- Physical arrangements for meetings
- Preside at meetings
- Record minutes recording proceedings and decisions
- Copy and send minutes to:
 - Meeting participants
 - Project parties affected by decisions
 - Contracting Officer (No later than 3 working days)

3.2 PROGRESS MEETING AGENDA

Modify agenda as needed for on-going work.

- Review minutes from previous progress meetings
- Review work progress since previous meeting
- Review current definable features of work:
 - Identify phases of current features of work
 - Identify pending phase changes
 - Identify features for discussion in next scheduled meeting
- Discuss problem prevention:
 - Field observations
 - Deficiencies and tracking
 - Procedures working well
 - Problems, conflicts
 - Methods to improve
- Review construction schedule:
 - Identify delays
 - Discuss proposed corrective actions to regain schedule
- Submittals and Requests for Information (design interpretation):

- Review submittal register
- Identify submittals to expedite as required

Review off-site activities:

- Fabrications
- Material and equipment delivery schedule

Review Testing:

- Type, Schedule
- Received Results

Review changes to construction schedule:

- Planned progress during succeeding work period
- Coordination of various schedules
- Effect of changes on construction and completion date

Review site safety

Discuss maintaining contract quality for materials and workmanship

Discuss pending modifications, changes and substitutions

Discuss other business, as appropriate

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SECTION 01 32 01

PROJECT SCHEDULE
01/13

PART 1 GENERAL

1.1 REFERENCES

The publication listed below forms a part of this specification to the extent referenced. The publication is referenced in the text by basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

ER 1-1-11 (1995) Progress, Schedules, and Network
Analysis Systems

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 that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Initial Project Schedule (IPS); G, RO

The IPS, as defined below, shall be submitted within 30 calendar days after date of receipt of Notice to Proceed (NTP).

SD-07 Certificates

Periodic Schedule Updates; G, RO

The Project Schedule (PS) shall be updated as specified below and shall be submitted as part of the Contractor's period request for payment.

1.3 QUALIFICATIONS

The Contractor shall designate an authorized representative who shall be responsible for the preparation of all required Project Schedule reports.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Pursuant to the Clause SCHEDULE FOR CONSTRUCTION CONTRACTS of Section 00700 CONTRACT CLAUSES of Volume 1, a Project Schedule as described below shall be prepared. The scheduling of construction shall be the responsibility of

the Contractor. Contractor management personnel shall actively participate in its development. Subcontractors and suppliers working on the project shall also contribute in developing and maintaining an accurate Project Schedule. The approved Project Schedule shall be used to measure the progress of the work, to aid in evaluating time extensions, and to provide the basis of all progress payments.

3.2 BASIS FOR PAYMENT

The Project Schedule shall be the basis for measuring Contractor progress. Lack of an approved schedule or scheduling personnel will result in an inability of the Contracting Officer to evaluate Contractor's progress for the purposes of payment. Failure of the Contractor to provide all information, as specified below, shall result in the disapproval of the entire Project Schedule submission and the inability of the Contracting Officer to evaluate Contractor progress for payment purposes. In the case where Project Schedule revisions have been directed by the Contracting Officer and those revisions have not been included in the Project Schedule, the Contracting Office may hold retainage up to the maximum allowed by contract, each payment period, until revisions to the Project Schedule have been made.

3.3 PROJECT SCHEDULE

The computer software system utilized by the Contractor to produce the Project Schedule shall be capable of providing all requirements of this specification. Failure of the Contractor to meet the requirements of this specification shall result in the disapproval of the schedule. Manual methods used to produce any required information shall require approval by the Contracting Officer.

3.3.1 Use of the Critical Path Method

The Critical Path Method (CPM) of network calculation shall be used to generate the Project Schedule. The Contractor shall provide the Project Schedule in the Precedence Diagram Method (PDM).

3.3.2 Level of Detail Required

The Project Schedule shall include an appropriate level of detail. Failure to develop or update the Project Schedule or provide data to the Contracting Officer at the appropriate level of detail, as specified by the Contracting Officer, shall result in the disapproval of the schedule. The Contracting Officer will use, but is not limited to, the following conditions to determine the appropriate level of detail to be used in the Project Schedule:

3.3.2.1 Activity Durations

Contractor submissions shall follow the direction of the Contracting Officer regarding reasonable activity durations. Reasonable durations are those that allow the progress of activities to be accurately determined between payment periods (usually less than 2 percent of all non-procurement activities' Original Durations are greater than 20 days).

3.3.2.2 Procurement Activities

Tasks related to the procurement of long lead materials or equipment shall be included as separate activities in the Project Schedule. Long lead

materials and equipment are those materials that have a procurement cycle of over 90 days. Examples of procurement process activities include, but are not limited to, submittals; approvals; procurement; fabrication; and, delivery.

3.3.2.3 Critical Activities

The following activities shall be listed as separate line activities on the Contractor's Project Schedule:

- a. Submission and approval of mechanical/electrical layout drawings.
- b. Submission and approval of O & M manuals.
- c. Submission and approval of as-built drawings.
- d. Submission and approval of 1354 data and installed equipment lists.
- e. Submission and approval of testing and air balance (TAB).
- f. Submission of TAB specialist design review report.
- g. Submission and approval of fire protection specialist.
- h. Submission and approval of testing and balancing of HVAC plus commissioning plans and data.
- i. Air and water balance dates.
- j. HVAC commissioning dates.
- k. Controls testing plan.
- l. Controls testing.
- m. Performance Verification testing.
- n. Other systems testing, if required.
- o. Prefinal inspection.
- p. Correction of punch list from prefinal inspection.
- q. Final inspection.

3.3.2.4 Government Activities

Government and other agency activities that could impact progress shall be shown. These activities include, but are not limited to: approvals, inspections, utility tie-in, Government-Furnished Equipment (GFE), and NTP for phasing requirements.

3.3.2.5 Responsibility

All activities shall be identified in the Project Schedule by the party responsible to perform the work. Responsibility includes, but is not limited to, the subcontracting firm; Contractor work force; or, Government agency performing a given task. Activities shall not belong to more than

one responsible party. The responsible party for each activity shall be identified by the Responsibility Code.

3.3.2.6 Work Areas

All activities shall be identified in the Project Schedule by the work area in which the activity occurs. Activities shall not be allowed to cover more than one work area. The work area of each activity shall be identified by the Work Area Code.

3.3.2.7 Modification or Claim Number

Any activity that is added or changed by contract modification or used to justify claimed time shall be identified by a mod or claim code that changed the activity. Activities shall not belong to more than one modification or claim item. The modification or claim number of each activity shall be identified by the Modification or Claim Number. Whenever possible, changes shall be added to the schedule by adding new activities. Existing activities shall not normally be changed to reflect modifications.

3.3.2.8 Bid Item

All activities shall be identified in the Project Schedule by the Bid Item to which the activity belongs. An activity shall not contain work in more than one bid item. The bid item for each appropriate activity shall be identified by the Bid Item Number.

3.3.2.9 Phase of Work

All activities shall be identified in the Project Schedule by the phases of work in which the activity occurs. Activities shall not contain work in more than one phase of work. The project phase of each activity shall be the unique Phase of Work Code. Refer to [Section 01 45 05 DREDGING/BEACH FILL PLACEMENT - CONTRACTOR QUALITY CONTROL](#).

3.3.2.10 Category of Work

All activities shall be identified in the Project Schedule according to the category of work which best describes the activity. Category of work refers, but is not limited to, the procurement chain of activities including such items as submittals, approvals, procurement, fabrication, delivery, installation, start-up, and testing. The category of work for each activity shall be identified by the Category of Work Code.

3.3.2.11 Feature of Work

All activities shall be identified in the Project Schedule according to the feature of work to which the activity belongs. Feature of work refers, but is not limited to, a work breakdown structure for the project. The feature of work for each activity shall be identified by the Feature of Work Code.

3.3.3 Scheduled Project Completion

The schedule interval shall extend from NTP to the contract completion date.

3.3.3.1 Project Start Date

The schedule shall start no earlier than the date of receipt of the NTP. The Contractor shall include as the first activity in the Project Schedule

an activity called "Start Project". The "Start Project" activity shall have an "ES" constraint date equal to the date of receipt of the NTP, and a zero day duration.

3.3.3.2 Constraint of Last Activity

Completion of the last activity in the schedule shall be constrained by the contract completion date. Calculation on project updates shall be such that if the early finish of the last activity falls after the contract completion date, then the float calculation shall reflect a negative float on the critical path. The Contractor shall include as the last activity in the Project Schedule an activity called "End Project". The "End Project" activity shall have an "LF" constraint date equal to the completion date for the project, and a zero day duration.

3.3.3.3 Early Project Completion

In the event the Project Schedule shows completion of the project prior to the contract completion date, the Contractor shall identify those activities that have been accelerated and/or those activities that are scheduled in parallel to support the Contractor's "early" completion. Contractor shall specifically address each of the activities noted in the narrative report at every Project Schedule update period to assist the Contracting Officer in evaluating the Contractor's ability to actually complete prior to the contract period.

3.3.4 Interim Completion Dates

Contractually specified interim completion dates shall also be constrained to show negative float if the early finish date of the last activity in that phase fails after the interim completion date.

3.3.4.1 Start Phase

The Contractor shall include as the first activity for a project phase an activity called "Start Phase X" where "X" refers to the phase of work. The "Start Phase X" activity shall have an "ES" constraint date equal to the date of receipt of the NTP, and a zero day duration.

3.3.4.2 End Phase

The Contractor shall include as the last activity in a project phase an activity called "End Phase X" where "X" refers to the phase of work. The "End Phase X" activity shall have an "LF" constraint date equal to the completion date for the project, and a zero day duration.

3.3.4.3 Phase X

The Contractor shall include a hammock type activity for each project phase called "Phase X" where "X" refers to the phase of work. The "Phase X" activity shall be logically tied to the earliest and latest activities in the phase.

3.3.5 Default Progress Data Disallowed

Actual Start and Finish dates shall not be automatically updated by default mechanisms that may be included in CPM scheduling software systems. Actual Start and Finish dates on the CPM schedule shall match those dates provided from Contractor Quality Control Reports. Failure of the Contractor to

document the Actual Start and Finish dates on the Daily Quality Control Report for every in-progress or completed activity, and failure to ensure that the data contained on the Daily Quality Control Reports is the sole basis for schedule updating shall result in the disapproval of the Contractor's schedule and the inability of the Contracting Officer to evaluate Contractor progress for payment purposes. Updating of the percent complete and the remaining duration of any activity shall be independent functions. Program features which calculate one of these parameters from the other shall be disabled.

3.3.6 Out-of-Sequence Progress

Activities that have posted progress without all preceding logic being satisfied (Out-of-Sequence Progress) will be allowed only on a case-by-case approval of the Contracting Officer. The Contractor shall propose logic corrections to eliminate all out-of-sequence progress or justify not changing the sequencing for approval prior to submitting an updated Project Schedule.

3.3.7 Negative Lags

Lag durations contained in the Project Schedule shall not have a negative value.

3.4 PROJECT SCHEDULE SUBMISSIONS

The Contractor shall provide the submissions as described below. The data disk, reports, and network diagrams required for each submission are contained in paragraph SUBMISSION REQUIREMENTS.

3.4.1 Initial Project Schedule Submission

The Initial Project Schedule shall be submitted for approval within 30 calendar days after date of receipt of NTP. The schedule shall provide a reasonable sequence of activities which represent work through the entire project and shall be at a reasonable level of detail.

3.4.2 Periodic Schedule Updates

Based on the result of progress meetings, specified in paragraph PERIODIC PROGRESS MEETINGS below, the Contractor shall submit periodic schedule updates. These submissions shall enable the Contracting Officer to assess Contractor's progress. If the Contractor fails or refuses to furnish the information and Project Schedule data, which in the judgment of the Contracting Officer or authorized representative is necessary for verifying the Contractor's progress, the Contractor shall be deemed not to have provided an estimate upon which progress payment may be made.

3.4.3 Standard Activity Coding Dictionary

The Contractor shall use the activity coding structure defined in the Standard Data Exchange Format (SDEF) in [ER 1-1-11](#), Appendix A. This exact structure is mandatory, even if some fields are not used.

3.5 SUBMISSION REQUIREMENTS

The following items shall be submitted by the Contractor for the preliminary submission, initial submission, and every periodic Project Schedule update throughout the life of the project:

3.5.1 Data Disks

Two data disks (compact disks) containing the Project Schedule shall be provided. Data on the disks shall adhere to the SDEF format specified in [ER 1-1-11](#), Appendix A.

3.5.1.1 Disk Label

A permanent exterior label shall be affixed to each disk submitted. The label shall indicate the type of schedule (Preliminary, Initial, Update, or Change), full contract number, project name, project location, data date, name and telephone number of person responsible for the schedule, and the MS-DOS version used to format the disk.

3.5.1.2 File Name

Each file submitted shall have a name related to either the schedule data date, project name, or contract number. The Contractor shall develop a naming convention that will ensure that the names of the files submitted are unique. The Contractor shall submit the file naming convention to the Contracting Officer for approval.

3.5.2 Narrative Report

A Narrative Report shall be provided with the initial and each update of the Project Schedule. This report shall be provided as the basis of the Contractor's progress payment request. The Narrative Report shall include: a description of activities along the 2 most critical paths; a description of current and anticipated problem areas or delaying factors and their impact; and, an explanation of corrective actions taken or required to be taken. The Narrative Report is expected to relay to the Government, the Contractor's thorough analysis of the schedule output and its plans to compensate for any problems, either current or potential, which are revealed through that analysis.

3.5.3 Approved Changes Verification

Only Project Schedule changes that have been previously approved by the Contracting Officer shall be included in the schedule submission. The Narrative Report shall specifically reference, on an activity by activity basis, all changes made since the previous period and relate each change to documented, approved schedule changes.

3.5.4 Schedule Reports

The format for each activity for the schedule reports listed below shall contain: Activity Numbers; Activity Description; Original Duration; Remaining Duration; Early Start Date; Early Finish Date; Late Start Date; Late Finish Date; and, Total Float. Actual Start and Actual Finish Dates shall be printed for those activities in progress or completed.

3.5.4.1 Activity Report

A list of all activities sorted according to activity number.

3.5.4.2 Logic Report

A list of Preceding and Succeeding activities for every activity in

ascending order by activity number. Preceding and succeeding activities shall include all information listed in subparagraph "Schedule Reports" above. A blank line shall be left between each activity grouping.

3.5.4.3 Total Float Report

A list of all incomplete activities sorted in ascending order of total float. Activities which have the same amount of total float shall be listed in ascending order of Early Start Date. Completed activities shall not be shown on this report.

3.5.4.4 Earnings Report

A compilation of the Contractor's Total Earnings on the project from the date of receipt of NTP until the most recent Monthly Progress Meeting. This report shall reflect the Earnings of specific activities based on the agreements made in the field and approved between the Contractor and Contracting Officer at the most recent Monthly Progress Meeting. Provided that the Contractor has provided a complete schedule update, this report shall serve as the basis of determining Contractor Payment. Activities shall be grouped by bid item and sorted by activity numbers. This report shall: sum all activities in a bid item and provide a bid item percent; and, complete and sum all bid items to provide a total project percent complete. The printed report shall contain, for each activity: the Activity Number; Activity Description; Original Budgeted Amount; Total Quantity; Quantity to Date; Percent Complete (based on cost); and, Earnings to Date.

3.5.5 Network Diagram

The network diagram shall be required on the initial schedule submission and on monthly schedule update submissions. The network diagram shall depict and display the order and interdependence of activities and the sequence in which the work is to be accomplished. The Contracting officer will use, but is not limited to, the following conditions to review compliance with this paragraph:

3.5.5.1 Continuous Flow

Diagrams shall show a continuous flow from left to right with no arrows from right to left. The activity number, description, duration, and estimated earned value shall be shown on the diagram.

3.5.5.2 Project Milestone Dates

Dates shall be shown the diagram for start of project, any contract required interim completion dates, and contract completion dates.

3.5.5.3 Critical Path

The critical path shall be clearly shown.

3.5.5.4 Banding

Activities shall be grouped to assist in the understanding of the activity sequence. Typically, this flow will group activities by category of work, work area and/or responsibility.

3.5.5.5 S-Curves

Earnings curves showing projected early and late earnings and earnings to date.

3.6 PERIODIC PROGRESS MEETINGS

Progress meetings to discuss payment shall include a monthly on-site meeting or other regular intervals mutually agreed to at the Preconstruction Conference. During this meeting the Contractor shall describe, on an activity by activity basis, all proposed revisions and adjustments to the Project Schedule required to reflect the current status of the project. The Contracting Officer will approve activity progress, proposed revisions, and adjustments as appropriate. Refer to Section 01 30 00 ADMINISTRATIVE PROCEDURES.

3.6.1 Meeting Attendance

The Contractor's Project Manager and Scheduler shall attend the regular progress meeting.

3.6.2 Update Submission Following Progress Meeting

A complete update of the Project Schedule containing all approved progress, revisions, and adjustments, based on the regular progress meeting, shall be submitted not later than 4 working days after the monthly progress meeting.

3.6.3 Progress Meeting Contents

Update information, including Actual Start Dates, Actual Finish Dates, Remaining Durations, and Cost-to-Date shall be subject to the approval of the Contracting Officer. As a minimum, the Contractor shall address the following items on an activity by activity basis during each progress meeting.

3.6.3.1 Start and Finish Dates

The Actual Start and Actual Finish dates for each activity currently in-progress or completed.

3.6.3.2 Time Completion

The estimated Remaining Duration for each activity in-progress. Time-based progress calculations shall be based on Remaining Duration for each activity.

3.6.3.3 Cost Completion

The earnings for each activity started. Payment will be based on earnings for each in-progress or completed activity. Payment for individual activities will not be made for work that contains quality defects. A portion of the overall project amount may be retained based on delays of activities.

3.6.3.4 Logic Changes

All logic changes pertaining to NTP on change orders, change orders to be incorporated into the schedule, Contractor proposed changes in work sequence, corrections to schedule logic for out-of-sequence progress, lag

durations, and other changes that have been made pursuant to contract provisions shall be specifically identified and discussed.

3.6.3.5 Other Changes

Other changes required due to delays in completion of any activity or group of activities include: (1) delays beyond the Contractor's control, such as strikes and unusual weather; (2) delays encountered due to submittals, Government Activities, deliveries or work stoppages which made re-planning the work necessary; and, (3) changes required to correct a schedule which does not represent the actual or planned prosecution and progress of the work.

3.7 REQUESTS FOR TIME EXTENSIONS

In the event the Contractor requests an extension of the contract completion date, or any interim milestone date, the Contractor shall furnish the following for a determination as to whether or not the Contractor is entitled to an extension of time under the provisions of the contract: justification; Project Schedule data; and, supporting evidence as the Contracting Officer may deem necessary. Submission of proof of delay, based on revised activity logic, duration, and costs (updated to the specific date that the delay occurred) is obligatory to any approvals.

3.7.1 Justification of Delay

The Project Schedule shall clearly display that the Contractor has used, in full, all the float time available for the work involved with this request. The Contracting Officer's determination as to the number of allowable days of contract extension shall be based upon the Project Schedule updates in effect for the time period in question, and other factual information. Actual delays that are found to be caused by the Contractor's own actions, which result in the extension of the schedule, will not be a cause for a time extension to the contract completion date.

3.7.2 Submission Requirements

The Contractor shall submit a justification for each request for a change in the contract completion date of under 2 weeks based upon the most recent schedule update at the time of the NTP or constructive direction issued for the change. Such a request shall be in accordance with the requirements of other appropriate Contract Clauses and shall include, as a minimum:

- a. A list of affected activities, with their associated Project Schedule activity number.
- b. A brief explanation of the causes of the change.
- c. An analysis of the overall impact of the changes proposed.
- d. A sub-network of the affected area.

Activities impacted in each justification for change shall be identified by a unique activity code contained in the required data file.

3.7.3 Additional Submission Requirements

For any requested time extension of over 2 weeks, the Contracting Officer may request an interim update with revised activities for a specific change

request. The Contractor shall provide this disk within 4 days of the Contracting Officer's request.

3.8 DIRECTED CHANGES

If the NTP is issued for changes prior to settlement of price and/or time, the Contractor shall submit proposed schedule revisions to the Contracting Officer within 2 weeks of the NTP being issued. The proposed revisions to the schedule will be approved by the Contracting Officer prior to inclusion of those changes within the Project Schedule. If the Contractor fails to submit the proposed revisions, the Contracting Officer may furnish the Contractor with suggested revisions to the Project Schedule. The Contractor shall include these revisions in the Project Schedule until revisions are submitted, and final changes and impacts have been negotiated. If the Contractor has any objections to the revisions furnished by the Contracting Officer, the Contractor shall advise the Contracting Officer within 2 weeks of receipt of the revisions. Regardless of the objections, the Contractor shall continue to update the schedule with the Contracting Officer's revisions until a mutual agreement in the revisions is reached. If the Contractor fails to submit alternative revisions within 2 weeks of receipt of the Contracting Officer's proposed revisions, the Contractor will be deemed to have concurred with the Contracting Officer's proposed revisions. The proposed revisions will then be the basis for an equitable adjustment for performance of the work.

3.9 OWNERSHIP OF FLOAT

Float available in the schedule, at any time, shall not be considered for the exclusive use of either the Government or the Contractor.

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SECTION 01 32 10

CONSTRUCTION PROGRESS DOCUMENTATION
10/08

PART 1 GENERAL

1.1 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 following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

QCS Schedules; G|RO

Bar Chart; G|RO

"S" Curve; G|RO

Progress Photographs

1.2 CONSTRUCTION SCHEDULES

Use work breakdown structure of "CLINs", "Features" and "Pay Activities". "CLINs" are Contract Line Item Numbers from bid schedule. "Features" are quality control grouping of like "Pay Activities" requiring similar quality control. "Pay Activities" are scheduled work activities or events. Most "Pay Activities" have resources (time, money, labor, material and equipment). Use "Pay Activities" with no dollars allocate to schedule administrative work activities or events.

1.2.1 QCS SCHEDULES

See Section 01 45 05 DREDGING/BEACH FILL PLACEMENT - CONTRACTOR QUALITY CONTROL. After receipt of Notice of Award, create "Activity Schedule" and "Feature Schedule" in QCS. Submit QCS Schedules as part of initial QCS export. Contractor shall maintain the schedule with NAS and shall import the NAS schedule into RMS/QCS. Cost allocate each "Pay Activity" to an assigned CLIN. Sum of "Pay Activities" must equal CLIN totals so there is no variance. "Features" duration is early start of first "Pay Activity" to late finish date of last "Pay Activity". Currently only Primavera P3 Project Planner allows direct import of computer schedule into QCS. Primavera will provide a utility called P3SDEF that will convert a P3 file export SDEF.txt file. An SDEF.txt file directly imports P3 schedule into QCS. Required Primavera P3 Activity Code Structure is as follows:

Field #	Code	Length	Field Description
1	WRKP	3	Workers per day
2	RESP	4	Responsibility
3	AREA	4	Area

4	MODF	6	Modification or Claim #
5	BIDI	6	Bid Item
6	PHAS	2	Phase
7	CATW	1	Category of Work
8	FOW1	10	Feature of Work (Segment 1)
9	FOW2	10	Feature of Work (Segment 2)
10	FOW3	10	Feature of Work (Segment 3)

1.2.2 Bar Chart with "S"Curve

At pre-construction conference submit [Bar Chart](#) with target ["S" Curve](#). Contractor may create manual Bar Chart and "S" curve or use computer software of his choice. Scheduling software allow for easier updates and changes. See sample Bar Chart and "S" Curve below. Contractor has an option to schedule an "early finish" date with "float" until contract required completion date. Schedules with "early finish" are for the benefit of the Contractor, and the Contracting Officer may elect to continue to make balanced progress payments based on funds availability. Neither Contractor nor Contracting Officer own "float" on early finish schedules. Contractor shall not claim added costs for delay for float used. When unit price CLINs have quantity variations and impact weighted percentage of a "Pay Activity" by five percent or more, revise bar chart and "S" Curve to accurately reflect impact of variation of estimated quantities.

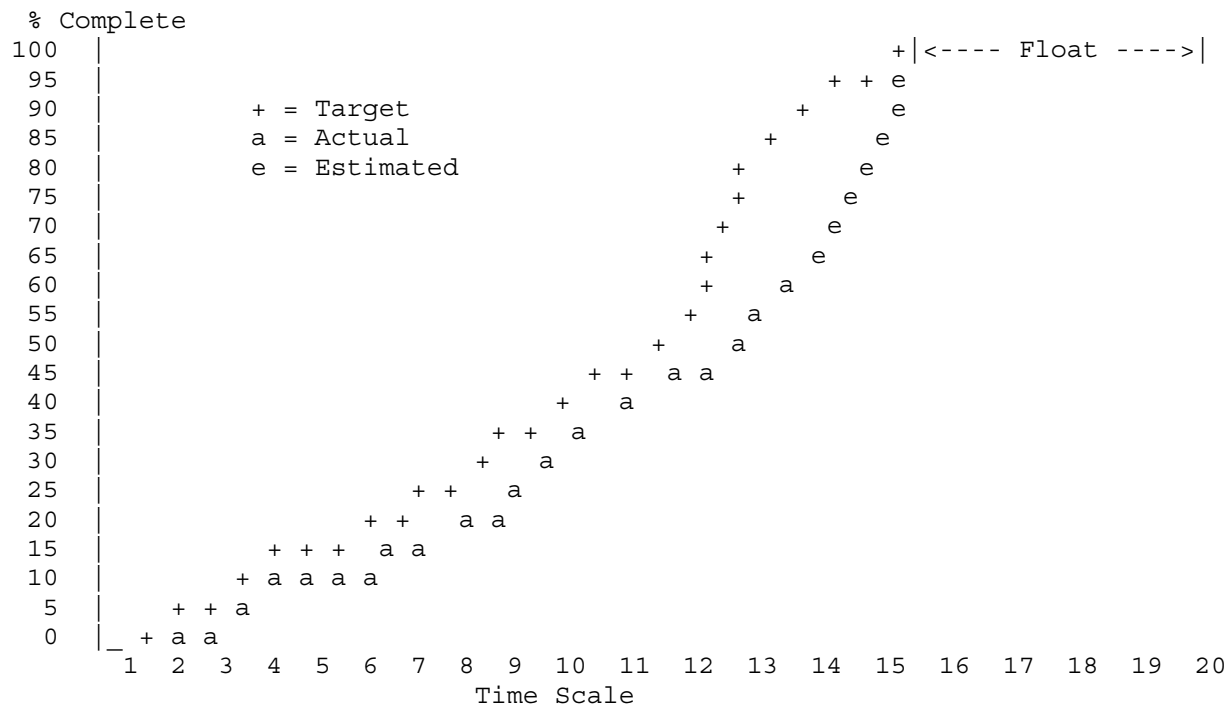
1.2.2.1 Sample Bar Chart

Sample Bar Chart has early finish at week 16 +/-.



1.2.2.2 Sample "S" Curve

Sample "S" curve is early finish at week 16 +/- with actual progress plotted at week 14.



1.3 UPDATED SCHEDULES

Maintain construction progress schedules up-to-date. Ensure QCS Schedules and Bar Charts and "S" Curves are updated when requesting progress payment. Submit Bar Chart , "S" Curve schedule when schedule is revised. Reflect any changes occurring since the last update.

1.4 PROGRESS PHOTOGRAPHS

Provide digital photographs to document construction progress as requested by Contracting Officer.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

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SECTION 01 33 00

SUBMITTAL PROCEDURES

11/08

PART 1 GENERAL

1.1 SUMMARY

This section describes submittal procedures in Jacksonville District contracts using Quality Control System submittal procedures in accordance with Section 01 45 05 DREDGING/BEACH FILL - CONTRACTOR QUALITY CONTROL. It covers submittal item identification, number of copies, review periods, quality control review, QC/QA reviewer coding, and transmittal tracking procedures using Quality Control System (QCS)/Resident Management System (RMS) shared data base. Contractor shall use QCS software to identify, track and transmit submittal items.

1.2 DEFINITIONS

1.2.1 Submittal

Contract Clauses "FAR 52.236-5, Material and Workmanship," paragraph (b) and "FAR 52.236-21, Specifications and Drawings for Construction," paragraphs (d), (e), and (f) apply to all "submittals."

1.2.2 Transmittal

This is a routine contract correspondence action using a transmittal form (ENG Form 4025) to send submittal items to the Government. The QCS "Transmittal Log" module uses data base entry to create a hard copy of ENG Form 4025.

1.2.3 Submittal Descriptions (SD)

Submittals requirements are specified in the technical sections. Submittals are identified by SD numbers and titles as follows.

[SD-01 Preconstruction Submittals](#)

- Certificates of insurance.
- Surety bonds.
- List of proposed subcontractors.
- Construction Progress Schedule.
- Submittal register.
- Schedule of prices.
- Health and safety plan.
- Work plan.
- Quality control plan.
- Environmental protection plan.

[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-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials or equipment for some portion of the work.

Samples of warranty language when the contract requires extended product warranties.

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 accordance with specified requirements. (Testing must have been within three years of date of contract award for the project.)

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

Report which 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 checklists.

Final acceptance test and operational test procedure.

SD-07 Certificates

Statements signed by responsible officials of manufacturer of product, system or material attesting that 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 supplier, installer or subcontractor through Contractor, the purpose of which is to further quality of orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel qualifications.

Confined space entry permits.

SD-11 Closeout Submittals

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

1.2.4 Approving Authority

Office authorized to approve submittal.

1.2.5 Work

As used in this section, on- 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.

1.2.6 Contractor Reviewer

Contractor employee performing quality control review on submittal items.

1.2.7 Primary Reviewer

Initial Government reviewer is usually among construction field personnel who perform quality assurance review on submittal items.

1.2.8 Secondary Reviewer

Secondary Government reviewer is usually an in-house designer or Architect/Engineer (A/E) firm hired to perform "engineering during construction". This is a submittal reviewer for design critical "G" submittal items. Secondary Reviewers may also be specialized district staffs such as safety or environmental specialists, users, or operations and maintenance reviewers. Secondary Reviewers are advisors to Approving Authority.

1.2.9 Reviewer Codes

Two and three letter codes used to identify Government primary and secondary reviewer on submittal register are as follows:

- PO -- Construction Project Office
- RO -- Construction Resident Office
- AO -- Construction Area Office
- DO -- Jacksonville District Office
- AE -- Architect Engineer Contractor providing engineering during construction

1.2.10 Review and Action Codes

Reviewer code letters A,B,C,E,F,G and X are used by Contractor QC Staff and Government Primary and Secondary Reviewers to indicate approval, acceptance or rejection of a submittal item.

1.2.11 Review Comments to Contractor

ENG Form 4025, Section III is generated in Resident Management System, and contains consolidated remarks for Primary and Secondary Reviewers. When RMS exports to QCS, "Review Comments to Contractor" will electronically update. A hard copy of ENG Form 4025, Part III is attached to a submittal item when returned.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation;

submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Export File; G|RO

Within 14 Calendar days after receiving initial Government RMS import file, review and correct "Submittal Register", and provide corrected "Submittal Register" as part of first QCS export file to Government.

1.4 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.4.1 Government Approved

Government approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," they are considered to be "shop drawings."

1.4.2 Information Only

All submittals not requiring Government approval will be for information only. "Information Only" submittal items shall be reviewed, coded and approved by the Contractor. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

1.5 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After submittals have been approved 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.

1.6 DISAPPROVED SUBMITTALS

Make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause "Changes" shall be given promptly to the Contracting Officer.

1.7 WITHHOLDING OF PAYMENT

No payment for materials incorporated in the work will be made if required approvals have not been obtained until it is determined by the Contracting Officer that materials meet contract requirements.

1.8 GENERAL

The Contractor shall make submittals as required by the specifications using the QCS software "Transmittal Log". The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to transmittal, all items shall be checked and approval coded by the Contractor's Quality Control (CQC) System Manager, and each item shall be stamped, signed, and dated by the CQC System Manager indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include 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. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

1.9 SUBMITTAL REGISTER

At the end of this section is 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. The Submittal Register using QCS/RMS is a shared electronic database constantly updated by both Government and Contractor. The Government will provide initial RMS export file to populate the QCS submittal register in electronic format. This list may not be all inclusive, and additional submittals may be required. Examine contract drawings and specifications, verify QCS data, and add required submittal items. The Contractor can print or e-mail QCS/RMS generated current Submittal Register ENG Form 4288, and Transmittal Log as QCS reports. Submittal and Transmittal status are updated with each RMS/QCS data file exchange.

1.10 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. QCS requires the Contractor to schedule and transmit submittal items from one Section together. Certifications to be submitted with drawings shall be scheduled. Schedule submittals with sufficient time to obtain a Government response prior to delivery of applicable equipment and materials, and commencement of applicable work. The Contractor assumes risk for applicable deliveries and work performed prior to receipt of a Government response to a submittal which requires no resubmission as indicated in the clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION of

Section 00700 CONTRACT CLAUSES of Volume 1. When planning procurement, allow QC/QA review periods from date of receipt by Approval Authority as follows:

Information Only - Contractor QC Review - 10 Calendar Days
"G" - Government QA Review - 30 Calendar Days

The Government has the number of calendar days indicated above from the date a transmitted "G" submittal item is received to review, code and return comments. The Contractor shall resubmit disapproved submittal items (codes C, D, E, G or X) within 10 calendar days after return. No delay damages or time extensions will be allowed for time lost caused by late submittals.

1.10.1 Avoiding Delays

Notify the Contracting Officer immediately when procurement or construction delays due to submittal review are possible.

1.11 TRANSMITTAL FORM (ENG FORM 4025)

These forms are included in the QCS software. Use the QCS transmittal log to generate "ENG Form 4025 - Transmittal of Shop Drawings, Equipment Data, Material Samples, or Manufacturer's Certificates of Compliance" to transmit submittal items to the Government. EN Form 4025R has three sections as follows:

Section I - "Request for Approval of the Following Items" is initiated by the Contractor.

Section II - "Approval Action" combined with a review code in column "For CE Use Code" indicates submittal item acceptance or rejection by Approving Authority.

Section III - Government Review Remarks.

This form shall be properly completed using QCS software to fill out all the heading blank spaces and identify each item submitted. Special care shall be exercised to ensure proper listing of the specification paragraph or sheet number of the contract drawings pertinent to the data submitted for each item.

1.11.1 Approving Authority Review Codes

The Contractor shall use QCS to act as Approving Authority to code FIO submittals. The Government will use RMS to prepare reviewer comments and code "G" submittal items. These comments and coding will update QCS when the .RFX file update is imported by the Contractor. The action codes are as follows ("Resubmit" in parentheses means the Contractor is required to resubmit):

- A -- Approved as submitted (Complete)
- B -- Approved, except as noted on drawings (Complete)
- C -- Approved, except as noted on drawings (Resubmit)
- D -- Returned by correspondence (Complete)
- E -- Disapproved (See Attached and Resubmit)
- F -- Receipt Acknowledged (Completed)
- G -- Other (Specify Action in Detail and Resubmittal may be required)
- X -- Receipt Acknowledged, does not comply (Resubmit)

1.12 SUBMITTAL PROCEDURES

Submittals shall be made as follows:

1.12.1 Reviewing, Certifying, Approving Authority

The Contractor shall perform QC review of all submittal items, and certify for compliance or note submittal item is a variation. Approving authorities are as follows:

"G" - Government will approve "G" submittal items.
Information Only - Contractor shall approve "Information Only" submittal items.

The Government reserves the right to perform quality assurance on an "Information Only" submittal even after it has been approved by the Contractor's Approving Authority. See paragraph INFORMATION ONLY SUBMITTALS below.

1.12.2 Procedures

The Contractor shall furnish submittals required by contract and transmit them to the Contracting Officer using ENG Form 4025 as contract transmittal form. Transmit all submittals to:

U.S. Army Corps of Engineers (Ph 954.224.4209)
Miami Resident Office (Fax 561.626.3438)
4400 PGA Blvd - Suite 203
Palm Beach Gardens, FL 33410

1.12.3 Number of Copies or Samples

Transmit 8 copies of "G" submittal items and 5 copies of "Information Only" submittals to Contracting Officer. Each transmittal of a set of submittal items shall have a coded and signed hard copy of a QCS generated ENG Form 4025 attached.

1.12.4 Identifying Submittal Items and Transmittals

QCS creates a unique number using section number and generated number (01130-X) for each submittal item. Also, QCS creates a unique number for each transmittal using section number and a number assigned by the Contractor (01330-XXXXX). The Contractor assigned numbers are not consecutive and may be an activity number from the procurement schedule. Attach a QCS generated ENG Form 4025 to each set and copy of submittal items. Identify each sample submittal item with project title, contract number, section/submittal item number, name, address and phone number of Contractor's point of contact.

1.12.5 Submittal Format

1.12.5.1 Format for Shop Drawings

Paper copies of shop drawings shall be ANSI standard sizes A, B, C or E (8.5"x11", 11"x17", 17"x22" or 34"x44" respectively). Each drawing shall have a right side margin information block similar to contract drawings with project title, contract number, contractor/supplier names, section/submittal item number, drawing title, number and date, revision

date, and approval box. Units shall be the same as those in contract drawings. Dimensions shall be to the scale shown or noted as "Not to Scale" (NTS).

1.12.5.2 Format for Construction Drawings

Construction drawings are large sized shop drawings for complex structures and systems, layout of site temporary construction (dewatering), mapping access, and land use descriptions. When required, prepare construction drawings on ANSI standard sizes C (17"x22") or E (34"x44") as directed by the contracting officer. The layout of construction drawings shall be as indicated in subparagraph "Format for Shop Drawings" above.

1.12.5.3 Format for Computer Aided Design (CAD) Drawings

CAD drawings may be transmitted on CD-ROM if approved by the Contracting Officer. The Contractor shall transmit the same number of CD-ROM disks as the number of hard copies required. Attach a copy of ENG Form 4025 on each CD-ROM disk case, and mark the contract and transmittal numbers on each CD-ROM disk. One paper copy of drawings shall be included with each set of CD-ROM disks transmitted.

1.12.5.4 Administrative Submittal Items Format

When an administrative submittal becomes part of the contract or project record, use 8.5"x11" pages for text and 11"x17" sheets for drawings. Use a table of contents with tabs for large submittal items. Use loose leaf binder or binder fastener to allow for disassembly, and addition of documents.

1.12.6 Deviations

Deviations are also known as "variations" from the contract requirements. Variations require Government approval, and will be considered when beneficial to the Government. An "Information Only" submittal item becomes a "G" submittal item requiring Government review and approval when a variation is proposed. When QCS variation block is checked, explain why the variation should be accepted in place of the specified item in "Remarks to Government". The "Remarks to Government" will populate the ENG Form 4025R "REMARKS" block. The variation will become a modification to contract requirements if it is approved by the Contracting Officer. Approved variations may require adjustments to contract price for increased (basic change document) or decreased (Government's credit) costs, and construction time. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

1.12.7 Considering Variations

Discuss proposed variations with the Contracting Officer prior to submission. Ensure function and quality requirements are met. Submit proposed variation as a Value Engineering Change Proposal (VECP) if it is likely to result in lower cost. See the clause VALUE ENGINEERING - CONSTRUCTION of Section 00700 CONTRACT CLAUSES of Volume 1. Also, go to the web site "<http://www.saj.usace.army.mil/Divisions/Construction>", and click the link "Value Engineering Program" to see the VECP checklist.

1.12.8 Proposing Variations

Use QCS Transmittal Log to identify submittal items as variations. In

"Remarks to Government", describe what the proposed variation is, how it differs from the contract, and why it is desirable and beneficial to the Government. Include estimate of cost savings if lower cost is a benefit.

1.12.9 Warranty Variations

Use the QCS transmittal log "Remarks to Government" to warrant that the variation submitted for approval will be compatible with other work if incorporated.

1.12.10 Electronic Correspondence

All correspondence and contract related documents shall be submitted in searchable Adobe Portable File format (PDF) with the only exceptions being those stated at the end of this paragraph. Any documents that require signature shall be submitted in PDF format with signature. Minimum scan quality shall be 150 dpi. The Contracting Officer will discuss electronic correspondence procedures at Preconstruction and Coordination Meetings. These procedures may include sending files by e-mail, submitting on electronic media such as compact disks, through the SAD Repliweb internet site, or other methods approved by the Contracting Officer. The Contractor shall be responsible for the cost of the electronic media. Examples of correspondence and contract related documents that must be submitted in PDF format include, but are not limited to, Contractor serial letters, notifications to Contracting Officer, requests for equitable adjustment, change requests, claims, Contract Modifications (SF 30), QC Reports, RFIs, pay requests, meeting minutes, insurance certificates, schedules, and ENG 4025 transmittal forms and supporting data. QC Reports will include all required attachments including QC Test Reports. Both a hard copy and a PDF file of the signed QC Report including required attachments shall be submitted daily. In addition, one month after the end of each month all QC Reports for the month shall be combined into one PDF and submitted. Submit copies of correspondence to other businesses, entities, or agencies such as "Notices to Mariners", permit required reports, and other contract related documents in PDF format. Include signatures if applicable for final versions of scanned contracts. All correspondence and contract related documents shall also be submitted in hard copy form, in the quantities and with the requirements listed in these documents, unless the Contractor obtains a waiver from the Contracting Officer. E-mail correspondence, payroll documentation, and shop drawings do not have to be provided in PDF format.

1.13 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

1.14 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. Five copies of the submittal will be retained by the Contracting Officer and three copies of the submittal will be returned to the Contractor.

1.15 INFORMATION ONLY SUBMITTALS

Normally submittals for information only are approved by the Contractor's

approving authority. The Government will notify the Contractor if the submittal has received an "F" action code, and the submittal will not be returned. Approval of the Contracting Officer is not required on information only submittals. Submittal items found not to comply with contract requirements will be given an "X" action code, returned to the Contractor, and shall require resubmittal by the Contractor as a "G" submittal item. The Government reserves the right to 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.

1.16 REQUEST FOR INFORMATION (RFI)

Requests for Information are not submittal items. They are time sensitive Quality Control related correspondence. See Section 01 45 05 DREDGING/BEACH FILL PLACEMENT - CONTRACTOR QUALITY CONTROL.

1.17 SUBMITTAL REGISTER

The Submittal Register is appended after the end of this section.

1.18 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following (see next page):

CONTRACTOR
(Firm Name)
_____ Approved
_____ Approved with corrections as noted on submittal data and/or attached sheets(s).
SIGNATURE: _____
TITLE: _____
DATE: _____

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

-- End of Section --

SUBMITTAL REGISTER											CONTRACT NO.						
TITLE AND LOCATION IWW Jax to Miami, 10 Foot Project, Bakers Haulover Jupiter Inlets						CONTRACTOR											
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASSIFICATION REVIEWER	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY						REMARKS
						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	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 22 00	SD-01 Preconstruction Submittals														
			Schedule of Values		G RO												
		01 30 00	SD-01 Preconstruction Submittals														
			List of Subcontractors														
			Signature Authority														
			Drug-Free Work Place Record														
		01 32 01	SD-01 Preconstruction Submittals														
			Initial Project Schedule (IPS)		G RO												
			SD-07 Certificates														
			Periodic Schedule Updates		G RO												
		01 32 10	SD-01 Preconstruction Submittals														
			QCS Schedules	1.2.1	G RO												
			Bar Chart	1.2.2	G RO												
			'S' Curve	1.2.2	G RO												
			Progress Photographs	1.4													
		01 33 00	SD-01 Preconstruction Submittals														
			Export File		G RO												
		01 35 25	SD-02 Shop Drawings														
			Dive Operations Plan		G RO												
			SD-07 Certificates														
			Dive Personnel Qualifications		G RO												
		01 35 26	SD-01 Preconstruction Submittals														
			Accident Prevention Plan (APP)	1.6	G DO												
			Activity Hazard Analysis (AHA)	1.7	G DO												
			Crane Critical Lift Plan	1.6.1	G DO												
			Naval Architectural Analysis	1.6.1	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 26	SD-06 Test Reports														
			Notifications and Reports	1.11													
			Accident Reports	1.11.1													
			Crane Reports	1.11.2													
			SD-07 Certificates														
			Confined Space Entry Permit	1.8													
			License Certificates	1.12													
			Crane Operators	1.5.2.4	G DO												
			Certificate of Compliance	1.11.3													
		01 45 05	SD-01 Preconstruction Submittals														
			Quality Control Plan		G RO												
			Personnel Qualifications		G RO												
			Letter of Authority														
		01 50 02	SD-01 Preconstruction Submittals														
			Mobilization/Demobilization Plan														
			Security Plan	3.7													
			SD-02 Shop Drawings														
			Contractor's Temporary Facilities	3.6													
			Temporary Electric Drawings														
		01 57 20.10	SD-01 Preconstruction Submittals														
			Environmental Protection Plan		G DO												
			SD-07 Certificates														
			Qualifications														
			Sea Turtle Nesting Monitor and														
			Relocation Qualifications														
			Bird Monitoring Qualifications		G DO												

SUBMITTAL REGISTER											CONTRACT NO.						
TITLE AND LOCATION IWW Jax to Miami, 10 Foot Project, Bakers Haulover Jupiter Inlets						CONTRACTOR											
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	GOVT CLASS OR S I F I C A T I O N R E V I E W E R	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY						REMARKS
						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	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 57 20.10	Manatee Observer Qualifications		G DO												
			Seagrass Monitoring		G DO												
			Qualifications														
			SD-11 Closeout Submittals														
			Logs/Final Summary Report														
			Project Environmental Summary Sheet														
			Logs/Summary of Bird Nesting Monitoring														
			Logs/Summary of Marine Turtle Nesting and Relocation														
			Logs/Summary of Seagrass Inspection of Anchor Drop Points														
		01 57 20	SD-01 Preconstruction Submittals														
			Environmental Protection Plan		G DO												
			SD-07 Certificates														
			Qualifications														
			Sea Turtle Nesting Monitor and Relocation Qualifications														
			Bird Monitoring Qualifications		G DO												
			Manatee Observer Qualifications		G DO												
			SD-11 Closeout Submittals														
			Logs/Final Summary Report														
			Project Environmental Summary Sheet														

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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	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 57 20	Logs/Summary of Bird Nesting Monitoring														
			Logs/Summary of Marine Turtle Nesting and Relocation														
			Logs/Summary of Anchor Drop Points, Pipeline Alignment and Dredge and Tug Operational Logs														
		01 57 25.10	SD-03 Product Data Calibration Standard														
			SD-06 Test Reports Turbidity Monitoring														
		01 57 25	SD-03 Product Data Calibration Standard														
			SD-06 Test Reports Turbidity Monitoring														
		02 22 13	SD-01 Preconstruction Submittals														
			Vibration Control Specialist		G DO												
			Vibration Control Specialist Alternate		G DO												
			Vibration Monitoring Technician(s)		G DO												
			Structural Inspection/Evaluation Engineer		G DO												
			Pre-Construction Structural Survey		G DO												
			Vibration Control Plan		G DO												

SUBMITTAL REGISTER											CONTRACT NO.						
TITLE AND LOCATION IWW Jax to Miami, 10 Foot Project, Bakers Haulover Jupiter Inlets						CONTRACTOR											
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	GOVT CLASSIFICATION OR REVIEW NUMBER	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY						REMARKS
						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	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		02 22 13	SD-06 Test Reports														
			Vibration Monitoring Report														
			Daily Instrument Logs														
			Post-Construction Structural		G DO												
			Survey														
		35 20 23	SD-01 Preconstruction Submittals														
			Notice of Intent to Dredge														
			Relocation of Navigation Aids														
			Construction and Grade Stakes		G RO												
			Recovery Plan														
			SD-02 Shop Drawings														
			Drag Bar														
			Screening Device		G AO												
			SD-07 Certificates														
			Calibration of Positioning														
			Equipment														
			Historical Period Shipwreck Sites	1.7													
			Surveys														
			Daily/Monthly Report of														
			Operations														
			ETS Data Submission														
			Misplaced Material														
			Declaration of Inspection														
			Stateside														
			SD-11 Closeout Submittals														

CONTRACT NO.

CONTRACTOR

[illegible]

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SECTION 01 35 25

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10/12

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 - 1.1.1 Related Section
- 1.2 REFERENCES
- 1.3 SAFETY AND HEALTH REQUIREMENTS MANUAL
- 1.4 DEFINITIONS
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 - 1.6.1 Dive Plan Reviewer
- 1.7 MEETINGS
 - 1.7.1 Phase Meetings

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- 3.2 DIVING OPERATIONS
 - 3.2.1 Dive Operations Execution

-- End of Section Table of Contents --

SECTION 01 35 25

OWNER SAFETY REQUIREMENTS - DIVING
10/12

PART 1 GENERAL

1.1 SUMMARY

Section covers job specific underwater diving requirements and dive safety.

1.1.1 Related Section

Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS.

1.2 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 Safety and Health Requirements Manual

1.3 SAFETY AND HEALTH REQUIREMENTS MANUAL

EM 385-1-1, is available at
<http://140.194.76.129/publications/eng-manuals/>. One copy will be provided to Contractor at a Preconstruction Conference (refer to Section 01 30 00 ADMINISTRATIVE PROCEDURES.

1.4 DEFINITIONS

Use definitions found in EM 385-1-1 in transmitted dive plan submittal items.

Dive Supervisor - A person with specialized training or experience in Dive safety.

1.5 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 following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Dive Operations Plan; G, RO

Refer to paragraphs DIVE PLAN, DIVING OPERATIONS, and DIVE OPERATIONS below.

SD-07 Certificates

Dive Personnel Qualifications; G, RO

Qualifications, and training certificates of dive personnel.

1.6 DIVE PLAN

Dive plan shall address all requirements of Section DIVING OPERATIONS of EM 385-1-1. See paragraph DIVE OPERATIONS below. An approved Dive Plan and Safe Practices Manual is required on all projects with work on, or over water; see paragraph DIVING OPERATIONS below.

1.6.1 Dive Plan Reviewer

Dive Plans shall be submitted by Contractor to Contracting Officer in accordance with Section 01 33 00 SUBMITTAL PROCEDURES. Dive Operations Plans are "District Office (DO)" secondary reviewed by Jacksonville District Diving Coordinator or his Alternate.

Dive Coordinator: Mr. Bruce Tappmeyer
W 904-232-3835, Fax 904-232-1590
Bruce.A.Tappmeyer@usace.army.mil

Alternate Dive Coordinator: Mr. Jim Vecchitto
W 904-232-3808, Fax 904-232-2147
James.J.Vecchitto@usace.army.mil.

When a transmittal with a Dive Plan submittal item is delivered to Resident Engineer, send a copy directly to:

Delivery Address:
U.S. Army Corps of Engineers - Jacksonville District
ATTN: CESAJ-CD-Q (Mr. Tappmeyer)
701 San Marco Blvd
Jacksonville, FL 32207-8175

Mailing Address is PO Box 4970

U.S. Army Corps of Engineers - Jacksonville District
ATTN: CESAJ-CD-Q (Mr. Tappmeyer)
PO Box 4970
Jacksonville, FL 32232-0019

1.7 MEETINGS

1.7.1 Phase Meetings

Each Dive shall be treated as a "definable feature of work" in accordance with accepted Quality Control Plan. Perform a Preparatory and Initial Phase meeting for all Dives.

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 DIVING OPERATIONS

Submit a Dive Operations Plan when work is performed on or over water. No matter if a dive is actually planned or only required as a contingency (i.e., most dredging projects) submit a Diving Operations Plan for Contracting Officer's approval. Dive Operations Plan shall cover all requirements in Section DIVING OPERATIONS of EM 385-1-1. Dive Operations Plan consists of a "Safe Practices Manual" describing Contractor's diving program and a "Dive Plan" describing site specific information of proposed dive or contingency dive. Safe Practices Manual, Dive Plan and revisions shall have cover sheets signed and dated by Contractor. When diving is subcontracted, cover sheets shall also be signed and dated by diving contractor's principal or authorized representative.

3.2.1 Dive Operations Execution

Execute dives in accordance with approved Dive Operations Plan submittal; Section DIVING OPERATIONS of EM 385-1-1. Contractor shall submit completed daily dive logs at the end of each dive day. Daily dive logs shall be faxed to District Dive Coordinator 904-232-1590 or his authorized representative. Contractor shall use COE form ENG 4615 and ENG 4616 to record daily diving activities.

-- End of Section --

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02/13

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- 1.2 DEFINITIONS
- 1.3 SUBMITTALS
- 1.4 REGULATORY REQUIREMENTS
- 1.5 SITE QUALIFICATIONS, DUTIES AND MEETINGS
 - 1.5.1 Safety Personnel Training
 - 1.5.2 Personnel Qualifications
 - 1.5.2.1 Site Safety and Health Officer (SSHO)
 - 1.5.2.1.1 Contractor Quality Control (QC) Person:
 - 1.5.2.2 Dredging Requirements
 - 1.5.2.2.1 SSHO Staffing
 - 1.5.2.2.2 SSHO Requirements
 - 1.5.2.2.3 Designated Representative (DR) Requirements
 - 1.5.2.2.4 Safety Personnel Training Requirements
 - 1.5.2.3 Qualified Person for Confined Space Entry
 - 1.5.2.4 Crane Operators
 - 1.5.3 Personnel Duties
 - 1.5.3.1 Site Safety and Health Officer (SSHO)
 - 1.5.4 Meetings
 - 1.5.4.1 Preconstruction Conference
 - 1.5.4.2 Safety Meetings
- 1.6 ACCIDENT PREVENTION PLAN (APP)
 - 1.6.1 EM 385-1-1 Contents
- 1.7 ACTIVITY HAZARD ANALYSIS (AHA)
- 1.8 DISPLAY OF SAFETY INFORMATION
- 1.9 SITE SAFETY REFERENCE MATERIALS
- 1.10 EMERGENCY MEDICAL TREATMENT
- 1.11 NOTIFICATIONS and REPORTS
 - 1.11.1 Accident Reports
 - 1.11.2 Crane Reports
 - 1.11.3 Certificate of Compliance
- 1.12 RADIATION SAFETY REQUIREMENTS
- 1.13 FACILITY OCCUPANCY CLOSURE
- 1.14 SEVERE STORM PLAN
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PART 2 PRODUCTS

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- 3.1 CONSTRUCTION AND OTHER WORK
- 3.2 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)
- 3.3 FALL HAZARD PROTECTION AND PREVENTION PROGRAM

- 3.3.1 Training
- 3.3.2 Fall Protection Equipment and Systems
 - 3.3.2.1 Personal Fall Arrest Equipment
- 3.3.3 Horizontal Lifelines
- 3.3.4 Guardrails and Safety Nets
- 3.3.5 Rescue and Evacuation Procedures
- 3.4 EQUIPMENT
 - 3.4.1 Material Handling Equipment
 - 3.4.2 Weight Handling Equipment
 - 3.4.3 Equipment and Mechanized Equipment
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- 3.6 WORK IN CONFINED SPACES

-- End of Section Table of Contents --

SECTION 01 35 26

GOVERNMENTAL SAFETY REQUIREMENTS
02/13

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 NATIONAL STANDARDS INSTITUTE (ANSI/ASSE)

ANSI/ASSE A10.32	(2004) Fall Protection
ANSI/ASSE A10.34	(2001; R 2005) Protection of the Public on or Adjacent to Construction Sites
ANSI/ASSE Z359.1	(2007) Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components

AMERICAN NATIONAL STANDARDS INSTITUTE/AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ANSI/ASME)

ANSI/ASME B30.22	(2010) Articulating Boom Cranes
ANSI/ASME B30.3	(2009) Tower Cranes
ANSI/ASME B30.5	(2007) Mobile and Locomotive Cranes
ANSI/ASME B30.8	(2010) Floating Cranes and Floating Derricks

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10	(2010; Errata 2012) Standard for Portable Fire Extinguishers
NFPA 241	(2009) Standard for Safeguarding Construction, Alteration, and Demolition Operations
NFPA 70	(2011; Errata 2 2012) National Electrical Code
NFPA 70E	(2012; Errata 1) Standard for Electrical Safety in the Workplace

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	Safety and Health Requirements Manual
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U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1910.146	Permit-required Confined Spaces
29 CFR 1915	Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
29 CFR 1926	Safety and Health Regulations for Construction
29 CFR 1926.1400	Cranes & Derricks in Construction
29 CFR 1926.500	Fall Protection
29 CFR 1926.1427	Operator Qualification and Certification, Cranes and Derricks in Construction
CPL 2.100	(1995) Application of the Permit-Required Confined Spaces (PRCS) Standards, 29 CFR 1910.146

1.2 DEFINITIONS

- a. Competent Person for Fall Protection. A person who is capable of identifying hazardous or dangerous conditions in the personal fall arrest system or any component thereof, as well as their application and use with related equipment, and has the authority to take prompt corrective measures to eliminate the hazards of falling.
- b. High Visibility Accident. Any mishap which may generate publicity or high visibility.
- c. Medical Treatment. 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 though provided by a physician or registered personnel.
- d. Operating Envelope. The area surrounding any crane. Inside this "envelope" is the crane, the operator, riggers and crane walkers, rigging gear between the hook and the load, the load and the crane's supporting structure (ground, rail, etc.).
- e. Qualified Person for Fall Protection. A person with a recognized degree or professional certificate, and with extensive knowledge, training and experience in the field of fall protection; who is capable of performing design, analysis, and evaluation of fall protection systems and equipment.
- f. Recordable Injuries or Illnesses. Any work-related injury or illness that results in:
 - (1) Death, regardless of the time between the injury and death, or the length of the illness;
 - (2) Days away from work (any time lost after day of injury/illness onset);

- (3) Restricted work;
- (4) Transfer to another job;
- (5) Medical treatment beyond first aid;
- (6) Loss of consciousness; or
- (7) A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (1) through (6) above.

- g. "USACE" property and equipment specified in USACE EM 385-1-1 should be interpreted as Government property and equipment.

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

Accident Prevention Plan (APP); G, DO

Activity Hazard Analysis (AHA); G, DO

Crane Critical Lift Plan; G, DO

Naval Architectural Analysis; G, DO

SD-06 Test Reports

Notifications and Reports

Submit reports as their incidence occurs, in accordance with the requirements of the paragraph, "Notifications and Reports."

Accident Reports

Crane Reports

SD-07 Certificates

Confined Space Entry Permit

License Certificates

Proof of qualification for Crane Operators; G, DO

Certificate of Compliance (Crane)

Submit one copy of each permit/certificate attached to each Daily Quality Control Report.

1.4 REGULATORY REQUIREMENTS

In addition to the detailed requirements included in the provisions of this contract, comply with the most recent addition of USACE EM 385-1-1, and all 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. The most recent USACE EM 385-1-1 can be viewed at http://publications.usace.army.mil/publications/eng-manuals/EM_385-1-1_languages/EM_385-1-1_English_2008/toc.html

1.5 SITE QUALIFICATIONS, DUTIES AND MEETINGS

1.5.1 Safety Personnel Training

a. The 30-hour OSHA Construction Course will not substitute nor qualify any personnel in meeting the competent or qualified person training or work requirements.

b. Additional training, experience, hands-on and practical knowledge are required to meet the competent and qualified person requirements in various work activities, fall protection, scaffolding, excavation, trenching, confined space, hazardous communications/hazardous materials, LOCKOUT/TAGOUT (LOTO), respiratory protection, hearing protection, steel erection, spills, lead abatement, asbestos, blasting, critical lifts, and additional work activities listed in the EM 385-1-1. Verification of training will be required and submitted with the Accident Prevention Plan.

1.5.2 Personnel Qualifications

1.5.2.1 Site Safety and Health Officer (SSHO)

The contractor shall provide a Safety oversight team that includes a minimum of one (1) Qualified/and or Competent Person at each project site to function as the Safety and Health Officer (SSHO). The SSHO shall be at the work site at all times, unless specified differently in the contract, to perform safety and occupational health management, surveillance, inspections, and safety enforcement for the Contractor, and their training, experience, and qualifications shall be as required by EM 385-1-1 paragraph 01.A.17 and all associated sub-paragraphs. Experience shall be as stated in EM 385-1-1 paragraph 01.A.17, item "e" for complex or high hazard projects.

A Qualified/and or Competent Person shall be provided for all of the hazards identified in the Contractor's Safety and Health Program in accordance with the accepted Accident Prevention Plan, and shall be on-site at all times when the work that presents the hazards associated with their professional expertise is being performed. The credentials of the Qualified/and or Competent Persons(s) shall be approved by the Contracting Officer in consultation with the Safety Office.

The Qualified/and or Person may be the SSHO provided the person meets all the requirements for both SSHO and Competent Person.

1.5.2.1.1 Contractor Quality Control (QC) Person:

The Contractor Quality Control Person shall not be the SSHO on this project, even though the QC has safety inspection responsibilities as part of the QC duties.

1.5.2.2 Dredging Requirements

1.5.2.2.1 SSHO Staffing

- a. Dredging contracts may include several project sites; this contract will require a minimum of one full time SSHO(s) assigned per project site. SSHO may be collateral duty in specific conditions listed below.
- b. Example of one dredging project site is reflected in each of the following:
 - (1) a mechanical dredge, tug(s) and scow(s), scow route, and material placement site; or
 - (2) a hydraulic pipeline dredge, attendant plant, and material placement site; or,
 - (3) a hopper dredge (include land-based material placement site - if applicable.)
- c. Individual dredging project sites with work force less than 8 employees, the SSHO may be a collateral duty, with the same responsibilities of a full time SSHO.
- d. Hopper dredges with USCG-Documented crews may designate an officer as a collateral-duty SSHO instead of having a full-time SSHO if the officer meets the SSHO training and experience requirements.

1.5.2.2.2 SSHO Requirements

- a. In addition to requirements stated elsewhere in this specification, the SSHO shall be present at the project site, located so 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 done. The SSHO, or Alternate SSHO, shall be available during all shifts for immediate verbal consultation and notification, either by phone or radio. The SSHO shall be a full-time, dedicated position, except as noted above. The SSHO shall report to a senior project (or corporate) officials.
- b. The SSHO shall 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.
- c. For projects with multiple shifts or when SSHO is temporarily off-site, an Alternate SSHO will be assigned to insure SSHO coverage for the project at all times work activities are conducted. The Alternate SSHO must meet the same requirements and assume the responsibilities of the project SSHO. The Alternate SSHO position may be a collateral duty.
- d. If the SSHO is off-site for a period longer than 24 hours, a qualified replacement SSHO shall be provided and shall fulfill the same roles and

responsibilities as the primary/initial SSHO.

1.5.2.2.3 Designated Representative (DR) Requirements

- a. Designated Representatives (DR) are collateral duty safety personnel, with safety duties in addition to their full-time occupation, and support and supplement the SSHO efforts in managing, implementing and enforcing the Contractor's Safety and Health Program. DRs shall be individual(s) with work oversight responsibilities, such as masters, mates, fill foremen, and superintendents. DRs should not be positions requiring continuous mechanical or equipment operations, such as equipment operators.
- b. A DR shall be appointed for all remote work locations more than 45 minutes' travel time from the SSHO's duty location, typically including dredged material placement sites, towing and scow operations, and other operations.
- c. The DRs will perform safety program tasks as designated by the SSHO and report safety findings to the SSHO/Alternate SSHO. The SSHO shall document results of safety findings and provide information for inclusion in the CQC reports to the Government Representative.

1.5.2.2.4 Safety Personnel Training Requirements

- a. The SSHO, Alternate SSHO, and Designated Representatives for dredging contracts shall take either the OSHA 30-hour Construction Safety Course or an equivalent 30 hours of formal safety and health training covering the subjects of the OSHA 30-hour Course (see EM 385-1-1 Appendix A, paragraph 4.b) applicable to dredging work and given by qualified instructors.
- b. The SSHOs shall also have taken an additional 24 hours of formal classroom or online safety and health related coursework in the past four (4) years. Hours spent as an instructor in such courses will be considered the same as attending them, but each course only gets credit once (ie. Instructing a 1-hour asbestos awareness course 5 times in the past 4 years provides one hour credit for training).
- c. The SSHO, Alternate SSHO, and Designated Representatives shall have a minimum of three years' continuous experience within the past 5 years in supervising/ managing dredging, marine or land-based construction, work managing safety programs or processes, or conducting hazard analyses and developing controls in activities or environments with similar hazards. This is in lieu of the construction experience required by paragraph 01.A.17.b, EM 385-1-1.

1.5.2.3 Qualified Person for Confined Space Entry

Provide a "Qualified Person" to supervise the entry into each confined space. That individual must meet the requirements and definition of Qualified Person as contained in EM 385-1-1.

1.5.2.4 Crane Operators

Meet the crane operators requirements in USACE EM 385-1-1, Section 16 and 29 CFR 1926.1427. In addition, for mobile cranes with Original Equipment Manufacturer (OEM) rated capacities of 50,000 pounds or greater, designate crane operators as qualified by a source that qualifies crane operators

(i.e., union, a government agency, or a nationally recognized organization that tests and qualifies crane operators).

1.5.3 Personnel Duties

1.5.3.1 Site Safety and Health Officer (SSHO)

The SSHO shall:

- a. Conduct daily 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 quality control report.
- b. Conduct mishap investigations and complete required reports. Maintain the OSHA Form 300 and Daily Production reports for prime and sub-contractors.
- c. Maintain applicable safety reference material on the job site.
- d. Attend the pre-construction conference, pre-work meetings including preparatory inspection meeting, and periodic in-progress meetings.
- e. Implement and enforce accepted APPS and AHAs.
- f. Maintain a safety and health deficiency tracking system that monitors outstanding deficiencies until resolution. Post a list of unresolved safety and health deficiencies on the safety bulletin board.
- g. Ensure sub-contractor compliance with safety and health requirements.
- h. Maintain a list of hazardous chemicals on site and their material safety data sheets.
- i. A review of all licenses, certifications and medical evaluations will be conducted every 30 days. These inspections are to be documented and maintained for record. This requirement shall be part of the Accident Prevention Plan submittal.
- j. Report any mishaps involving crane operations to the Government Designated Authority (GDA) and USACE Safety Officer immediately. All crane operations mishap information must be completed, reviewed and forwarded to the USACE Safety Officer within 4 hours of the incident.
- k. Ensure smoking or tobacco use on USACE worksite is in designated areas only.
- l. Perform daily safety meetings on all activities for the day prior to work start-up.

Failure to perform the above duties will result in dismissal of the superintendent, QC Manager, and/or SSHO, and a project work stoppage. The project work stoppage will remain in effect pending approval of a suitable replacement.

1.5.4 Meetings

1.5.4.1 Preconstruction Conference

- a. Contractor representatives who have a responsibility or significant role in accident prevention on the project shall attend the preconstruction conference. This includes the project superintendent, site safety and health officer, quality control supervisor, 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 at the conference and an agreement will be reached between the Contractor and the Contracting Officer's representative as to which phases will require an analysis. In addition, establish a schedule for the preparation, submittal, review, and acceptance of AHAs to preclude project delays.
- c. Deficiencies in the submitted APP will be brought to the attention of the Contractor at the preconstruction conference, and the Contractor shall revise the plan to correct deficiencies and re-submit it for acceptance. Do not begin work until there is an accepted APP.

1.5.4.2 Safety Meetings

Conduct and document meetings as required by EM 385-1-1. Attach minutes showing contract title, signatures of attendees and a list of topics discussed to the Contractors' daily quality control report.

1.6 ACCIDENT PREVENTION PLAN (APP)

Use a qualified person to prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of USACE EM 385-1-1 and as supplemented herein. Cover all paragraph and subparagraph elements in USACE EM 385-1-1, Appendix A, "Minimum Basic Outline for Accident Prevention Plan". Specific requirements for some of the APP elements are described below. The APP shall be job-specific and address any unusual or unique aspects of the project or activity for which it is written. The APP shall interface with the Contractor's overall safety and health program. Include any portions of the Contractor's overall safety and health program referenced in the APP in the applicable APP element and made site-specific. 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 shall be signed by the person and firm (senior person) preparing the APP, the Contractor, the on-site superintendent, the designated site safety and health officer, the Contractor Quality control Manager, and any designated CSP or CIH.

Submit the APP to the Contracting Officer 30 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP.

Once 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 will be cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified.

Once work begins, changes to the accepted APP shall be made with the knowledge and concurrence of the Contracting Officer, project superintendent, SSHO and quality control manager. 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/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 ANSI/ASSE A10.34,) and the environment.

Copies of the accepted plan will be maintained at the Contracting Officer's office and at the job site. Continuously reviewed and amended the APP, as necessary, throughout the life of the contract. Incorporate unusual or high-hazard activities not identified in the original APP as they are discovered.

1.6.1 EM 385-1-1 Contents

- a. **Confined Space Entry Plan.** Develop a confined and/or enclosed space entry plan in accordance with USACE 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.) All confined spaces shall be identified. A map or drawing and listing of the spaces shall be submitted for review with the Accident Prevention Plan (APP).
- b. **Crane Critical Lift Plan.** Prepare and sign weight handling critical lift plans for lifts over 75 percent of the capacity of the crane or hoist (or lifts over 50 percent of the capacity of a barge mounted mobile crane's hoists) at any radius of lift; lifts involving more than one crane or hoist; lifts of personnel; and lifts involving non-routine rigging or operation, sensitive equipment, or unusual safety risks. Submit 30 calendar days prior to on-site work and include the requirements of USACE EM 385-1-1, paragraph 16.H. and the following:
 - (1) For lifts of personnel, demonstrate compliance with the requirements of 29 CFR 1926.1400.
 - (2) For barge mounted mobile cranes, barge stability calculations identifying barge list and trim based on anticipated loading; and load charts based on calculated list and trim. The amount of list and trim shall be within the crane manufacturer's requirements.
 - (3) A **Naval Architectural Analysis** shall be performed to determine the allowable loads and radii for floating cranes, derricks and shipboard cranes. Refer to EM 385-1-1 Part 16.L.02

1.7 ACTIVITY HAZARD ANALYSIS (AHA)

The Activity Hazard Analysis (AHA) format shall be in accordance with USACE EM 385-1-1, Section 1. Submit the AHA for review at least 30 calendar days prior to the start of each phase. Format subsequent AHAs as amendments to the APP. The analysis should be used during daily inspections to ensure the implementation and effectiveness of the activity's safety and health controls.

The AHA list will be reviewed periodically (at least monthly) at the Contractor supervisory safety meeting and updated as necessary when procedures, scheduling, or hazards change.

Develop the activity hazard analyses using the project schedule as the basis for the activities performed. Any activities listed on the project schedule will require an AHA. The AHAs will be developed by the contractor, supplier or subcontractor and provided to the prime contractor for submittal to the Contracting Officer.

1.8 DISPLAY OF SAFETY INFORMATION

Within one calendar day after 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, shall 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.06. Additional items required to be posted include:

- a. Confined space entry permit.
- . Hot work permit.

1.9 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in the article "References." Maintain applicable equipment manufacturer's manuals.

1.10 EMERGENCY MEDICAL TREATMENT

Contractors will arrange for their own emergency medical treatment. Government has no responsibility to provide emergency medical treatment.

1.11 NOTIFICATIONS and REPORTS

1.11.1 Accident Reports

Conduct an accident investigation for recordable injuries and illnesses, for Medical Treatment defined in paragraph DEFINITIONS, property damage accidents resulting in at least \$2,000 in damages, 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 day(s) of the accident. The Contracting Officer will provide copies of any required or special forms.

1.11.2 Crane Reports

Submit crane inspection reports required in accordance with USACE EM 385-1-1, Appendix I and as specified herein with Daily Reports of Inspections.

1.11.3 Certificate of Compliance

Provide a Certificate of Compliance for each crane entering an activity under this contract). State within the certificate that the crane and rigging gear meet applicable OSHA regulations (with the Contractor citing which OSHA regulations are applicable, e.g., cranes used in construction, demolition, or maintenance comply with 29 CFR 1926 and USACE EM 385-1-1 Section 16 and Appendix I. Certify on the Certificate of Compliance that the crane operator(s) is qualified and trained in the operation of the crane to be used. Also certify that all of its crane operators working on the DOD activity have been trained in the proper use of all safety devices (e.g., anti-two block devices). Post certifications on the crane.

1.12 RADIATION SAFETY REQUIREMENTS

License Certificates for radiation materials and equipment shall be submitted to the Contracting Officer and Radiation Safety Office (RSO) for all specialized and licensed material and equipment that could cause fatal harm to construction personnel or to the construction project.

1.13 FACILITY OCCUPANCY CLOSURE

Streets, walks, and other facilities occupied and used by the Government shall not be closed or obstructed without written permission from the Contracting Officer.

1.14 SEVERE STORM PLAN

The Contractor shall submit, as part of the Accident Prevent Plan, a Severe Storm Plan, which fulfills all the requirements of Paragraph 19.A.03, USACE EM 385-1-1.

1.15 CONFINED SPACE ENTRY REQUIREMENTS.

Contractors entering and working in confined spaces while performing general industry work are required to follow the requirements of OSHA 29 CFR 1926 and comply with the requirements in Section 34 of EM 385-1-1, OSHA 29 CFR 1910, and OSHA 29 CFR 1910.146.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 CONSTRUCTION AND OTHER WORK

Comply with USACE 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 carried/available on each person.

Mandatory PPE includes:

- a. Hard Hat
- b. Steel Toe Boots
- c. Reflective Vests

3.2 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

Ensure that each employee is familiar with and complies with all areas of the LOTO program referenced in [EM 385-1-1](#), Section 12. Additionally, the Contractor must meet all OSHA requirements of [29 CFR 1910.147](#). The complete Accident Prevention Plan must include electrical, mechanical and mechanized equipment to include all construction heavy equipment, power tools, batteries, etc.

3.3 FALL HAZARD PROTECTION AND PREVENTION PROGRAM

Establish a fall protection and prevention program, for the protection of all employees exposed to fall hazards. Within the program include company policy, identify 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.

3.3.1 Training

Institute a fall protection training program by a qualified person. As part of the Fall Hazard Protection and Prevention Program, provide training for each employee who might be exposed to fall hazards. Provide training by a qualified person for fall protection in accordance with USACE [EM 385-1-1](#), Section 21.B.

3.3.2 Fall Protection Equipment and Systems

Enforce use of the fall protection equipment and systems designated for each specific work activity in the Fall Protection and Prevention Plan and/or 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. In addition to the required fall protection systems, safety skiff, personal floatation devices, life rings etc., are required when working above or next to water in accordance with USACE [EM 385-1-1](#), Paragraphs 21.N through 21.N.04. Personal fall arrest systems are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall arrest systems are required when operating other equipment such as scissor lifts if the work platform is capable of being positioned outside the wheelbase. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, or travel. Fall protection must comply with [29 CFR 1926.500](#), Subpart M, USACE [EM 385-1-1](#) and [ANSI/ASSE A10.32](#).

3.3.2.1 Personal Fall Arrest Equipment

Personal fall arrest equipment, systems, subsystems, and components shall meet [ANSI/ASSE Z359.1](#). Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest

body support device. Body belts may only be used as a positioning device system (for uses such as steel reinforcing assembly and in addition to an approved fall arrest system). Harnesses shall 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. Only locking snap hooks and carabiners shall be used. Webbing, straps, and ropes shall be made of synthetic fiber. The maximum free fall distance when using fall arrest equipment shall not exceed 6 feet. The total fall distance and any swinging of the worker (pendulum-like motion) that can occur during a fall shall always be taken into consideration when attaching a person to a fall arrest system.

3.3.3 Horizontal Lifelines

Design, install, certify and use under the supervision of a qualified person horizontal lifelines for fall protection as part of a complete fall arrest system which maintains a safety factor of 2 (29 CFR 1926.500).

3.3.4 Guardrails and Safety Nets

Design, install and use guardrails and safety nets in accordance with EM 385-1-1 and 29 CFR 1926 Subpart M.

3.3.5 Rescue and Evacuation 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; 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).

3.4 EQUIPMENT

3.4.1 Material Handling Equipment

- a. Material handling equipment such as forklifts shall not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions.
- b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions.
- c. Operators of forklifts or power industrial trucks shall be licensed in accordance with OSHA.

3.4.2 Weight Handling Equipment

- a. Equip cranes and derricks as specified in EM 385-1-1, section 16 and in accordance with 29 CFR 1926.1427.
- b. Notify the Contracting Officer 30 days in advance of any cranes entering the activity so that necessary quality assurance spot checks can be coordinated. Contractor's operator shall remain with the crane

during the spot check.

- c. Comply with the crane 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 ANSI/ASME B30.5). Perform all testing in accordance with the manufacturer's recommended procedures.
- d. Comply with ANSI/ASME B30.5 for mobile and locomotive cranes, ANSI/ASME B30.22 for articulating boom cranes, ANSI/ASME B30.3 for construction tower cranes, and ANSI/ASME B30.8 for floating cranes and floating derricks.
- e. Under no circumstance shall a Contractor make a lift at or above 90 percent of the cranes rated capacity in any configuration.
- f. When operating in the vicinity of overhead transmission lines, operators and riggers shall be alert to this special hazard and follow the requirements of USACE EM 385-1-1 Section 11 and ANSI/ASME B30.5 or ANSI/ASME B30.22 as applicable.
- g. Do not 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.
- h. Inspect, maintain, and recharge portable fire extinguishers as specified in NFPA 10, Standard for Portable Fire Extinguishers.
- i. All employees must keep clear of loads about to be lifted and of suspended loads.
- j. Use cribbing when performing lifts on outriggers.
- k. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.
- l. A physical barricade must be positioned to prevent personnel from entering the counterweight swing (tail swing) area of the crane.
- m. Certification records which include the date of inspection, signature of the person performing the inspection, and the serial number or other identifier of the crane that was inspected shall always be available for review by Contracting Officer personnel.
- n. Written reports listing the load test procedures used along with any repairs or alterations performed on the crane shall be available for review by Contracting Officer personnel.
- o. Certify that all crane operators have been trained in proper use of all safety devices (e.g. anti-two block devices).
- p. Lightning Protection/Devices are required on all WHE, Cranes, Crane Work.

3.4.3 Equipment and Mechanized Equipment

- a. Proof of qualifications for operator shall be kept on the project site for review.

- b. Manufacturers specifications or owner's manual for the equipment shall 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.

3.5 ELECTRICAL

3.5.1 Conduct of Electrical Work

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. Positive cable identification must be made prior to submitting any outage request for electrical systems. Arrangements are to be coordinated with the Contracting Officer and Station Utilities for identification. The Contracting Officer will not accept an outage request until the Contractor satisfactorily documents that the circuits have been clearly identified. 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 will be 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 will be permitted to enter. When work requires Contractor to work near energized circuits as defined by the [NFPA 70](#), high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety boots, insulating gloves with leather protective sleeves, fire retarding shirts, coveralls, face shields, and safety glasses. In addition, provide 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.

3.5.2 Portable Extension Cords

Size portable extension cords in accordance with manufacturer ratings for the tool to be powered and protected from damage. Immediately removed from service all damaged extension cords. Portable extension cords shall meet the requirements of [EM 385-1-1](#), [NFPA 70E](#), and OSHA electrical standards.

3.6 WORK IN CONFINED SPACES

Comply with the requirements in Section 34 of USACE [EM 385-1-1](#), OSHA [29 CFR 1910](#), OSHA [29 CFR 1910.146](#), OSHA Directive [CPL 2.100](#) and OSHA [29 CFR 1926](#). Any potential for a hazard in the confined space requires a permit system to be used.

- a. 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. (See Section 34 of USACE [EM 385-1-1](#) for entry procedures.) All hazards pertaining to the space

shall be reviewed with each employee during review of the AHA.

- b. 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.
- c. Sewer wet wells require continuous atmosphere monitoring with audible alarm for toxic gas detection.

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SECTION 01 45 05

DREDGING/BEACH FILL PLACEMENT - CONTRACTOR QUALITY CONTROL
11/08

PART 1 GENERAL

1.1 QUALITY CONTROL SYSTEM (QCS)

Contractor shall use Government-furnished "Quality Control System (QCS)" software. There is no separate payment for using QCS. Include all costs in pricing work. Download Quality Control System software, user manual, and updates from web site <http://www.rmssupport.com>. Software and hardware requirements and download instructions are indicated in the QCS Manual on this web site. Upon download, provide "QCS Site ID" number to Contracting Officer (Area Office RMS Administrator). QCS is used to share information with the Government in the following areas:

- Administration
- Quality Control
- Import/Export of Data

QCS/RMS data file imports and exports are how all payments, schedule changes, transmittal tracking, submittal review, quality control reporting, requests for information (RFI) and punch list items are processed.

1.1.1 QCS Forms and Signatures

QCS generates electronic forms and reports. For ease and speed of communications, both Government and Contractor will, exchange these documents in electronic format. Provide signed and dated paper copies of transmittals, pay requests and other contract records when directed. Signed paper documents will govern, when there is a conflict with electronic version.

1.1.2 QCS Software

QCS is Windows-based application that can be run stand-alone or be networked. At Notice Of Award, download QCS software from website. See download tutorial at <http://www.rmssupport.com>. Download QCS updates when notified. Download "power user" default user name is "SYSDBA" and password is "masterkey".

1.1.3 Help Support

Contractor should contact following help phone numbers for assistance.

Step 1 - Call your Area Office RMS Administrator:

Area Office RMS Administrators:

- North Florida - 904-232-3818
- Gulf Coast - 813-840-0824
- South Florida - 561-472-3533
- San Juan - 787-707-6165 x3008

Step 2 - Call RMS Help Desk 760-247-0217

1.1.1.4 Contract Database

Prior to pre-construction conference, Contracting Officer will provide Contractor with an initial RMS export file RMS_K3_____QCS.rxf. This will appear as "full export" file for Contractor to "add" and create a QCS contract file. Contracting Officer will provide "QA Data" export updates to Contractor on a regular basis. In order to correctly link QCS data and schedule Contractor must first build "Features" and "Subcontractor" and then use these to link Pay Activities. Within 14 days after receiving the initial RMS export, fill in data for Administrations; Prime Contractor, Subcontractors, Pay Activities, Activity Schedule, Features Schedule, and export it to Contracting Officer.

1.1.1.4.1 Schedule Standard Data Exchange

Currently only Primavera P3 Project Planner allows direct import of computer schedules into QCS. Primavera will provide a utility called P3SDEF that will convert a P3 file export SDEF.txt file. An SDEF.txt file directly imports P3 schedule into QCS. Required Primavera P3 Activity Code Structure is as follows:

Field #	Code	Length	Field Description
1	WRKP	3	Workers per day
2	RESP	4	Responsibility
3	AREA	4	Area
4	MODF	6	Modification or Claim #
5	BIDI	6	Bid Item
6	PHAS	2	Phase
7	CATW	1	Catagory of Work
8	FOW1	10	Feature of Work (Segment 1)
9	FOW2	10	Feature of Work (Segment 2)
10	FOW3	10	Feature of Work (Segment 3)

1.1.1.5 Database Maintenance

Establish, maintain, and update contract data for duration of contract. Update QCS database each workday. Ensure sufficient resources are available to maintain QCS database, and to provide regular database updates. QCS shall be an integral part of the Contractor's management of quality control. At least monthly, generate and submit an export file to Government with schedule update and progress payment request.

1.2 DEFINITIONS

1.2.1 Project Manager/Superintendent

Highest level manager located onsite and responsible for dredging, disposal, and related activities, including but not limited to the following, production, quality control, safety, turbidity monitoring, endangered species monitoring and environmental protection.

1.2.2 Quality Control System Manager

A person assigned duties to manage Contractor's Quality Control (CQC) system. CQC System Manager shall have written delegated authority sufficient to stop work not in compliance with contract.

1.2.3 Safety Officer

Person assigned responsibility for site safety management.

1.2.4 Endangered Species Monitor

Person assigned for identifying regulatory protected wildlife and advising Contractor in modifying operations to protect identified species or damage to their habitat. Required to have acceptable qualifications and demonstrated ability. Refer to Section 01 57 20 ENVIRONMENTAL PROTECTION.

1.3 REFERENCES

The publication(s) listed below form(s) a part of this specification to the extent referenced. The publication(s) are referred to in the text by basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

ER 1180-1-6 (1995) Construction Quality Management

Corps of Engineers publication(s) Internet location site is:
<http://www.usace.army.mil/inet/usace-docs/>.

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. Submittals shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Quality Control Plan; G|RO

Refer to paragraph QUALITY CONTROL PLAN below.

Personnel Qualifications; G|RO

Submit personnel qualifications for Project Manager/Superintendent, CQC System Manager, Safety Officer, Endangered Species Monitor, in resume form.

Letter of Authority

Letter to CQC System Manager signed by an authorized Contractor official which describes responsibilities and delegates sufficient authorities to perform functions of the CQC System Manager, including authority to stop work not in compliance with contract.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 GENERAL

The Contractor is responsible to plan and execute quality control in accordance with ER 1180-1-6 and establish and maintain an effective quality

control system in compliance with the Clause INSPECTION OF CONSTRUCTION of Section 00700 CONTRACT CLAUSES in Volume 1. The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. Project Manager/Superintendent is responsible for quality of work and is subject to removal by the Contracting Officer for non-compliance with contract quality requirements. The Project Manager/Superintendent shall be on site at all times, except as otherwise approved by the Contracting Officer.

3.2 QUALITY CONTROL PLAN

3.2.1 General

Within 20 calendar days of Notice of Award, submit a written CQC Plan for review by Contracting Officer. CQC Plan submittal will be reviewed by Contracting Officer and discussed in detail at a Coordination Meeting (see paragraph COORDINATION MEETING below). CQC Plan shall identify organization chart, personnel, procedures, control methods, instructions, tests, records, and forms to be used. Contracting Officer may accept an "interim CQC Plan" under a "conditional acceptance" for first 30 calendar days of operation. Contractor shall furnish, not later than 30 calendar days after commencement of work, an acceptable overall CQC Plan.

3.2.1.1 CQC Plan Resubmittal

No construction will be allowed to start until an "interim CQC Plan" is "conditionally accepted". When an "interim CQC Plan" is "conditionally accepted", revise and resubmit overall project CQC Plan for Contracting Officer's acceptance. When Contractor is working under an "interim CQC Plan", until Contractor submits an acceptable final CQC Plan, Contracting Officer may retain funds from progress payments in accordance with Clause PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS of Section 00700 CONTRACT CLAUSES in Volume 1. When no acceptable CQC Plan is resubmitted within a reasonable time, as determined by Contracting Officer, Contracting Officer may order Contractor to stop work until such time as a CQC Plan is accepted. Such a directed stop work order shall not be considered a suspension of work under Clause SUSPENSION OF WORK of Section 00700 CONTRACT CLAUSES in Volume 1. No pay or construction period adjustments will be allowed as a result of a directed stop work order based on Contractor inability to plan quality control in a manner acceptable to Contracting Officer.

3.2.1.2 Failure

Failure to comply with above requirements within time prescribed will be considered a condition endangering contract performance and may be considered grounds for termination of contract in accordance with Clause DEFAULT (FIXED-PRICE CONSTRUCTION) of Section 00700 CONTRACT CLAUSES in Volume 1.

3.2.2 Content of the CQC Plan

a. Describe Quality Control Organization: Include an organization chart with lines of authority and reporting. Project Manager/Superintendent may not have dual roles as CQC System Manager or Safety Officer. See Section 01 57 20 ENVIRONMENTAL PROTECTION for Endangered Species Monitor qualifications.

b. Definable Features of Work: Provide a list to be agreed upon

during the Coordination Meeting.

c. Qualifications: Names, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function. If included, see paragraph LIMITATIONS ON SUBSTITUTIONS FOR CERTAIN POSITIONS AND/OR SUBCONTRACTORS of Section 00800 SPECIAL REQUIREMENTS in Volume 1.

d. Letter of Authority: Copy of letter of authority to CQC System Manager. The CQC System Manager shall issue letters of direction to other quality control staff describing duties, authorities, and responsibilities.

e. Submittal Control: Procedures for scheduling, reviewing, certifying, and managing submittals. These procedures shall be in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.

f. Testing: Control, verification, turbidity monitoring, and field testing procedures. Provide a list of specific instruments and tests. Provide information including work being tested, test frequency, and identify who (Contractor, Subcontractor) is responsible for each test. (COE certified laboratory facilities will be approved by the Contracting Officer.)

g. Three Phase Control: Procedures to implement three phase quality control and inspection system. Procedures to plan and document preparatory, initial, and follow-up control phases.

h. Deficiency Tracking: Procedures for tracking construction deficiencies from identification through acceptable corrective action. Establish procedures to verify that deficiencies have been corrected and document correction.

i. Reports and Forms: Reporting procedures, including proposed reporting formats and sample forms.

3.2.3 Acceptance of Plan

"Conditional acceptance" of the Contractor's interim CQC Plan is required prior to starting dredging or other construction activities. Contracting Officer's acceptance is conditional and is contingent on satisfactory performance during construction. The Contracting Officer reserves the right to require the Contractor to make changes in his CQC Plan and construction operations, including removal of personnel.

3.2.4 Notification of Changes

Notify Contracting Officer in writing a minimum of 30 calendar days prior to proposed personnel or CQC Plan procedure changes. Proposed changes are subject to Contracting Officer acceptance.

3.3 COORDINATION MEETING

Refer to Section 01 30 00 ADMINISTRATIVE PROCEDURES. Contracting Officer will schedule a Coordination Meeting where Contractor personnel and Contracting Officer personnel will develop a mutual understanding of how Contractor's Quality Control works with Contracting Officer's Quality Assurance. CQC Plan will be discussed in detail, including forms for recording CQC operations, control activities, testing, and administration

of the system for both onsite and offsite work. Contractor quality control for production, measurement and payment, safety, turbidity monitoring, plant and equipment location, monitoring, endangered species monitoring, environmental protection and supervision by Quality Control personnel will be discussed. Meeting minutes will be prepared by Contracting Officer and signed by Contractor and Contracting Officer. The minutes become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures requiring corrective action.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 General

CQC organization shall have a CQC System Manager and sufficient number of additional qualified personnel to ensure contract quality control for workmanship and materials, including safety and environmental protection compliance. Designate Safety Officer and qualified Endangered Species Monitor who shall serve as a member of CQC staff. Provide office space, computer hardware and software, filing systems and other resources as necessary to maintain an effective CQC organization. CQC organization shall be responsible to maintain documentation and records onsite, unless approved by the Contracting Officer.

3.4.2 CQC System Manager

Identify an individual, employed by Contractor, within onsite organization who shall be responsible for CQC management. CQC System Manager shall have authority to act in all CQC matters for the Contractor. CQC System Manager shall be an experienced dredging or construction person with a minimum of 3 years in similar work. Identify an alternate person to serve as CQC System Manager during actual CQC System Manager's absences. Designated alternate shall be a construction person with a minimum three years experience on similar projects and shall meet CQM-C Training requirement below. CQC System Manager or a designated alternate shall be onsite during construction. CQC System Manager shall have no other duties.

3.4.3 CQM-C Training Requirement

CQC System Manager shall have completed U.S. Army Corps of Engineers (COE) course "Construction Quality Management For Contractors" within the previous five years. A completion certificate from any Corps District or Naval Facilities Command is acceptable. In event proposed CQC System Manager has not completed CQM-C training, he or she will have 60 days after Notice of Award to do so. This course is periodically offered by Jacksonville District. Information regarding CQM-C course can be obtained from the following web site:
<http://www.saj.usace.army.mil/Divisions/Construction> or by contacting Chief, Quality Assurance Section at 904-232-1128.

3.4.4 Organizational Changes

When CQC staff changes are needed, revise CQC Organization Chart in CQC Plan to reflect changes and submit the changes to Contracting Officer for acceptance.

3.5 SUBMITTALS AND DELIVERABLES

Submittals shall be prepared and transmitted as specified in Section

01 33 00 SUBMITTAL PROCEDURES. CQC organization shall certify submittals comply with contract requirements. Items delivered to Contracting Officer shall be controlled, packaged, transported and stored in a manner to prevent damage or loss.

3.6 CONTROL

Contractor's Quality Control is the means by which Contractor ensures construction, including that of subcontractors, complies with contract. Conduct Preparatory Phase and Initial Phase meetings for each definable feature of work (refer to Section 01 30 00 ADMINISTRATIVE PROCEDURES). Perform three phases of control for each definable feature of work as follows:

3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work. Notify Contracting Officer at least 24 hours in advance of beginning Preparatory Control Phase. Ensure proposed plans, activity hazard analyses, permits and submittals, are approved and copies are onsite. Conduct a Preparatory Phase meeting headed by CQC System Manager and attended by Superintendent, other CQC personnel, and foreman responsible for supervising workmanship for definable feature of work. Document Preparatory Phase actions using "Preparatory Phase Checklist" and meeting minutes prepared by CQC System Manager. Preparatory Phase checklist is in the QCS software. Attach checklist and minutes to Contractor's Quality Control (CQC) report. Preparatory Phase actions include:

- a. Review each paragraph of specifications. Make copies available for use by Contracting Officers personnel and Contractor CQC staff at Preparatory Phase meeting. Maintain copies available until final acceptance of the work.
- b. Review of contract drawings.
- c. Check to assure that plant and/or equipment have been inspected, tested, submitted, and approved.
- d. Review provisions that have been made to provide required quality control inspection and testing.
- e. Examine work area to assure required preliminary work is complete and in compliance with contract.
- f. Review of activity hazard analysis to assure safety requirements are met.
- g. Discuss procedures for controlling quality of work. Document construction tolerances and workmanship standards for that feature of work.
- h. Check to ensure that portion of CQC Plan for new work to be performed has been accepted by Contracting Officer.
- i. Check that previous work or acceptance sections required to start new work have been completed.
- j. Review requirements under permits, environmental protection and

protection of environmental species.

k. Discuss initial control phase (workmanship).

3.6.2 Initial Phase

Notify Contracting Officer at least 24 hours in advance of beginning the Initial Phase. Initial Phase is workmanship oriented and shall be accomplished at beginning physical work on each acceptance section. Following shall be accomplished:

a. Check preliminary work to ensure that it complies with contract. Review minutes of preparatory meeting.

b. Verify adequacy of turbidity monitoring, survey control to ensure contract compliance. Verify required inspection and testing.

c. Establish level of workmanship and verify that it meets minimum acceptable contract workmanship standards and review allowable tolerances.

d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review activity analysis with each worker.

f. Initial phase shall be repeated for new crews working onsite and when contract workmanship quality standards are not being met.

3.6.3 Follow-up Phase

Follow-up Phase consists of daily checks performed to quality control activities, including survey and testing, to provide continuous compliance with contract requirements. Record inspection and checking results in CQC documentation. Record both quality control activities, plant and equipment performance on Report of Operations. Report of Operations forms are in the QCS software. Complete follow-up checks and inspections and correct deficiencies prior to starting acceptance sections which may be affected by deficient work.

3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on same definable features of work when: quality of on-going work is unacceptable; there are changes in applicable CQC staff, production supervision, or work crews; work on a definable feature is resumed after a period of inactivity; or, when other problems develop.

3.7 TESTS/TESTING PROCEDURE

Perform specified tests and required monitoring instrumentation or tests to verify control measures are adequate and provide an end product conforming to contract. When requested, Contractor shall furnish Contracting Officer duplicate samples of test specimens for possible testing by Contracting Officer. The Contractor shall perform following activities and record and provide the following data:

a. Verify that testing standard or procedures comply with contract

requirements.

b. Verify that facilities, instruments, and testing equipment are available and comply with testing standards.

c. Check test instrument calibration data against certified standards.

d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.

e. Results of tests and monitoring instruments, both passing and failing, shall be recorded and reported for date taken. If approved by Contracting Officer, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an offsite or commercial test facility shall be provided directly to the Contracting Officer. Failure to submit timely test reports or maintain adequate monitoring testing may result in nonpayment for related work performed.

3.8 COMPLETION INSPECTION

3.8.1 Post-Construction Measurement and Inspection

Near end of work on each acceptance section notify Contracting Officer to conduct post-construction survey and inspection to ensure contract conformance. Submit certified survey data and correct contract drawings to show as-built information. Contractor shall spot check grading for berm for beach placement and confirm beach fill is within allowable tolerances. Notify Contracting Officer to schedule a joint inspection of each acceptance section once deficiencies have been corrected.

3.8.2 Pre-Final Inspection

Near completion of project Contracting Officer and Contractor will conduct a Pre-Final Inspection. In addition to completion of quantity survey, Contracting Officer will inspect for demobilization of temporary facilities and cleanup of staging areas used to ensure contract conformance. Contractor and Contracting Officer will inspect for final grading, tilling, and removal of escarpments. Contracting Officer will perform Pre-Final Inspection to verify work is complete and ready for Owner acceptance. Contracting Officer Pre-Final Inspection may result in additional work such as beach tilling to be done. Contractor's CQC System Manager shall ensure items are corrected before notifying Contracting Officer so that a Final Inspection with the Customer can be scheduled. Any items noted on Pre-Final Inspection shall be corrected in a timely manner. Pre-Final Inspection and deficiency corrections shall be accomplished within project completion period.

3.8.3 Final Inspection

Final Inspection will be scheduled by Contracting Officer based upon results of Pre-Final Inspection. Notify Contracting Officer when ready for Final Inspection and Contracting Officer will schedule a Final Inspection with Owner or Sponsor to be performed within 14 working days. Provide assurance that work will be complete and acceptable by scheduled Final Inspection date. Contracting Officer will notify Owner or Sponsor to attend a Final Inspection. Contractor, Project Manager/Superintendent, and

CQC System Manager shall attend the Final Inspection. In addition to Contracting Officer and Owner or Sponsor, persons from local government or other agencies may attend. Contractor's failure to have contract work completed for this inspection will be cause for Contracting Officer to bill the Contractor for Contracting Officer's additional inspection cost in accordance with the Clause INSPECTION OF CONSTRUCTION of Section 00700 CONTRACT CLAUSES in Volume 1.

3.9 DOCUMENTATION

Maintain current records as required in Sections 01 57 20 ENVIRONMENTAL PROTECTION, 01 57 25 TURBIDITY AND DISPOSAL MONITORING, and 35 20 23 DREDGING. Document quality control activities and tests have been performed using Daily Report of Dredge Operations and Daily Quality Control Reports.

3.10 NOTIFICATION OF COMPLIANCE

Upon Contracting Officer's notification to Contractor of noncompliance with contract requirements, Contractor shall take immediate corrective action. Contractor personnel notified at work site is sufficient purpose of Contractor notification. If Contractor fails to comply within 1 calendar day, Contracting Officer may issue an order stopping all or part of work until satisfactory corrective action has been taken. Such stop orders shall not be made basis of Contractor claim for time extension or other damages to Contractor.

3.11 SAMPLE FORMS

The Contracting Officer's Representative will instruct the Contractor in the preparation of these forms during the Preconstruction Conference as specified in Section 01 30 00 ADMINISTRATIVE PROCEDURES. See paragraph QUALITY CONTROL SYSTEM (QCS) above for construction forms to be completed in the QCS program.

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SECTION 01 50 02

TEMPORARY CONSTRUCTION FACILITIES

11/08

PART 1 GENERAL

1.1 SUMMARY

In addition to Construction Facilities this Section covers:

Temporary Utilities
Construction Aids
Vehicular Access and Parking
Project Identification

See Section 01 57 20 ENVIRONMENTAL PROTECTION for requirements including silt control, trailer placement, fueling restrictions, dust control, solid waste, and cleanup. Upon completion of project, clean up and restore area in accordance with Clause CLEANING UP of Section 00700 CONTRACT CLAUSES in Volume 1.

a. Construction Facilities include, but are not limited to, the following:

- (1) Contractor Offices
- (2) Information Bulletin Board
- (3) Material and Equipment Storage Area
- (4) Fueling Area
- (5) Secured Storage Area
- (6) Employee Parking Area
- (7) Debris Container (dumpster)
- (8) Construction Signage to include Project Sign; Safety Sign; and, Construction Warning Signs

b. Temporary Utilities include, but are not limited to, the following:

- (1) Water
- (2) Electric
- (3) Sewage
- (4) Communications
- (5) Lighting

1.2 REFERENCES

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

FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT)

FDOT

(2008) Standard Specifications for Road
and Bridge Construction

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE C2 (2002) National Electrical Safety Code
(ANSI/IEEE)

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70 (2005) National Electrical Code

U.S. ARMY CORPS OF ENGINEERS (USACE)

CESAJR 385-1-1 (1998) Safety and Occupational Health
Program

EM 385-1-1 (2008) U.S. Army Corps of Engineers Safety
and Health Requirements Manual

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. Within 30 days following date of receipt of Notice to Proceed and prior to mobilization to site submit following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Mobilization/Demobilization Plan

Plan shall include, but not be limited to, the following:

a. Mobilization Requirements:

- (1) Methods, equipment and materials
- (2) Connection of utilities
- (3) Placement of site facilities and temporary controls
- (4) Construction of facilities

b. Demobilization Requirements (methods, equipment and materials required to clean-up and restore site at project conclusion):

- (1) Collection, recycle and disposal of solid waste
- (2) Contract-generated material
- (3) Utility disconnection
- (4) Removal of Contractor facilities
- (5) Repair and restoration of site (i.e., fences, roads, or permanent facilities)

Security Plan

Prepare a Security Plan for Contracting Officer describing site security as follows:

- a. Day and night security
- b. Weekend and holiday security
- c. General security duties

SD-02 Shop Drawings

Contractor's Temporary Facilities

General layout sketch of temporary site facilities shall include, but not be limited to, the following:

- a. Trailer locations
- b. Parking areas
- c. Material storage
- d. Equipment lay down area
- e. Areas for gravel
- f. Fuel areas
- g. Supplemental or other staging area
- h. Temporary well, water supply
- i. Septic field or holding tanks, port-a-lets
- j. Contaminated water handling
- k. Concrete cleaning area and methods of disposal
- l. Fences -- location and dimensions, entrance and exit points, and details of installation
- m. Explosives storage

Temporary Electric Drawings

Electricity supply and lighting - from existing or mobile generator source sketch layout locations, fixtures, and materials, to include outdoor lighting as described in subparagraph "Electric Power" below.

1.4 EXISTING UTILITIES

Contractor is responsible for electricity from transformer and locating the nearest telephone line. There is no potable water, sanitary sewer, or natural gas available at the site. Contractor is responsible for furnishing at the project site.

1.4.1 Water

In addition to the above, the Contractor shall provide and maintain at his own expense an adequate supply of water for his use for construction, and to install and maintain necessary supply connections and piping for same, but only at such locations and in such manner as may be approved by the Contracting Officer. The Contractor shall also provide and maintain his own temporary toilet and washing facilities. Toilet and washing facilities shall be installed and maintained in a location approved by the Contracting Officer. Refer to paragraph AVAILABILITY AND USE OF UTILITY SERVICES below.

1.4.2 Electricity

In addition to the above, all electric current required by the Contractor shall be furnished at his own expense. All temporary lines will be furnished, installed, connected, and maintained by the Contractor in a workmanlike manner satisfactory to the Contracting Officer and shall be removed by the Contractor in like manner at his expense prior to completion of the construction. Refer to paragraph AVAILABILITY AND USE OF UTILITY SERVICES below.

1.5 BRIDGE-TO-BRIDGE COMMUNICATION

In order that radio communication may be made with passing vessels, all

dredges/marine equipment engaged in work under this contract shall be equipped with bridge-to-bridge radio telephone equipment. The radio equipment shall operate on a single channel very high frequency (VHF), FM, on a frequency of 156.55 MC per second with low power output having a communication range of approximately ten miles. The frequency has been approved by the Federal Communications Commission. Channels #13 and #16 must be monitored at all times.

PART 2 PRODUCTS

2.1 CONSTRUCTION PROJECT SIGNS

Refer to paragraph BULLETIN BOARD, PROJECT SIGN, AND PROJECT SAFETY SIGN below and the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below.

2.1.1 Haul Road Traffic and Construction Warning Signs

1/2 inch HDO plywood, or aluminum sheet, conforming to **FDOT** Section 700 Uniform Traffic Manual Standard Signs, non-standard signage high visibility orange with black lettering. Orange fabric mesh acceptable for temporary survey crew use.

2.2 STORAGE CONTAINERS

Welded steel construction, locking, shipping containers or equal.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

3.1.1 Identification of Employees

The Contractor shall be responsible for furnishing to each employee, and for requiring each employee engaged on the work to display, identification as approved and directed by the Contracting officer. Prescribed identification shall immediately be delivered to the Contracting Officer for cancellation upon release of any employee. When required, the Contractor shall obtain and provide fingerprints of persons employed on the project. Contractor and subcontractor personnel shall wear identifying markings on hard hats clearly identifying the company for whom the employee works.

3.1.2 Employee Parking

a. Park employee's vehicles in areas designated by Contractor, away from construction traffic, within reasonable walking distance of site. Maintain area free of ruts, mud holes and puddles. Place gravel where required by deteriorated conditions.

b. Contractor should protect unattended equipment as it may be subject to vandalism.

c. Storage trailers and storage area with Government material should be locking type with lighting.

3.1.3 Onsite Information

Keep copy of contract drawings, specifications, and other contract

documents at Contractor's Office onsite, available for use at all times.

3.1.4 Janitorial Services

- a. Daily -- Sweep; empty wastebaskets; service toilets
- b. Weekly -- Mop floors; sanitize toilet seats
- c. Monthly -- Wash floors, windows (inside and out)
- d. Cut grass as needed to keep below 3 inches high

3.2 AVAILABILITY AND USE OF UTILITY SERVICES

Install temporary facilities and utilities in accordance with [IEEE C2](#), [CESAJR 385-1-1](#), [EM 385-1-1](#), [NFPA 70](#). Obtain necessary construction, building, zoning, or soil erosion and sediment control approvals required by local authorities and utility companies. Equip trailer(s) with wind tie downs in accordance with local wind and building code requirements.

3.2.1 Lighting

Electric light, non-glare type luminaries to provide a minimum illumination, level of 30-foot candles at desk height level. Comply with temporary lighting, wiring and Ground Fault Circuit Interrupter (GFCI) requirements found in [EM 385-1-1](#).

3.2.2 Heating and Cooling

Adequate equipment to maintain internal ambient air temperature of 75 degrees F in 105 degrees F and 70 degrees F in 30 degrees F. Equip trailer(s) with smoke alarms. If bottled gas is used to heat, equip trailer(s) with carbon monoxide alarms.

3.2.3 Water

Non-potable well water may be used to flush toilets, dish and hand washing. Provide bulk potable water storage tanks or provide bottled water for drinking.

3.2.4 Fire Extinguisher

Refer to [EM 385-1-1](#). Non-toxic, dry chemical, fire extinguisher meeting Underwriters Laboratories, Inc., approval for Class A, Class B, and Class C fires with a minimum rating of 2A; 10B; and 10C.

3.2.5 Utility Lines

Install, connect and modify temporary lines as coordinated with owning utility. Conform requirements in accordance with [IEEE C2](#) and [NFPA 70](#) for Temporary Electric Lines. Remove temporary line at completion of project.

3.2.6 Electric Power

Provide electrical service and transformers sufficient to operate heating/air conditioning units. Electrical power shall be purchased directly by Contractor.

3.3 BULLETIN BOARD, PROJECT SIGN, AND PROJECT SAFETY SIGN

3.3.1 Bulletin Board

Immediately upon beginning of work, the Contractor shall provide a weatherproof glass-covered bulletin board not less than 36 by 48 inches in size for displaying the Equal Employment Opportunity poster, a copy of the wage decision contained in the contract, Wage Rate Information poster, and other information approved by the Contracting Officer. The bulletin board shall be located at the project site in a conspicuous place easily accessible to all employees, as approved by the Contracting Officer. Legible copies of the aforementioned data shall be displayed until work is completed. Upon completion of work the bulletin board shall be removed by and remain the property of the Contractor.

3.3.2 Project and Safety Signs

The requirements for the signs, their content, and location shall be as indicated on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. The signs shall be erected within 15 days after receipt of the Notice to Proceed. The data required by the safety sign shall be corrected daily, with light colored metallic or non-metallic numerals. The Safety Scoreboard sign shall be used on board the dredge in lieu of the safety performance sign. Upon completion of the project, the signs shall be removed from the site.

3.4 PROTECTION AND MAINTENANCE OF TRAFFIC

During construction the Contractor shall provide access and temporary relocated roads as necessary to maintain traffic. The Contractor shall maintain and protect traffic on all affected roads during the construction period except as otherwise specifically directed by the Contracting Officer. Measures for the protection and diversion of traffic, including the provision of watchmen and flagmen, erection of barricades, placing of lights around and in front of equipment and the work, and the erection and maintenance of adequate warning, danger, and direction signs, shall be as required by the State and local authorities having jurisdiction. The traveling public shall be protected from damage to person and property. The Contractor's traffic on roads selected for hauling material to and from the site shall interfere as little as possible with public traffic. The Contractor shall investigate the adequacy of existing roads and the allowable load limit on these roads. The Contractor shall be responsible for the repair of any damage to roads caused by construction operations.

3.4.1 Barricades

The Contractor shall erect and maintain temporary barricades to limit public access to hazardous areas. Such barricades shall be required whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic. Barricades shall be securely placed, clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

3.5 HAUL AND ACCESS ROADS

The Contractor shall, at its own expense, construct access and haul roads necessary for proper prosecution of the work under this contract. Haul roads shall be constructed with suitable grades and widths; sharp curves,

blind corners, and dangerous cross traffic shall be avoided. The Contractor shall provide necessary lighting, signs, barricades, and distinctive markings for the safe movement of traffic. The method of dust control, although optional, shall be adequate to ensure safe operation at all times. Location, grade, width, and alignment of construction and hauling roads shall be subject to approval by the Contracting Officer. Lighting shall be adequate to assure full and clear visibility for full width of haul road and work areas during any night work operations. Upon completion of the work and as directed by the Contracting Officer, remove and dispose of portions of any contractor constructed access and haul roads. The Contracting Officer will require removal of road segments which, in his determination, impede proper function or maintenance of the permanent project features; adversely impact local stormwater drainage; or adversely impact environmentally sensitive areas. The access and haul road portions removed shall be graded to approximately match the original ground contours.

Whenever practical, one-way haul roads shall be used on this contract. Haul roads built and maintained for this work shall comply with the following:

a. One-way haul roads for off-the-road equipment; e.g., belly dumps, scrapers, and off-the-road trucks shall have a minimum usable width of 25 ft. One-way haul roads for over-the-road haulage equipment only (e.g., dump trucks, etc.) may be reduced to a usable width of 15 feet. When the Contracting Officer determines that it is impractical to obtain the required width for one-way haul roads (e.g., a road on top of a levee), a usable width of not less than 10 feet may be approved by the Contracting Officer, provided a positive means of traffic control is implemented. Such positive means shall be signs, signals, and/or signalman and an effective means of speed control.

b. Two-way haul roads for off-the-road haulage equipment shall have a usable width of 60 feet. Two-way haul roads for over-the-road haulage equipment only may be reduced to a usable width of 30 feet.

c. Haul roads shall be upgraded and otherwise maintained to keep the surface free from potholes, ruts, and similar conditions that could result in unsafe operation.

d. Grades and curves shall allow a minimum sight distance of 200 feet for one-way roads and 300 feet for two-way roads. Sight distance is defined as the centerline distance an equipment operator (4.5 feet above the road surface) can see an object 4.5 feet above the road surface. When conditions make it impractical to obtain the required sight distance (e.g., ramps over levees), a positive means of traffic control, indicated above, shall be implemented.

e. Dust abatement shall permit observation of objects on the roadway at a minimum distance of 300 feet.

f. Haul roads shall have the edges of the usable portion marked with posts at intervals of 50 feet on curves and 200 feet maximum elsewhere. Such markers shall extend 6 feet above the road surface, and for nighttime haulage, be provided with reflectors in both directions.

3.6 CONTRACTOR'S TEMPORARY FACILITIES

The Contractor is responsible for obtaining a suitable location for field offices, staging areas, stockpile storage, and temporary buildings which are subject to approval by the Contracting Officer and in accordance with Section 01 57 20 ENVIRONMENTAL PROTECTION. Temporary movement or relocation of Contractor facilities shall be made when approved by the Contracting Officer.

3.6.1 Contractor Field Office

Provide field office of sufficient size and staff capability to manage project activities. Provide communications and computer capabilities to manage the work, including implementing QCS, facsimile, electronic mail, reproduction, to track schedule and cost. Contractor's field office should include a conference area with table and chairs to accommodate a minimum of 8 people. Provide handicap access with a 1 on 12 ramp and gravel parking spot marked with handicap parking sign.

3.6.2 Appearance of Trailer(s)

Trailer(s), used for both office and material storage purposes, shall be clean, neat exterior appearance and in good repair. Trailer(s) requiring exterior painting or maintenance will not be allowed on site until determined satisfactory by Contracting Officer.

3.6.3 Storage Area

Provide temporary six-foot high chain link fence for storage containers, trailers or sheds containing Government property. Fence posts may be driven. Ground chain link fence against lightning. Store Contracting Officer's property, owned materials and equipment within fenced storage area. Store small size Government property, equipment, tools, materials in locked steel containers. No Government property and materials shall be stockpiled outside fence in preparation for next day's work. Park mobile equipment, tractors, wheeled lifting equipment, cranes, trucks, and like equipment, within fenced areas on weekends.

3.6.3.1 Maintenance of Storage Area

Fencing shall be kept in a state of good repair and proper alignment. Should the Contractor elect to traverse, with construction equipment or other vehicles, grassed or unpaved areas which are not established roadways, such areas shall be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways; gravel gradation shall be at the Contractor's discretion. Grass located within the boundaries of the construction site shall be mowed for the duration of the project. Grass and vegetation along fences, buildings, under trailers, and in areas not accessible to mowers shall be edged or trimmed neatly.

3.6.4 Waste Storage

Provide dumpsters or suitable debris containers. Prevent wind blown trash; cover as needed. Dispose of offsite when needed. Refer to Section 01 57 20 ENVIRONMENTAL PROTECTION.

3.6.5 Fuel Storage and Fueling Operations

Refer to Section 01 57 20 ENVIRONMENTAL PROTECTION. Provide light when fueling at night.

3.7 SECURITY PLAN

Provide site security person at all times when there are no on-site activities. Maintain 24-hour security during weekends and holidays. Site security shall include, but not be limited, to:

- a. Limit vehicular access to authorized vehicles and personnel only.
- b. Limit public access to travel along access road only. Access road shall be kept closed at all times except for passage of authorized personnel and vehicles.
- c. Maintain a list of authorized personnel and subcontractors available at site offices.
- d. Maintain a sign-in log documenting visitors, deliveries, and security incidents. Include date, name, address, company, time in and time out for each employee and visitor.
- e. Check fenced areas, equipment, trailers on a daily basis. If damage is observed or vandalism is found report to Contracting Officer.

3.7.1 Visitors

No visitors will be allowed on site without knowledge of Contractor and permission of Contracting Officer. Direct visitors to report upon arrival to Contractor's Field Office for site safety and accident prevention briefing. Provide visitors appropriate protective equipment (i.e., ear plugs, safety glasses, etc.).

3.8 TEMPORARY PROJECT SAFETY FENCING

As soon as practicable, but not later than 15 days after the date established for commencement of work, the Contractor shall furnish and erect temporary project safety fencing at the work site. The safety fencing shall be a high visibility orange colored, high density polyethylene grid or approved equal, a minimum of 42 inches high, supported and tightly secured to steel posts located on maximum 10 foot centers, constructed at the approved location. The safety fencing shall be maintained by the Contractor during the life of the contract and, upon completion and acceptance of the work, shall become the property of the Contractor and shall be removed from the work site.

3.9 ACCOMMODATIONS AND MEALS FOR INSPECTORS

a. The Contractor shall furnish regularly to inspectors, for office purposes, a suitable separate room on board the dredge or other craft upon which they are employed or, if not available thereon, shall furnish suitable alternate accommodations ashore at a location approved by the Contracting Officer, and furnish suitable transportation between the alternate accommodations and the dredge or other craft upon which they are employed.

b. If the Contractor maintains on this work an establishment for the

subsistence of the Contractor's own employees, the Contractor shall, when required, 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 employees at a rate no greater than the JTR meal rate per person for the county in which work is performed.

3.10 PLANT COMMUNICATION

Whenever the Contractor has the individual elements of its plant so located that operation by normal voice between these elements is not satisfactory, the Contractor shall install a satisfactory means of communication, such as telephone or other suitable devices. The devices shall be made available for use by Government personnel.

3.11 CLEANUP

Construction debris, waste materials, packaging material and the like shall be removed from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways shall be cleaned away. Materials resulting from demolition activities which are salvageable shall be stored within the fenced area described above or at the supplemental storage area. Stored material not in trailers, whether new or salvaged, shall be neatly stacked when stored. Refer to Section 01 57 20 ENVIRONMENTAL PROTECTION for solid waste and post construction cleanup.

3.12 RESTORATION OF STORAGE AREA

Upon completion of the project and after removal of trailers, materials, and equipment from within the fenced area, the fence shall be removed and will become the property of the Contractor. Areas used by the Contractor for the storage of equipment or material, or other use, shall be restored to the original or better condition. Gravel used to traverse grassed areas shall be removed and the area restored to its original condition, including top soil and seeding as necessary.

3.13 CONSTRUCTION FORMS AND DETAILS

See the "Construction Forms & Details" module at the following web address:
<http://www.saj.usace.army.mil/About/DivisionsOffices/Engineering/DesignBranch/SpecificationsSection.aspx>.

-- End of Section --

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05/13

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SECTION 01 57 20.10

ENVIRONMENTAL PROTECTION - JUPITER INLET
05/13

PART 1 GENERAL

1.1 SCOPE

This Section covers prevention of environmental damage as the result of construction operations under this contract and for those measures set forth in other Technical Requirements of these specifications. For the purpose of this specification, environmental damage is defined as the presence of hazardous, physical, chemical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances; affect other species, biological communities, or ecosystems; or degrade the quality of the environment for aesthetic, cultural, and/or historical purposes. The control of environmental damage requires consideration of land, water, and air, and includes management of visual aesthetics, noise, solid waste, radiant energy and radioactive materials, as well as other pollutants.

1.2 REFERENCES

1.2.1 Miscellaneous Environmental Laws And Regulations

There are numerous environmental laws and regulations. At the Federal level, the applicable laws and regulations include compliance with the Clean Water Act (CWA); Clean Air Act (CAA); Coastal Zone Management Act (CZMA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Endangered Species Act (ESA); Fish and Wildlife Coordination Act (FWCA); Marine Protection, Research, and Sanctuaries Act (MPRSA); Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA); National Environmental Policy Act (NEPA); National Historic Preservation Act (NHPA); National Pollution Discharge Elimination System (NPDES); Research and Sanctuaries Act; Native American Graves Protection and Repatriation Act (NAGPRA); Resource Conservation and Recovery Act (RCRA); Rivers and Harbors Act (R&H); Safe Drinking Water Act (SDWA); Toxic Substance Control Act (TSCA); Wild and Scenic Rivers Act (WSRA); Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Marine Mammal Protection Act (MMPA); Migratory Bird Treaty Act; Code of Federal Regulations (CFRs); Executive Orders; and, Environmental Protection Agency (EPA) requirements.

1.2.2 NEPA Compliance

The Contractor shall meet the NEPA compliance measures specified in the Environmental Assessment (EA).

1.2.3 Publication Reference(s)

The publication(s) listed below form(s) a part of this specification to the extent referenced. The publication(s) are referred to in the text by basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	Safety and Health Requirements Manual
EM 1110-1-1003	(1996) NAVSTAR Global Positioning System Surveying
ER 1110-1-5	(1984) Plant Pest Quarantined Areas and Foreign Soil Samples

1.3 QUALITY CONTROL

The Contractor shall establish and maintain quality control for environmental protection of all items set forth herein. The Contractor shall record on daily quality control reports or attachments thereto, any problems in complying with laws, regulations and ordinances, and corrective action taken.

1.4 PERMITS AND AUTHORIZATIONS

The Contractor shall comply with all requirements under the terms and conditions set out in the following permit(s) and authorization(s) obtained by the Corps of Engineers listed below.

- a. Florida Department of Environmental Protection Permit No. 0262913-001-JN; Effective Date 27 March 2008; Expiration Date 6 January 2018, and subsequent modifications.

The above permits indicate issuing agency approval of work required by this contract. Permits and environmental compliance documents are available at the following web address: <http://www.saj.usace.army.mil/About/DivisionsOffices/Planning/EnvironmentalBranch/EnvironmentalCompliance.aspx>

The Contractor shall obtain and comply with the requirements of all other permits or licenses required for construction of this project in accordance with the Clause PERMITS AND RESPONSIBILITIES of Section 00700 CONTRACT CLAUSES in Volume 1.

1.5 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 following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Environmental Protection Plan; G, DO

No later than 15 calendar days prior to the Preconstruction Conference, the Contractor shall submit an Environmental Protection Plan for review and acceptance by the Contracting Officer. The Government will consider an interim plan for the first 30 days of operations. However, the Contractor shall furnish an acceptable final plan no later than 30 calendar days after receipt of Notice to Proceed. Acceptance of the Contractor's plan shall not relieve the Contractor of his responsibility for adequate and continuing control of pollutants

and other environmental protection measures. Acceptance of the plan is conditional and predicated on satisfactory performance during construction. The Government reserves the right to require the Contractor to make changes to the Environmental Protection Plan or operations if the Contracting Officer determines that environmental protection requirements are not being met. No physical work at the site shall begin prior to acceptance of the Contractor's plan or an interim plan covering the work to be performed. The Environmental Protection Plan shall include but not be limited to the following:

a. A list of Federal, State, and local laws, regulations, and permits concerning environmental protection, pollution control, and abatement that are applicable to the Contractor's proposed operations and the requirements imposed by those laws, regulations, and permits.

b. Methods for protection of features to be preserved within authorized work areas. The Contractor shall prepare a listing of methods to protect resources needing protection, i.e., trees, shrubs, vines, grasses and ground cover, landscape features, air and water quality, fish and wildlife, soil, historical, archeological, and cultural resources.

c. Procedures to be implemented to provide the required environmental protection and to comply with the applicable laws and regulations. The Contractor shall provide written assurance that immediate corrective action will be taken to correct pollution of the environment due to accident, natural causes, or failure to follow the procedures set out in accordance with the environmental protection plan.

d. A permit or license for and the location of the solid waste disposal area.

e. Drawings showing locations of any proposed temporary excavations or embankments for haul roads, stream crossing, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials.

f. Environmental monitoring plans for the job site, including land, water, air, and noise monitoring.

g. Traffic control plan.

h. Methods of protecting surface and ground water during construction activities.

i. Spill prevention. The Contractor shall specify all potentially hazardous substances to be used on the job site and intended actions to prevent accidental or intentional introduction of such materials into the air, ground, water, wetlands, or drainage areas. The plan shall specify the Contractor's provisions to be taken to meet Federal, State, and local laws and regulations regarding labeling, storage, removal, transport, and disposal of potentially hazardous substances.

j. Spill contingency plan for hazardous, toxic, or petroleum material.

k. Work area plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas.

l. A statement as to the person who shall be responsible for implementation of the Environmental Protection Plan. The Contractor personnel responsible shall report directly to the Contractor's top management and shall have the authority to act for the Contractor in all environmental protection matters.

m. Recycling and Waste Management Plan. Executive Order 12873 of 20 October 1993 requires a number of considerations in planning a project. Fallen trees should not be burned or buried. Mulching, composting, and other uses for trees should be considered. Also, recovery of metals at the job site, including aluminum cans, should be considered with proceeds to be retained by the Contractor. Non-Federal recycling and waste minimization efforts shall also be incorporated into this plan.

n. A statement as to the person who shall be responsible for turbidity monitoring and reporting to be performed. Method of turbidity monitoring and reporting that will be performed. The turbidity monitoring requirements of any special areas such as outstanding Florida waters.

o. A plan of operations to include a description of beach and nearshore construction methods to be utilized, and drawings showing the work spaces to be used for the project (to include anchoring areas, pipeline corridors, staging areas and boat access corridors).

SD-07 Certificates

Qualifications

The Contractor shall submit a copy of Florida Fish and Wildlife Conservation Commission (FF&WCC) permit for handling of sea turtle eggs.

Sea Turtle Nesting Monitor and Relocation Qualifications

Submit qualifications and permit no later than 15 calendar days prior to the Preconstruction Conference as follows: The Contractor shall have a FF&WCC permitted subcontractor approved by the Contracting Officer to accomplish the sea turtle monitoring and relocation (as necessary) of this section unless he demonstrates to the satisfaction of the Contracting Officer the capability to accomplish sea turtle monitoring and recovery by obtaining a permit from the FF&WCC to take turtles.

Bird Monitoring Qualifications; G, DO

No later than 15 calendar days prior to the Preconstruction Conference, the Contractor shall furnish to the Contracting Officer for approval, the qualifications of the bird monitor/observer. Appropriate qualifications for bird monitor/observer shall be a demonstrated ability to find and/or

identify bird species, nesting behavior, eggs and nests, and habitat requirements. The Contractor shall consult with and coordinate all monitoring plans and activities with Mr. Paul DeMarco at 904-232-1897.

[Manatee Observer Qualifications; G, DO](#)

No later than 15 calendar days prior to the Preconstruction Conference, the Contractor shall furnish to the Contracting Officer for approval, the qualifications of the manatee observer. Appropriate qualifications for manatee observer shall be demonstrated experience monitoring manatees and their behaviors in association with in-water construction projects.

[Seagrass Monitoring Qualifications; G, DO](#)

Prior to the preconstruction conference, the Contractor shall furnish to the Contracting Officer for approval, the qualifications of the seagrass monitor. Appropriate qualifications for the seagrass monitor shall be an individual with an academic background in marine biology/ecology (B.S. degree or higher), good working knowledge of seagrass habitat in Florida, and who is trained in seagrass species identification and density assessments.

[SD-11 Closeout Submittals](#)

[Logs/Final Summary Report](#)

Contractor shall submit as specified, logs and final summary report of sightings and incidents with endangered species.

[Project Environmental Summary Sheet](#)

Contractor shall submit within 30 days following completion of the project, a written report of the absence or occurrence of environmental incidents. In addition, for construction activities whose anticipated duration is more than one calendar year, the Contractor shall complete a sheet each May 31st (plus/minus 14 days).

[Logs/Summary of Bird Nesting Monitoring](#)

Contractor shall submit as specified, logs and summary of monitoring detailing nesting and nesting success.

[Logs/Summary of Marine Turtle Nesting and Relocation](#)

Contractor shall submit as specified, logs and summary of marine turtles nesting and relocation.

[Logs/Summary of Seagrass Inspection of Anchor Drop Points](#)

Contractor shall submit as specified, logs and summary of diver-based inspection of seagrass at anchor drop points.

1.6 SUBCONTRACTORS

Assurance of compliance with this section by subcontractors shall be the responsibility of the Contractor.

1.7 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with the aforementioned Federal, State, or local laws or regulations, permits and other elements of the Contractor's environmental protection plan. The Contractor shall, after receipt of such notice, inform the Contracting Officer of proposed corrective action and take such action as may be approved. If the Contractor fails to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or costs or damages allowed to the Contractor for any such suspension.

Additionally, the Contractor shall notify the Contracting Officer, in writing, of the absence or occurrence of environmental incidents, as required on the Project Environmental Summary Sheet, copy on the first web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. Refer to paragraph SUBMITTALS above.

1.8 CONTRACTOR PERSONNEL QUALIFICATIONS IN POLLUTION CONTROL

The Contractor's personnel shall be qualified to perform all phases of environmental protection, including methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, and careful installation and monitoring of the project to ensure adequate and continuous environmental pollution control. Quality Control and supervisory personnel shall be thoroughly knowledgeable of Federal, State, and local laws, regulations, and permits as listed in the Environmental Protection Plan submitted by the Contractor. Quality Control personnel will be identified in the Quality Control Plan submitted in accordance with Section 01 45 05 DREDGING/BEACH FILL PLACEMENT - CONTRACTOR QUALITY CONTROL.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 PROTECTION OF ENVIRONMENTAL RESOURCES

For contract work, the Contractor shall comply with all applicable Federal, State, or local laws and regulations. The environmental resources within the project boundaries and those affected outside the limits of permanent work under this contract shall be protected at least during the entire period of this contract. The Contractor shall confine his activities to areas defined by the drawings and specifications. Environmental protection shall be as stated in the following subparagraphs.

3.1.1 General Project Environmental Design and Installation Criteria

Some project sites have features that shall not be impacted in any way, including cultural, historic, or archeological features. At all sites, the Contractor shall minimize disturbance to existing features at the site to the extent possible, including vegetative, topographic, and drainage pattern features. Wetland impacts (temporary access, detours, staging

areas, and other work area impacts) to project sites should be avoided and may require separate permitting action. Any wetlands temporarily impacted shall have its soil restored upon project completion. Expansion of previously permitted project footprints may likewise require separate permitting action.

In all cases, the installation of temporary systems to aid construction shall provide for protection of the environment during handling, installing, storing, utilizing, transporting, servicing, testing, refilling, transferring, pumping, processing, removing waste products, repairing and maintaining systems and their components. Necessary protection shall also be considered that would prevent contamination of the environment from impacts to the systems caused by storm water runoff and flooding. Retrofit of temporary systems on project sites to modern environmental protection design standards shall also be considered.

In the event environmental protection measures fail, the Contractor shall implement procedures to control and correct environmental damage. The Contractor shall coordinate with the Contracting Officer if environmental protection measures fail.

3.1.1.1 Sewage-Based Systems Environmental Design and Installation Criteria

In general, there shall be no waste or debris discharges of any kind for a project unless authorized by the Contracting Officer. This shall include the Contractor's providing sufficient temporary sanitary equipment and facilities for the project. The design and/or installation of temporary or permanent sewage systems shall ensure that waters will be free of effects of sewage discharges. Applicable Federal, State, or local codes and requirements regarding sewage shall be strictly adhered to in the design, such as those of the EPA and, in the case of the State, Chapter 62-620 (Wastewater Facilities) of the FAC. Best Management Practices from the applicable agencies shall also be adhered to in the design.

3.1.2 Protection of Land Resources

Prior to the beginning of any construction, the Contractor shall identify all land resources to be preserved or avoided within the Contractor's work area. Materials displaced into uncleared areas shall be removed. The Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without special permission from the Contracting Officer. The Contractor shall engage a qualified tree surgeon to perform all tree surgery. The Contractor shall be responsible to repair injuries to bark, trunk, branches, and roots of protected trees by dressing, cutting, and painting as specified for Class I Fine Pruning, of the National Arborist Association Pruning Standards for Shade Tree or as per State's Agricultural Extension Agency Guidelines, immediately as occurrences arise. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. Where such special emergency use is permitted, the Contractor shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs.

3.1.2.1 Work Area Limits

Prior to any construction, the Contractor shall mark the areas that are not required to accomplish all work to be performed under this contract. Isolated areas within the general work area which are to be saved and protected shall also be marked or fenced. The Contractor shall protect

from damage all existing trees designated to remain. Protection of tree roots shall be provided against noxious materials in solution caused by run-off or spillage. Fires shall be located outside the canopy of protected trees. No materials, trailers, or equipment shall be stored within the drip line of any protected tree. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, the markers shall be visible. The Contractor shall convey to his personnel the purpose of marking and/or protection of all necessary objects.

3.1.2.2 Unprotected Erodible Soils

Earthwork brought to final grade shall be finished as indicated in the contract drawings. Side slopes and back slopes shall be protected as soon as practicable upon completion of rough grading. All earthwork shall be planned and conducted to minimize the duration of exposure of unprotected soils. Except in instances where the constructed feature obscures borrow areas, quarries, and waste material areas, these areas shall not initially be totally cleared. Clearing of such areas shall progress in reasonably sized increments as needed to use the areas developed as approved by the Contracting Officer.

3.1.2.3 Contractor Facilities and Other Work Areas

Locate facilities, staging and other work areas as indicated in Section 01 50 02 TEMPORARY CONSTRUCTION FACILITIES, and in compliance with permits listed in the paragraph PERMITS AND AUTHORIZATIONS above and obtained for performance of work. Borrow or dredge material management (DMMA) areas shall be managed to minimize erosion and to prevent sediment from entering nearby watercourses, wetlands, or lakes. Spoil areas shall be managed and controlled to limit spoil intrusion into areas designated on the drawings and to prevent erosion of soil or sediment from entering nearby watercourses, wetlands, or lakes. Spoil areas shall be developed in accordance with the grading plan indicated on the drawings. Temporary excavation and embankments for plant and/or work areas shall be controlled to protect adjacent areas from despoilment. If there is suspicion that sediment may be unsuitable for disposal at a specified location, the Contractor shall immediately take measures to contain the suspect sediment and notify the Contracting Officer.

3.1.2.4 Solid Wastes

Solid wastes (excluding clearing debris) shall be placed in containers which are emptied on a regular schedule. All handling and disposal shall be conducted to prevent contamination. Solid waste materials shall be hauled to a solid waste disposal site approved by the Contracting Officer. The Contractor shall comply with Federal, State and local regulations pertaining to the use of the solid waste disposal site.

3.1.2.5 Fuel, Oil, and Lubricants

Fuel, oil, and lubricants shall be managed so as to prevent spills and evaporation. To prevent spills, fuel dispensers shall have a 4-foot square, 16-gauge metal pan with borders banded up and welded at corners right below the bibb. Edges of the pans shall be 8-inch minimum in depth to ascertain that no contamination of the ground takes place. Pans shall be cleaned by an approved method immediately after every dispensing of fuel and wastes disposed of offsite in an approved area. Should any spilling of fuel occur, the Contractor shall immediately recover the contaminated

ground and dispose of it offsite in an approved area. Petroleum waste generated shall be stored in marked corrosion-resistant containers and recycled or disposed of in accordance with 40 CFR 279, State, and local regulations.

3.1.2.6 Hazardous Waste

Hazardous wastes are defined in 40 CFR 261. The Contractor shall ensure that hazardous wastes are stored and disposed of in accordance with 40 CFR 261 and State and local regulations. The Contractor shall ensure that hazardous wastes are packed, labeled, and transported in accordance with 49 CFR 173 and State and local regulations.

3.1.2.7 Hazardous Materials

The Contractor shall ensure that hazardous materials are labeled, stored, and transported in accordance with 49 CFR 173, State and local regulations.

3.1.2.8 Disposal of Other Materials

Other materials than previously discussed (Construction and Demolition, vegetative waste, etc.) shall be handled as directed by the Contracting Officer.

3.1.3 Preservation and Recovery of Historic, Archeological, and Cultural Resources

3.1.3.1 Applicable Law

A number of Federal laws require protection of cultural resources. Two laws, in particular, can be potentially involved with dredging activities: (1) the National Historic Preservation Act, as amended; and, (2) the Abandoned Shipwreck Act.

3.1.3.2 Known Resources

If known historic, archeological and cultural resources within the Contractor's work area(s) are present, it will be designated as a "potentially significant cultural resource" on the contract drawings or other documents. If so designated, the Contractor shall install protection for these resources and shall be responsible for their preservation during the contract's duration. The Contractor shall not distribute maps or other information on these resource locations except for distribution among the Contractor's staff with a "need to know" technical responsibility for protecting the resources.

3.1.3.3 Inadvertent Discoveries

If, during construction activities, the Contractor observes items that may have historic or archeological value, such observations shall be reported immediately to the Contracting Officer so that the appropriate Corps staff may be notified and a determination for what, if any, additional action is needed. Examples of historic, archeological and cultural resources are bones, remains, artifacts, shell, midden, charcoal or other deposits, rocks or coral, evidences of agricultural or other human activity, alignments, and constructed features. The Contractor shall cease all activities that may result in the destruction of these resources and shall prevent his employees from further removing, or otherwise damaging, such resources.

The possibility of encountering submerged cultural resources is inherent in dredging and snagging operations. Such findings could include shipwrecks, shipwreck debris fields (such as steam engine parts), prehistoric watercraft (such as log "dugouts"), and other structural features intact or displaced. The materials may be deeply buried in sediment, resting in shallow sediments or above them, or protruding into water. Suspected cultural materials inadvertently gathered from a water-saturated context should be kept moist by re-immersion, spraying, or some other expedient means of wetting until the appropriate Corps staff provide further directives. No interviews or other contact with media shall occur without clear authorization from the Contracting Officer or the appropriate Corps representative.

3.1.3.4 Claims for Downtime due to Inadvertent Discoveries

Upon discovery and subsequent reporting of a possible inadvertent discovery of cultural resources, the Contractor shall seek to continue work well away from, or otherwise protectively avoiding, the area of interest, or in some other manner that strives to continue productive activities in keeping with the contract. Should an inadvertent discovery be of the nature that substantial impact(s) to the work schedule are evident, such delays shall be coordinated with the Contracting Officer. Contract adjustments resulting from compliance with this paragraph shall be determined in accordance with Clause DIFFERING SITE CONDITIONS of Section 00700 CONTRACT CLAUSES in Volume 1.

3.1.4 Protection of Water Resources

The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface, ground waters, and wetlands. The Contractor shall plan his operation and perform all work necessary to minimize adverse impact or violation of the water quality standard. Special management techniques as set out below shall be implemented to control water pollution by the listed construction activities which are included in this contract. The Contractor's construction methods shall protect wetland and surface water areas from damage due to mechanical grading, erosion, sedimentation and turbid discharges. There shall be no storage or stockpiling of equipment, tools, or materials within wetlands or along the shoreline within the littoral zone unless specifically authorized.

3.1.4.1 Washing and Curing Water

Waste waters directly derived from construction activities shall not be allowed to enter water areas. These waste waters shall be collected and placed in retention ponds where suspended materials can be settled out or the water evaporates so that pollutants are separated from the water. Analysis shall be performed and results reviewed and approved by Corps staff before water in retention ponds is discharged.

3.1.4.2 Monitoring of Water Areas

All water areas affected by construction activities shall be monitored by the Contractor.

3.1.4.3 Turbidity

The Contractor shall conduct his operations in a manner to minimize turbidity. Also, the Contractor shall conform to all water quality

standards as prescribed by Chapter 62-302, State of Florida, Department of Environmental Protection (FDEP).

The Contractor shall conduct his operations in a manner to minimize turbidity. Refer to Section 01 57 25 TURBIDITY AND DISPOSAL MONITORING for further instructions.

3.1.4.4 Oil, Fuel, and Hazardous Substance Spill Prevention and Mitigation

The Contractor shall prevent oil, fuel, or other hazardous substances from entering the air, ground, drainage, local bodies of water, or wetlands. This shall be accomplished by design and procedural controls. In the event that a spill occurs despite the design and procedural controls, the following shall occur:

- (1) Immediate action shall be taken to contain and cleanup any spill of oil, fuel or other hazardous substance.
- (2) Spills shall be immediately reported to the Contracting Officer.
- (3) Spill contingency planning shall be strictly in accordance with the criteria of 40 CFR, Part 109.
- (4) To control the spread of any potential spill, absorbent materials shall be readily available and capable of absorbing the contents of the single largest tank.
- (5) To control the spread of any potential spill, the Contractor shall provide a written certification of commitment of manpower, equipment, and materials required to expeditiously cleanup and dispose of spill materials.

a. Spill Preventive Systems: System design and installation requirements have been discussed at the beginning of this Section. Temporary or portable tanks shall conform to applicable Federal, State and local codes and requirements and shall not be placed where they may be affected by storm, flooding, or washout. Diversionary structures for spills shall be put in place in advance where practical. Both spill preventive systems and any deviations from associated requirements shall be approved by the Contracting Officer prior to implementation.

b. Liabilities: The Contractor shall be liable in the amounts established in 40 CFR, Part 113 when it can be shown that oil was discharged as a result of willful negligence or willful misconduct. The penalty for failure to report the discharge of oil shall be in accordance with the provision of 33 CFR, Part 153.

3.1.5 Protection of Fish and Wildlife Resources

The Contractor shall keep construction activities under surveillance, management, and control to minimize interference with, disturbance to, and damage of fish and wildlife. Species that require specific attention along with measures for their protection shall be listed in the Contractor's Environmental Protection Plan prior to the beginning of construction operation.

In the event that a threatened or endangered species is harmed as a result

of construction activities, the Contractor shall cease all work and notify the Contracting Officer. The order of contact within the Corps of Engineers shall be as follows:

Order of Contact of Corps Personnel

<u>Title</u>	<u>Telephone Number</u>
Corps, Inspector	Onsite/After hours to be provided
Area Engineer, (CESAJ-CD-W)	561-472-3511
Chief, Environmental Branch Planning Division (CESAJ-PD-E)	904-232-1665
Chief, Construction Division (CESAJ-CD)	904-232-1118

3.1.5.1 Endangered Species Protection

The Contractor shall instruct all personnel associated with the project of the potential presence of manatees, and sea turtles, dolphins in the area, and the need to avoid collisions with and harming these animals. All construction personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing manatees, or sea turtles, dolphins which are protected under the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and/or the Florida Manatee Sanctuary Act. The Contractor shall be held responsible for any manatee, sea turtle, harmed, harassed, or killed as a result of construction activities.

a. Siltation Barriers: If siltation barriers are used, they shall be made of material in which manatees cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment. Barriers must not block manatee entry to or exit from essential habitat.

b. Special Operating Conditions:

(1) All vessels associated with the project shall operate at "no wake/idle" speeds at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom, and vessels shall follow routes of deep water whenever possible. Boats used to transport personnel shall be shallow-draft vessels, preferably of the light-displacement category, where navigational safety permits. Mooring bumpers shall be placed on all barges, tugs, and similar large vessels wherever and whenever there is a potential for manatees to be crushed between two moored vessels. The bumpers shall provide a minimum stand-off distance of four feet.

(2) At least one person shall be designated as a dedicated manatee observer when in-water work is being performed. If a manatee(s) is sighted within 100 yards of the project area, all appropriate precautions shall be implemented by the Contractor to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. If a manatee is closer than 50 feet to moving equipment

or the project area, the equipment shall be shut down and all construction activities shall cease within the waterway to ensure protection of the manatee. Construction activities shall not resume until the manatee has departed the project area.

(3) Dredging operations shall cease if 3 turtles or 2 endangered turtles are taken until the Contracting Officer notifies the Contractor to resume dredging.

(4) Movement of a work barge or other associated vessels shall be minimized to the extent possible after sunset when the possibility of spotting manatees is negligible. Any work vessels, particularly crew shuttle boats that do move after sunset shall move at slow speed with minimum wake.

(5) Clamshell dredging is not authorized.

c. Manatee Signs: Prior to commencement of construction, each vessel involved in construction activities shall display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 8-1/2" x 11" reading, "CAUTION: MANATEE HABITAT/IDLE SPEED IS REQUIRED IN CONSTRUCTION AREA." In the absence of a vessel, a temporary 3' x 4' sign reading "CAUTION: MANATEE AREA" shall be posted adjacent to the issued construction permit. A second temporary sign measuring 8-1/2" x 11" reading "CAUTION: MANATEE HABITAT. EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION" shall be posted at the dredge operator control station and at a location prominently adjacent to the issued construction permit. The Contractor shall remove the signs upon completion of construction. Sample Manatee Caution Signs are on the first web site indicated in the paragraph CONSTRUCTION FORMS AND DETAILS below.

3.1.5.2 Manatee, Sea Turtle, and Whale Sighting Reports

Any take concerning a manatee, sturgeon, sea turtle or whale; or sighting of any injured or incapacitated manatees, sea turtles, or whales shall be reported immediately to the Corps of Engineers by notifying the personnel indicated in the table "Order of Contact of Corps Personnel" above.

A copy of the incidental take report shall be provided to the Contracting Officer within 24 hours of the incident. The Contractor shall also immediately report any collision with and/or injury to a manatee to the Florida Fish and Wildlife Conservation Commission "Manatee Hotline" 1-888-404-FWCC (3922) as well as the U.S. Fish and Wildlife Service, Vero Beach Field Office 772-562-3909 for South Florida. If a sea turtle is taken by the dredge (live or dead), or lethally taken by the sweep trawler or relocation trawler, the contractor shall email a PDF version of the incidental take report to NOAA-Fisheries Southeast Region at the following email address within 24 hours of the take - takereport.nmfsser@noaa.gov also providing a cc copy to the Contracting officer.

3.1.5.3 Disposition of Turtles or Turtle Parts

3.1.5.4 Report Submission

The Contractor shall maintain a log detailing all incidents, including sightings, collisions with, injuries, or killing of manatees, sturgeon (Gulf, Shortnose or Atlantic), sea turtles or whales occurring during the

contract period. The data shall be recorded on forms provided by the Contracting Officer (sample forms are on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below). All data in original form shall be forwarded directly to Chief, Environmental Branch, P. O. Box 4970, Jacksonville, Florida, 32232-0019, within 10 days of collection and copies of the data shall be supplied to the Contracting Officer. Following project completion, a report summarizing the above incidents and sightings shall be submitted to the following:

Chief, Environmental Branch
U.S. Army Corps of Engineers (CESAJ-PD-E)
P.O. Box 4970
Jacksonville, Florida 32232-0019

Area Engineer
U.S Army Corps of Engineers (CESAJ-CD-W)
4400 PGA Blvd, Suite 203
Palm Beach Gardens, FL 33410-6555

National Marine Fisheries Service
Protected Species Management Branch
263 13th Avenue South
St. Petersburg, Florida 33701

3.1.5.5 Sea Turtle Beach Nest Monitoring

a. Beach placement activities shall not occur from May 1 through October 31, the period of peak sea turtle egg laying and egg hatching, to reduce the possibility of sea turtle nest burial, crushing of eggs, or nest excavation. In addition, during the May 1 through October 31 period, no construction equipment or pipes shall be stored on the beach.

b. Sea Turtle (Work Stoppage) Window and Monitoring: Beach nourishment shall be started after October 31 and be completed before May 1. During the period from November 1 through December 20, construction related activity on the beach shall be conducted only in the event that daily early morning surveys for late nesting sea turtles has been initiated and eggs have been relocated 65 days prior to beach nourishment initiation and continues through November 15. If construction related activity will occur on the beach during the period from March 1 through April 30, turtle monitoring and nest relocation shall commence on March 1 and continue concurrently with the performance of the work. During the May 1 through October 31 period, no construction equipment or pipes shall be stored on the beach.

c. Daily Visual Inspection: Turtle monitoring activities shall include performance of daily visual inspections of the beach in the vicinity of the project (including areas of beach access) shall be conducted starting March 1 and continue until October 31 at sunrise by a person permitted by the FF&WCC for handling sea turtle eggs pursuant to FAC 68E-1. Only those nests that may be affected by construction activities shall be relocated. Nests requiring relocation shall be moved no later than 9 a.m. the morning following deposition to a nearby self-release beach site in a secure setting where artificial lighting

will not interfere with hatchling orientation. Nest relocations in association with construction activities shall cease when construction activities no longer threaten nests. Nests deposited within areas where construction activities have ceased or will not occur for 65 days shall be marked and left in place unless other factors threaten the success of the nest. Such nests will be marked and the actual location of the clutch determined. A circle with a radius of ten (10) feet, centered at the clutch, shall be marked by stake and survey tape or string. No construction activities shall enter this circle and no adjacent construction shall be allowed which might directly or indirectly disturb the area within the staked circle. A log of the results of turtle egg monitoring and recovery activities shall be kept and a copy submitted weekly to the Chief, Environmental Branch, Jacksonville District (sample Marine Turtle Nesting Summary Report form is located under Construction Forms and Details).

Also, nighttime surveys for nesting leatherback sea turtles shall be conducted and eggs shall be relocated per the following requirements: Nesting surveys and egg relocations will only be conducted by personnel with prior experience and training in nesting survey and egg relocation procedures. Surveyors shall have a valid FWC permit. Nesting surveys shall be conducted nightly from 9 p.m. until 6 a.m. The project area shall be surveyed at 1-hour intervals (since leatherbacks require at least 1.5 hours to complete nesting, this will ensure that all nesting leatherbacks are encountered); and only those nests that may be affected by construction activities will be relocated. Nests requiring relocation shall be moved no later than 9 a.m. the morning following deposition to a nearby self-release beach site in a secure setting where artificial lighting will not interfere with hatchling orientation. Nest relocations in association with construction activities shall cease when construction activities no longer threaten nests.

d. Turtle Subcontractor: The Contractor shall have a FF&WCC permitted subcontractor approved by the Contracting Officer to accomplish the sea turtle monitoring of this section unless he demonstrates to the satisfaction of the Contracting Officer the capability to accomplish sea turtle monitoring and recovery by obtaining a permit from the FF&WCC to take turtles.

e. Report Submission: Following completion of the project, a copy of the Contractor's log regarding sea turtles shall be forwarded to the Chief, Environmental Branch and the Area Engineer.

f. No construction activity may commence on any previously undisturbed section of adjacent beach more than 50 feet from the active work site until completion of the marine turtle survey each day unless the contractor has made provisions for nighttime marine turtle surveys of the area prior to any work, including movement of equipment or pipes, in that area.

g. It is the responsibility of the contractor to ensure that the project area and access sites are surveyed for marine turtle nesting activity. All nesting surveys, nest relocations screening or caging activities etc. shall be conducted only by persons with prior experience and training in these activities and who is duly authorized to conduct such activities through a valid permit issued by the Fish and Wildlife Conservation Commission (FWC), pursuant to Florida Administrative Code 68E-1.

h. The contractor shall arrange a meeting between representatives of the contractor, the Fish and Wildlife Service, the FWC, the DEP and the permitted person responsible for egg relocation at least 30 days prior to the commencement of work on this project. At least 10 days advance notice shall be provided to the parties prior to conducting this meeting. This will provide an opportunity for explanation and/or clarification of the sea turtle protection measures. Prior to project construction, the contractor shall coordinate a meeting between Palm Beach County and the Florida Inland Navigation District (FIND) to discuss the need for appropriate light control measures on buildings adjacent to the nourished berm.

i. The contractor shall prepare provide a report describing the actions taken to implement the terms and conditions of the incidental take statement, which shall be submitted to the South Florida Ecological Services Office, Vero Beach, Florida, within 60 days of completion of the proposed work. This report will include the dates of actual construction activities, names and qualifications of personnel involved in nest surveys and relocation activities, descriptions and locations of self-release beach sites, nest survey and relocation results, and hatching success of nests.

j. In the event a sea turtle nest is excavated during construction activities, the contractor shall notify the permitted person responsible for egg relocation for the project so the eggs can be moved to a suitable relocation site; and upon locating a sea turtle adult, hatchling, or egg harmed or destroyed as a direct or indirect result of the project, notification shall be made to the FWC, Division of Law Enforcement at 888-404-3922, and the Service's South Florida Ecological Services Office, Vero Beach at 772-562-3909. Care should be taken in handling injured turtles or eggs to ensure effective treatment or disposition, and in handling dead specimens to preserve biological materials in the best possible state for later analysis.

3.1.5.6 Beach Placement Restrictions

a. Equipment Lighting During Sea Turtle Nesting Period from March 1 to April 30 and November 1 to November 30: Direct lighting of the beach and near shore waters shall be limited to the immediate construction area and shall comply with safety requirements. Lighting on offshore or onshore equipment shall be minimized through reduction, shielding, lowering, and appropriate placement to avoid excessive illumination of the waters surface and nesting beach while meeting all Coast Guard, EM 385-1-1, and OSHA requirements. Light intensity of lighting plants should be reduced to the minimum standard required by OSHA for General Construction areas, in order not to misdirect sea turtles. Shields should be affixed to the light housing and be large enough to block light from all lamps from being transmitted outside the construction area. Refer to Beach Lighting Schematic on the first web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below.

b. Pipeline Placement: Any construction pipes placed parallel to the shoreline shall be placed as far landward as possible up to the vegetated dune line. Pipes placed parallel to the dune must be five to ten feet away from the toe of the dune. From March 1 through April 30 and November 1 through November 30, staging areas for construction equipment shall be located off the beach to the maximum extent practicable. Nighttime storage of construction equipment not in use

shall be off the beach to minimize disturbance to sea turtle nesting and hatching activities. In addition, all construction pipes that are placed on the beach shall be located as far landward as possible without compromising the integrity of the existing or reconstructed dune system. Temporary storage of pipes shall be off the beach to the maximum extent possible. Temporary storage of pipes on the beach shall be in such a manner so as to impact the least amount of nesting habitat and shall likewise not compromise the integrity of the dune systems (placement of pipes perpendicular to the shoreline is recommended as the method of storage).

c. Beach Tilling: Till the fill area between the landward edge and the seaward edge of the top of the berm with equipment operated so as to penetrate and loosen beach sand (a) to a depth of 36 inches and (b) laterally without leaving unloosened compact sand between the adjacent paths of tines or penetrating part of the equipment. (Suitable equipment is Caterpillar D9L/No. 9 Adjustable Parallelogram Multishank Ripper, or equal.) The Contractor shall be careful not to drag the beach where rock structures have been covered with less than 3 feet of sand.

3.1.5.7 Escarpments

Visual surveys for escarpments along the project area shall be made immediately after completion of the beach nourishment project. The Contractor shall perform daily visual surveys for escarpments along finished sections of the beach nourishment area that have not been accepted by the Contracting Officer as complete. Results of the surveys shall be submitted to the Contracting Officer. Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet or more shall be mechanically leveled by the Contractor to the natural beach contour. If the project is completed during the main part of the nesting season, escarpments may be required to be leveled immediately, while protecting nests that have been relocated or left in place. Nourished beaches shall be surveyed monthly for escarpments by the protocol stated above. Once a beach section is accepted by the Contracting Officer as complete, Palm Beach County will take over the responsibility for visual surveys and escarpment removal.

3.1.5.8 Hardground/Reef Protection

Existing hardground/reef areas within the Contractor's work area will be so designated on the contract drawings and precaution will be taken to preserve these resources as they existed prior to construction. The Contractor shall install all protection for these resources so designated on the drawings and shall be responsible for their preservation during this contract. Pipelines will be placed only in approved areas and anchoring will be permitted in sandy areas only. Pipeline will be monitored for leaks. Any leaks that develop shall be repaired immediately, especially over hardgrounds/reefs, and the pumpout operations shall be shutdown until repairs are completed. Refer to Section 35 20 25 BEACH FILL.

3.1.5.9 Protection of Migratory Bird Species

Shorebird surveys should be conducted by trained, dedicated individuals (Shorebird Monitor) with proven shorebird identification skills and avian survey experience. Credentials of the Shorebird Monitor will be submitted to the FWC Regional Biologist for review. Shorebird Monitors will use the following survey protocols. In order to ensure that nesting shorebirds are

not adversely affected by the construction activities, the Contractor shall adhere to the following conditions:

a. Nesting Season Surveys. Shorebird Monitors should review and become familiar with the general information and data collection protocols outlined on the FWC's Florida Beach-Nesting Birds Website (<http://myfwc.com/shorebirds/>). An outline of what data should be collected, including downloadable field data sheets, is available on the website.

(1) The nesting season is generally 1 April - 1 September, but some nesting may occur through September.

(2) Nesting season surveys shall begin on April 1 or 10 days prior to project commencement (including surveying activities and other pre-construction presence on the beach), whichever is later, and be conducted daily throughout the construction period or through August, whichever is earlier. Weekly surveys of the project site shall continue through August or through fledgling or loss of identified nests or hatchlings, whichever is later.

(3) Nesting season surveys shall be conducted in all potential beach-nesting bird habitat within the project boundaries that may be impacted by Portions of the project in which there is no potential for project-related activity during the nesting season may be excluded.

(4) Surveys for detecting new nesting activity will be completed on a daily basis prior to movement of equipment, operation of vehicles, or other activities that could potentially disrupt nesting behavior or cause harm to the birds or their eggs or young.

(5) Surveys should be conducted by traversing the length of the project area and visually inspecting, using binoculars or spotting scope, for the presence of shorebirds exhibiting breeding behavior.

(6) If an ATV or other vehicle is needed to cover large project areas, the vehicle must be operated at a speed <6 mph, shall be run at or below the high-tide line, and the Shorebird Monitor will stop at no greater than 200 meter intervals to visually inspect for nesting activity.

b. Once breeding is confirmed by the presence of a scrape, eggs, or young, the Bird Monitor will notify the Regional Nongame Biologist of the FWC within 24 hours.

(1) All breeding activity will be reported to the Beach-Nesting Bird website within one week of data collection.

(2) Observations of non-breeding shorebirds should be reported to the Shorebird-Seabird Occurrence Database, as described below.

c. Non-Breeding Shorebird Surveys. Data collected on non-breeding shorebirds should be compatible with, and reported to, the Shorebird-Seabird Occurrence Database (<http://myfwc.com/shorebirds/Obs>)

(1) Surveys for non-breeding shorebirds should begin 14 days prior to construction commencement and be conducted once every 2 weeks for at least one year post-construction. Data collected

during these surveys will provide valuable information on the use of filled beaches to shorebirds.

(2) Surveys for non-breeding shorebirds will include all potential shorebird habitat within the project boundary.

(3) Data should be entered into the database within one month of collection.

d. Buffer Zones and Travel Corridors. Within the project area, the contractor shall establish a 300 ft-wide buffer zone around any location where shorebirds have been engaged in nesting behavior, including territory defense. Any and all construction activities, including movement of vehicles, should be prohibited in the buffer zone.

(1) The width of the buffer zone shall be increased if birds appear agitated or disturbed by construction or other activities in adjacent areas.

(2) Site-specific buffers may be implemented upon review by FWC as needed.

(3) Reasonable and traditional pedestrian access should not be blocked where nesting birds will tolerate pedestrian traffic. This is generally the case with lateral movement of beach-goers walking parallel to the beach at or below the highest tide line. Pedestrian traffic may also be tolerated when nesting was initiated within 300 feet of an established beach access pathway. The contractor and Contracting Officer shall work with FWC staff to determine if pedestrian access can be accommodated without compromising nesting success.

(4) Designated buffer zones must be posted with clearly marked signs around the perimeter. If pedestrian pathways are within the 300-foot buffer zone, these should be clearly marked. These markings shall be maintained until nesting is completed or terminated. In the case of solitary nesters, nesting is not considered to be completed until all chicks have fledged.

(5) No construction activities, movement of vehicles, or stockpiling of equipment shall be allowed within the buffer area.

e. FWC-reviewed travel corridors should be designated and marked outside the buffer areas. Heavy equipment, other vehicles, or pedestrians may transit past nesting areas in these corridors. However, other activities such as stopping or turning shall be prohibited within the designated travel corridors adjacent to the nesting site.

(1) Where such a travel corridor must be established within the project area it should avoid critical areas for shorebirds (known nesting sites, wintering grounds, FWC-designated Critical Wildlife Areas, and USFWS-designated critical piping plover habitat) as much as possible, and be marked with signs clearly delineating the travel corridor from the shorebird buffer areas described above.

(2) To the degree possible, the contractor should maintain some activity within these corridors on a daily basis, without

directly disturbing any shorebirds documented on site or interfering with sea turtle nesting, especially when those corridors are established prior to commencement of construction. Passive methods to modify nesting site suitability must be reviewed by FWC Regional Biologist for that region.

f. Notification. If shorebird nesting occurs within the project area, a bulletin board will be placed and maintained in the construction area with the location map of the construction site showing the bird nesting areas and a warning, clearly visible, stating that "BIRD NESTING AREAS ARE PROTECTED BY THE FLORIDA THREATENED AND ENDANGERED SPECIES ACT AND THE STATE and FEDERAL MIGRATORY BIRD ACTS."

g. Beach Contours. All tilling and scarp removal should be done outside the shorebird nesting season. It is the responsibility of the contractors to avoid tilling or scarp removal in areas where nesting birds are present.

h. A relatively even surface, with no deep ruts or furrows, shall be created during tilling. To do this, chain-linked fencing or other material shall be dragged over those areas as necessary after tilling.

(1) The slope between the mean high water line and the mean low water line must be maintained in such a manner as to approximate natural slopes.

(2) Placement of Equipment and Sand. If it will be necessary to extend construction pipes past a known shorebird nesting site or over-wintering area for piping plovers, then whenever possible those pipes should be placed landward of the site before birds are active in that area. No pipe or sand shall be placed seaward of a known shorebird nesting site during the shorebird nesting season.

3.1.6 Seagrass Protection Measures and Dive Safety Plan

a. The Contractor shall instruct all personnel associated with the project of the presence of seagrasses, especially the Federally-listed threatened Johnson's Seagrass (*Halophlia johnsonii*), and the need to avoid contact with seagrasses.

b. All construction personnel shall be advised that there are civil and criminal penalties for harming or destroying seagrasses, especially Johnson's Seagrass which is protected under the Endangered Species Act of 1973, as amended. The Contractor may be held responsible for any seagrasses harmed or destroyed due to construction activities.

c. The Contractor shall operate all equipment in a manner that will not cause damage to seagrasses or hardbottoms, such as not anchor, place pipeline, or stage equipment in a manner that will cause any damage to these resources. Operating, anchoring, placing pipeline, or staging equipment shall avoid these sensitive areas. If such activities cannot be done without affecting these sensitive areas, the activities shall cease and the Contracting Officer and Chief, Environmental Branch (904-232-1010) shall be immediately notified (no later than the morning following the next working day if the incident occurs after normal working hours). Any actual or potential incident involving damage to or disturbance of, seagrasses or hardbottoms shall be reported.

d. For IWW, Vicinity of Jupiter Inlet, the Contractor shall limit pipeline and dredge anchorage such that contact with and impacts to seagrasses are avoided. The approximate location of these seagrasses is shown in the contract drawings. Existing beach vegetation shall not be covered by beach placement of dredge material.

e. The anchor drop points and identified pipeline corridor (within 5 meters from the centerline) shall be free of seagrass resources. Coordinates of all dredge anchor drop points shall be recorded using DGPS technology, accurate to one (1) meter. Unauthorized impacts to seagrasses shall require remediation and may be subject to further compensatory mitigation requirements. Divers shall visit all anchor locations that were positioned within the perimeter of a seagrass bed within 14 days following completion of construction of each maintenance dredging event to investigate and record potential damage to seagrasses. Anchor damage to seagrass shall be reported to the Contracting Officer within 48 hours of discovery of impact. These investigations shall be certified by a marine biologist with appropriate qualifications. A summary report of the diver-based investigation shall be submitted within 14 days of completion of the investigation.

f. The contractor's diving operations shall comply with all the requirements of Section 30 of the U.S. Army Corps of Engineers "Safety and Health Requirements Manual", EM 385-1-1 (3 September 1996); and Appendix P, "Contract Diving Operations", to Jacksonville District Regulation CESAJR 385-1-1 (1 September 1998). A diving operations plan and the other submittal items specified below must be reviewed and accepted by District Diving Coordinator (Bruce Tappmeyer 904-232-3835) and the Safety Office Prior to the commencement of any diving operations conducted. Refer to Section 01 25 35 OWNER SAFETY REQUIREMENTS - DIVING.

3.1.7 Protection of Air Resources

3.1.7.1 Odors

Odors shall be controlled at all times for all construction activities.

3.1.8 Protection of Sound Intrusions

The Contractor shall keep construction activities under surveillance and control to minimize damage to the environment by noise.

3.2 POSTCONSTRUCTION CLEANUP

The Contractor shall clean up any area(s) used for construction.

3.3 PRESERVATION AND RESTORATION OF LANDSCAPE AND MARINE VEGETATION DAMAGES

The Contractor shall restore all landscape features and marine vegetation damaged or destroyed during construction operations outside the limits of the approved work areas. Such restoration shall be a part of the Environmental Protection Plan as defined in subparagraph "Environmental Protection Plan" of paragraph SUBMITTALS above. This work shall be accomplished at the Contractor's expense.

3.4 MAINTENANCE OF POLLUTION CONTROL FACILITIES

The Contractor shall maintain all constructed facilities and pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

3.5 CONSTRUCTION FORMS AND DETAILS

See the "Construction Forms & Details" module at the following web address:
<http://www.saj.usace.army.mil/About/DivisionsOffices/Engineering/DesignBranch/SpecificationsSection.aspx>.

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SECTION 01 57 20

ENVIRONMENTAL PROTECTION - BAKERS HAULOVER
05/13

PART 1 GENERAL

1.1 SCOPE

This Section covers prevention of environmental damage as the result of construction operations under this contract and for those measures set forth in other Technical Requirements of these specifications. For the purpose of this specification, environmental damage is defined as the presence of hazardous, physical, chemical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances; affect other species, biological communities, or ecosystems; or degrade the quality of the environment for aesthetic, cultural, and/or historical purposes. The control of environmental damage requires consideration of land, water, and air, and includes management of visual aesthetics, noise, solid waste, radiant energy and radioactive materials, as well as other pollutants.

1.2 REFERENCES

1.2.1 Miscellaneous Environmental Laws And Regulations

There are numerous environmental laws and regulations. At the Federal level, the applicable laws and regulations include compliance with the Clean Water Act (CWA); Clean Air Act (CAA); Coastal Zone Management Act (CZMA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Endangered Species Act (ESA); Fish and Wildlife Coordination Act (FWCA); Marine Protection, Research, and Sanctuaries Act (MPRSA); Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA); National Environmental Policy Act (NEPA); National Historic Preservation Act (NHPA); National Pollution Discharge Elimination System (NPDES); Research and Sanctuaries Act; Native American Graves Protection and Repatriation Act (NAGPRA); Resource Conservation and Recovery Act (RCRA); Rivers and Harbors Act (R&H); Safe Drinking Water Act (SDWA); Toxic Substance Control Act (TSCA); Wild and Scenic Rivers Act (WSRA); Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Marine Mammal Protection Act (MMPA); Migratory Bird Treaty Act; Code of Federal Regulations (CFRs); Executive Orders; and, Environmental Protection Agency (EPA) requirements.

1.2.2 NEPA Compliance

The Contractor shall meet the NEPA compliance measures specified in the Environmental Assessment (EA).

1.2.3 Publication Reference(s)

The publication(s) listed below form(s) a part of this specification to the extent referenced. The publication(s) [is] [are] referred to in the text by basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1

Safety and Health Requirements Manual

EM 1110-1-1003

(1996) NAVSTAR Global Positioning System
Surveying

1.3 QUALITY CONTROL

The Contractor shall establish and maintain quality control for environmental protection of all items set forth herein. The Contractor shall record on daily quality control reports or attachments thereto, any problems in complying with laws, regulations and ordinances, and corrective action taken.

1.4 PERMITS AND AUTHORIZATIONS

The Contractor shall comply with all requirements under the terms and conditions set out in the following permit(s) and authorization(s) obtained by the Corps of Engineers listed below.

a. Florida Department of Environmental Protection Water Quality Certificate: No. 0173188-002-JC; Effective Date 21 October 2005; Expiration Date 21 October 2015, and Notification No. 0173188-003-JN issued March 29, 2010, and subsequent modifications.

The above permits indicate issuing agency approval of work required by this contract. Permits and environmental compliance documents are available at the following web address: <http://www.saj.usace.army.mil/About/DivisionsOffices/Planning/EnvironmentalBranch/EnvironmentalCompliance.aspx>

The Contractor shall obtain and comply with the requirements of all permits or licenses required for construction of this project in accordance with the Clause PERMITS AND RESPONSIBILITIES of Section 00700 CONTRACT CLAUSES in Volume 1.

1.5 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 following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Environmental Protection Plan; G, DO

No later than 15 calendar days prior to the Preconstruction Conference, the Contractor shall submit an Environmental Protection Plan for review and acceptance by the Contracting Officer. The Government will consider an interim plan for the first 30 days of operations. However, the Contractor shall furnish an acceptable final plan no later than 30 calendar days after receipt of Notice to Proceed. Acceptance of the Contractor's plan shall not relieve the Contractor of his responsibility for adequate and continuing control of pollutants and other environmental protection measures. Acceptance of the plan is conditional and predicated on satisfactory performance

during construction. The Government reserves the right to require the Contractor to make changes to the Environmental Protection Plan or operations if the Contracting Officer determines that environmental protection requirements are not being met. No physical work at the site shall begin prior to acceptance of the Contractor's plan or an interim plan covering the work to be performed. The Environmental Protection Plan shall include but not be limited to the following:

a. A list of Federal, State, and local laws, regulations, and permits concerning environmental protection, pollution control, and abatement that are applicable to the Contractor's proposed operations and the requirements imposed by those laws, regulations, and permits.

b. Methods for protection of features to be preserved within authorized work areas. The Contractor shall prepare a listing of methods to protect resources needing protection, i.e., trees, shrubs, vines, grasses and ground cover, landscape features, air and water quality, fish and wildlife, soil, historical, archeological, and cultural resources.

c. Procedures to be implemented to provide the required environmental protection and to comply with the applicable laws and regulations. The Contractor shall provide written assurance that immediate corrective action will be taken to correct pollution of the environment due to accident, natural causes, or failure to follow the procedures set out in accordance with the environmental protection plan.

d. A permit or license for and the location of the solid waste disposal area.

e. Drawings showing locations of any proposed temporary excavations or embankments for haul roads, stream crossing, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials.

f. Environmental monitoring plans for the job site, including land, water, air, and noise monitoring.

g. Traffic control plan.

h. Methods of protecting surface and ground water during construction activities.

i. Spill prevention. The Contractor shall specify all potentially hazardous substances to be used on the job site and intended actions to prevent accidental or intentional introduction of such materials into the air, ground, water, wetlands, or drainage areas. The plan shall specify the Contractor's provisions to be taken to meet Federal, State, and local laws and regulations regarding labeling, storage, removal, transport, and disposal of potentially hazardous substances.

j. Spill contingency plan for hazardous, toxic, or petroleum material.

k. Work area plan showing the proposed activity in each

portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas.

l. A statement as to the person who shall be responsible for implementation of the Environmental Protection Plan. The Contractor personnel responsible shall report directly to the Contractor's top management and shall have the authority to act for the Contractor in all environmental protection matters.

m. Recycling and Waste Management Plan. Executive Order 12873 of 20 October 1993 requires a number of considerations in planning a project. Fallen trees should not be burned or buried. Mulching, composting, and other uses for trees should be considered. Also, recovery of metals at the job site, including aluminum cans, should be considered with proceeds to be retained by the Contractor. Non-Federal recycling and waste minimization efforts shall also be incorporated into this plan.

n. A statement as to the person who shall be responsible for turbidity monitoring and reporting to be performed. Method of turbidity monitoring and reporting that will be performed. The turbidity monitoring requirements of any special areas such as outstanding Florida waters.

o. Construction activities shall be conducted in a manner as not to impact migratory birds or induce their nesting.

p. Steps to be taken to construct the project in such a manner as not to impact gopher tortoises.

q. A plan of operations to include a description of beach and nearshore construction methods to be utilized, and drawings showing the work spaces to be used for the project (to include anchoring areas, pipeline corridors, staging areas and boat access corridors).

SD-07 Certificates

Qualifications

The Contractor shall submit a copy of Florida Fish and Wildlife Conservation Commission (FF&WCC) permit for handling of sea turtle eggs.

Sea Turtle Nesting Monitor and Relocation Qualifications

Submit qualifications and permit no later than 15 calendar days prior to the Preconstruction Conference as follows: The Contractor shall have a FF&WCC permitted subcontractor approved by the Contracting Officer to accomplish the sea turtle monitoring and relocation (as necessary) of this section unless he demonstrates to the satisfaction of the Contracting Officer the capability to accomplish sea turtle monitoring and recovery by obtaining a permit from the FF&WCC to take turtles.

Bird Monitoring Qualifications; G, DO

No later than 15 calendar days prior to the Preconstruction Conference, the Contractor shall furnish to the Contracting Officer for approval, the qualifications of the bird monitor/observer. Appropriate qualifications for bird monitor/observer shall be a demonstrated ability to find and/or identify bird species, nesting behavior, eggs and nests, and habitat requirements. The Contractor shall consult with and coordinate all monitoring plans and activities with Mr. Paul DeMarco at 904-232-1897.

Manatee Observer Qualifications; G, DO

No later than 15 calendar days prior to the Preconstruction Conference, the Contractor shall furnish to the Contracting Officer for approval, the qualifications of the manatee observer. Appropriate qualifications for manatee observer shall be demonstrated experience monitoring manatees and their behaviors in association with in-water construction projects.

SD-11 Closeout Submittals

Logs/Final Summary Report

Contractor shall submit as specified, logs and final summary report of sightings and incidents with endangered species.

Project Environmental Summary Sheet

Contractor shall submit within 30 days following completion of the project, a written report of the absence or occurrence of environmental incidents. In addition, for construction activities whose anticipated duration is more than one calendar year, the Contractor shall complete a sheet each May 31st (plus/minus 14 days).

Logs/Summary of Bird Nesting Monitoring

Contractor shall submit as specified, logs and summary of monitoring detailing nesting and nesting success.

Logs/Summary of Marine Turtle Nesting and Relocation

Contractor shall submit as specified, logs and summary of marine turtles nesting and relocation.

Logs/Summary of Anchor Drop Points, Pipeline Alignment and Dredge and Tug Operational Logs

Contractor shall submit logs of anchor drop points, pipeline alignment and dredge and tug operational logs as specified.

1.6 SUBCONTRACTORS

Assurance of compliance with this section by subcontractors shall be the responsibility of the Contractor.

1.7 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with the aforementioned Federal, State, or local laws or regulations, permits and other elements of the Contractor's environmental protection plan. The Contractor shall, after receipt of such notice, inform the Contracting Officer of proposed corrective action and take such action as may be approved. If the Contractor fails to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or costs or damages allowed to the Contractor for any such suspension.

Additionally, the Contractor shall notify the Contracting Officer, in writing, of the absence or occurrence of environmental incidents, as required on the Project Environmental Summary Sheet, copy on the first web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. Refer to paragraph SUBMITTALS above.

1.8 CONTRACTOR PERSONNEL QUALIFICATIONS IN POLLUTION CONTROL

The Contractor's personnel shall be qualified to perform all phases of environmental protection, including methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, and careful installation and monitoring of the project to ensure adequate and continuous environmental pollution control. Quality Control and supervisory personnel shall be thoroughly knowledgeable of Federal, State, and local laws, regulations, and permits as listed in the Environmental Protection Plan submitted by the Contractor. Quality Control personnel will be identified in the Quality Control Plan submitted in accordance with Section 01 45 05 DREDGING/BEACH FILL PLACEMENT - CONTRACTOR QUALITY CONTROL.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 PROTECTION OF ENVIRONMENTAL RESOURCES

For contract work, the Contractor shall comply with all applicable Federal, State, or local laws and regulations. The environmental resources within the project boundaries and those affected outside the limits of permanent work under this contract shall be protected at least during the entire period of this contract. The Contractor shall confine his activities to areas defined by the drawings and specifications. Environmental protection shall be as stated in the following subparagraphs.

3.1.1 General Project Environmental Design and Installation Criteria

Some project sites have features that shall not be impacted in any way, including cultural, historic, or archeological features. At all sites, the Contractor shall minimize disturbance to existing features at the site to the extent possible, including vegetative, topographic, and drainage pattern features. Wetland impacts (temporary access, detours, staging areas, and other work area impacts) to project sites should be avoided and may require separate permitting action. Any wetlands temporarily impacted shall have its soil restored upon project completion. Expansion of previously permitted project footprints may likewise require separate permitting action.

In all cases, the installation of temporary systems to aid construction shall provide for protection of the environment during handling, installing, storing, utilizing, transporting, servicing, testing, refilling, transferring, pumping, processing, removing waste products, repairing and maintaining systems and their components. Necessary protection shall also be considered that would prevent contamination of the environment from impacts to the systems caused by storm water runoff and flooding. Retrofit of temporary systems on project sites to modern environmental protection design standards shall also be considered.

In the event environmental protection measures fail, the Contractor shall implement procedures to control and correct environmental damage. The Contractor shall coordinate with the Contracting Officer if environmental protection measures fail.

3.1.1.1 Sewage-Based Systems Environmental Design and Installation Criteria

In general, there shall be no waste or debris discharges of any kind for a project unless authorized by the Contracting Officer. This shall include the Contractor's providing sufficient temporary sanitary equipment and facilities for the project. The design and/or installation of temporary or permanent sewage systems shall ensure that waters will be free of effects of sewage discharges. Applicable Federal, State, or local codes and requirements regarding sewage shall be strictly adhered to in the design, such as those of the EPA and, in the case of the State, Chapter 62-620 (Wastewater Facilities) of the FAC. Best Management Practices from the applicable agencies shall also be adhered to in the design.

3.1.2 Protection of Land Resources

Prior to the beginning of any construction, the Contractor shall identify all land resources to be preserved or avoided within the Contractor's work area. Materials displaced into uncleared areas shall be removed. The Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without special permission from the Contracting Officer. The Contractor shall engage a qualified tree surgeon to perform all tree surgery. The Contractor shall be responsible to repair injuries to bark, trunk, branches, and roots of protected trees by dressing, cutting, and painting as specified for Class I Fine Pruning, of the National Arborist Association Pruning Standards for Shade Tree or as per State's Agricultural Extension Agency Guidelines, immediately as occurrences arise. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. Where such special emergency use is permitted, the Contractor shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs.

3.1.2.1 Work Area Limits

Prior to any construction, the Contractor shall mark the areas that are not required to accomplish all work to be performed under this contract. Isolated areas within the general work area which are to be saved and protected shall also be marked or fenced. The Contractor shall protect from damage all existing trees designated to remain. Protection of tree roots shall be provided against noxious materials in solution caused by run-off or spillage. Fires shall be located outside the canopy of protected trees. No materials, trailers, or equipment shall be stored within the drip line of any protected tree. Monuments and markers shall be

protected before construction operations commence. Where construction operations are to be conducted during darkness, the markers shall be visible. The Contractor shall convey to his personnel the purpose of marking and/or protection of all necessary objects.

3.1.2.2 Contractor Facilities and Other Work Areas

Locate facilities, staging and other work areas as indicated in Section 01 50 02 TEMPORARY CONSTRUCTION FACILITIES, and in compliance with permits listed in the paragraph PERMITS AND AUTHORIZATIONS above and obtained for performance of work. Borrow or dredge material management (DMMA) areas shall be managed to minimize erosion and to prevent sediment from entering nearby watercourses, wetlands, or lakes. Spoil areas shall be managed and controlled to limit spoil intrusion into areas designated on the drawings and to prevent erosion of soil or sediment from entering nearby watercourses, wetlands, or lakes. Spoil areas shall be developed in accordance with the grading plan indicated on the drawings. Temporary excavation and embankments for plant and/or work areas shall be controlled to protect adjacent areas from despoilment. If there is suspicion that sediment may be unsuitable for disposal at a specified location, the Contractor shall immediately take measures to contain the suspect sediment and notify the Contracting Officer.

3.1.2.3 Solid Wastes

Solid wastes (excluding clearing debris) shall be placed in containers which are emptied on a regular schedule. All handling and disposal shall be conducted to prevent contamination. Solid waste materials shall be hauled to a solid waste disposal site approved by the Contracting Officer. The Contractor shall comply with Federal, State and local regulations pertaining to the use of the solid waste disposal site.

3.1.2.4 Fuel, Oil, and Lubricants

Fuel, oil, and lubricants shall be managed so as to prevent spills and evaporation. To prevent spills, fuel dispensers shall have a 4-foot square, 16-gauge metal pan with borders banded up and welded at corners right below the bibb. Edges of the pans shall be 8-inch minimum in depth to ascertain that no contamination of the ground takes place. Pans shall be cleaned by an approved method immediately after every dispensing of fuel and wastes disposed of offsite in an approved area. Should any spillage of fuel occur, the Contractor shall immediately recover the contaminated ground and dispose of it offsite in an approved area. Petroleum waste generated shall be stored in marked corrosion-resistant containers and recycled or disposed of in accordance with 40 CFR 279, State, and local regulations.

3.1.2.5 Hazardous Waste

Hazardous wastes are defined in 40 CFR 261. The Contractor shall ensure that hazardous wastes are stored and disposed of in accordance with 40 CFR 261 and State and local regulations. The Contractor shall ensure that hazardous wastes are packed, labeled, and transported in accordance with 49 CFR 173 and State and local regulations.

3.1.2.6 Hazardous Materials

The Contractor shall ensure that hazardous materials are labeled, stored, and transported in accordance with 49 CFR 173, State and local regulations.

3.1.2.7 Disposal of Other Materials

Other materials than previously discussed (Construction and Demolition, vegetative waste, etc.) shall be handled as directed.

3.1.3 Preservation and Recovery of Historic, Archeological, and Cultural Resources

3.1.3.1 Applicable Law

A number of Federal laws require protection of cultural resources. Two laws, in particular, can be potentially involved with dredging activities: (1) the National Historic Preservation Act, as amended; and, (2) the Abandoned Shipwreck Act.

3.1.3.2 Known Resources

If known historic, archeological and cultural resources within the Contractor's work area(s) are present, it will be designated as a "potentially significant cultural resource" on the contract drawings or other documents. If so designated, the Contractor shall install protection for these resources and shall be responsible for their preservation during the contract's duration. The Contractor shall not distribute maps or other information on these resource locations except for distribution among the Contractor's staff with a "need to know" technical responsibility for protecting the resources.

3.1.3.3 Inadvertent Discoveries

If, during construction activities, the Contractor observes items that may have historic or archeological value, such observations shall be reported immediately to the Contracting Officer so that the appropriate Corps staff may be notified and a determination for what, if any, additional action is needed. Examples of historic, archeological and cultural resources are bones, remains, artifacts, shell, midden, charcoal or other deposits, rocks or coral, evidences of agricultural or other human activity, alignments, and constructed features. The Contractor shall cease all activities that may result in the destruction of these resources and shall prevent his employees from further removing, or otherwise damaging, such resources.

The possibility of encountering submerged cultural resources is inherent in dredging and snagging operations. Such findings could include shipwrecks, shipwreck debris fields (such as steam engine parts), prehistoric watercraft (such as log "dugouts"), and other structural features intact or displaced. The materials may be deeply buried in sediment, resting in shallow sediments or above them, or protruding into water. Suspected cultural materials inadvertently gathered from a water-saturated context should be kept moist by re-immersion, spraying, or some other expedient means of wetting until the appropriate Corps staff provide further directives. No interviews or other contact with media shall occur without clear authorization from the Contracting Officer or the appropriate Corps representative.

3.1.3.4 Claims for Downtime due to Inadvertent Discoveries

Upon discovery and subsequent reporting of a possible inadvertent discovery of cultural resources, the Contractor shall seek to continue work well away from, or otherwise protectively avoiding, the area of interest, or in some

other manner that strives to continue productive activities in keeping with the contract. Should an inadvertent discovery be of the nature that substantial impact(s) to the work schedule are evident, such delays shall be coordinated with the Contracting Officer. Contract adjustments resulting from compliance with this paragraph shall be determined in accordance with Clause DIFFERING SITE CONDITIONS of Section 00700 CONTRACT CLAUSES in Volume 1.

3.1.4 Protection of Water Resources

The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface, ground waters, and wetlands. The Contractor shall plan his operation and perform all work necessary to minimize adverse impact or violation of the water quality standard. Special management techniques as set out below shall be implemented to control water pollution by the listed construction activities which are included in this contract. The Contractor's construction methods shall protect wetland and surface water areas from damage due to mechanical grading, erosion, sedimentation and turbid discharges. There shall be no storage or stockpiling of equipment, tools, or materials within wetlands or along the shoreline within the littoral zone unless specifically authorized.

3.1.4.1 Washing and Curing Water

Waste waters directly derived from construction activities shall not be allowed to enter water areas. These waste waters shall be collected and placed in retention ponds where suspended materials can be settled out or the water evaporates so that pollutants are separated from the water. Analysis shall be performed and results reviewed and approved by Corps staff before water in retention ponds is discharged.

3.1.4.2 Monitoring of Water Areas

All water areas affected by construction activities shall be monitored by the Contractor.

3.1.4.3 Turbidity

The Contractor shall conduct his operations in a manner to minimize turbidity. Refer to Section 01 57 25 TURBIDITY AND DISPOSAL MONITORING for further instructions.

3.1.4.4 Oil, Fuel, and Hazardous Substance Spill Prevention and Mitigation

The Contractor shall prevent oil, fuel, or other hazardous substances from entering the air, ground, drainage, local bodies of water, or wetlands. This shall be accomplished by design and procedural controls. In the event that a spill occurs despite the design and procedural controls, the following shall occur:

- (1) Immediate action shall be taken to contain and cleanup any spill of oil, fuel or other hazardous substance.
- (2) Spills shall be immediately reported to the Contracting Officer.
- (3) Spill contingency planning shall be strictly in accordance with the criteria of 40 CFR, Part 109.

(4) To control the spread of any potential spill, absorbent materials shall be readily available and capable of absorbing the contents of the single largest tank.

(5) To control the spread of any potential spill, the Contractor shall provide a written certification of commitment of manpower, equipment, and materials required to expeditiously cleanup and dispose of spill materials.

a. Spill Preventive Systems: System design and installation requirements have been discussed at the beginning of this Section. Temporary or portable tanks shall conform to applicable Federal, State and local codes and requirements and shall not be placed where they may be affected by storm, flooding, or washout. Diversionary structures for spills shall be put in place in advance where practical. Both spill preventive systems and any deviations from associated requirements shall be approved by the Contracting Officer prior to implementation.

b. Liabilities: The Contractor shall be liable in the amounts established in 40 CFR, Part 113 when it can be shown that oil was discharged as a result of willful negligence or willful misconduct. The penalty for failure to report the discharge of oil shall be in accordance with the provision of 33 CFR, Part 153.

3.1.5 Protection of Fish and Wildlife Resources

The Contractor shall keep construction activities under surveillance, management, and control to minimize interference with, disturbance to, and damage of fish and wildlife. Species that require specific attention along with measures for their protection shall be listed in the Contractor's Environmental Protection Plan prior to the beginning of construction operation.

In the event that a threatened or endangered species is harmed as a result of construction activities, the Contractor shall cease all work and notify the Contracting Officer. The order of contact within the Corps of Engineers shall be as follows:

Order of Contact of Corps Personnel

<u>Title</u>	<u>Telephone Number</u>
Corps, Inspector	Onsite/After hours to be provided
Area Engineer, (CESAJ-CD-W)	561-472-3511
Chief, Environmental Branch Planning Division (CESAJ-PD-E)	904-232-1665
Chief, Construction Division (CESAJ-CD)	904-232-1118

3.1.5.1 Endangered Species Protection

The Contractor shall instruct all personnel associated with the project of the potential presence of manatees and sea turtles in the area, and the need to avoid collisions with and harming these animals. All construction personnel shall be advised that there are civil and criminal penalties for

harming, harassing, or killing manatees or sea turtles which are protected under the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and/or the Florida Manatee Sanctuary Act. The Contractor shall be held responsible for any manatee or sea turtle harmed, harassed, or killed as a result of construction activities.

a. Siltation Barriers: If siltation barriers are used, they shall be made of material in which manatees cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment. Barriers must not block manatee entry to or exit from essential habitat.

b. Special Operating Conditions:

(1) All vessels associated with the project shall operate at "no wake/idle" speeds at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom, and vessels shall follow routes of deep water whenever possible. Boats used to transport personnel shall be shallow-draft vessels, preferably of the light-displacement category, where navigational safety permits. Mooring bumpers shall be placed on all barges, tugs, and similar large vessels wherever and whenever there is a potential for manatees to be crushed between two moored vessels. The bumpers shall provide a minimum stand-off distance of four feet.

(2) All on site project personnel shall be responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, shall be shut down if a manatee(s) comes within 50 feet of the operation. Activities shall not resume until the manatee(s) has moved beyond the 50-foot radius of the operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals shall not be herded away or harassed into leaving.

(3) If a manatee(s) is sighted within 100 yards of the project area, all appropriate precautions shall be implemented by the Contractor to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. If a manatee is closer than 50 feet to moving equipment or the project area, the equipment shall be shut down and all construction activities shall cease within the waterway to ensure protection of the manatee. Construction activities shall not resume until the manatee has departed the project area.

c. Manatee Monitoring: During clamshell dredging operations, a dedicated observer shall monitor for the presence of manatees. The dedicated observer shall have experience in manatee observation and be equipped with polarized sunglasses to aid in observing. Nighttime lighting of waters within and adjacent to the work area shall be illuminated, using shielded or low-pressure sodium-type lights, to a degree that allows the dedicated observer to sight any manatee on the surface within 200 feet of the operation.

d. Manatee Signs: Prior to commencement of construction, each vessel involved in construction activities shall display at the vessel control station or in a prominent location, visible to all employees

operating the vessel, a temporary sign at least 8-1/2" x 11" reading, "CAUTION: MANATEE HABITAT/IDLE SPEED IS REQUIRED IN CONSTRUCTION AREA." In the absence of a vessel, a temporary 3' x 4' sign reading "CAUTION: MANATEE AREA" shall be posted adjacent to the issued construction permit. A second temporary sign measuring 8-1/2" x 11" reading "CAUTION: MANATEE HABITAT. EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION" shall be posted at the dredge operator control station and at a location prominently adjacent to the issued construction permit. The Contractor shall remove the signs upon completion of construction. Sample Manatee Caution Signs are on the first web site indicated in the paragraph CONSTRUCTION FORMS AND DETAILS below.

e. Observers: At least one observer shall be present when in-water work is being performed. Observers shall have a degree in biology, marine biology, oceanography, or the equivalent, and a minimum of 40 hours of manatee survey experience. Otherwise, prior to dredging, the manatee observers shall specifically be reviewed by the Department in consultation with the FWC Imperiled Species Management Section.

(1) The names and phone numbers of the designated manatee observers shall be submitted for approval to the Imperiled Species Management Section a minimum of one week prior to construction.

(2) Within 30 days following completion of the project, a report detailing manatee sightings, boat-manatee collisions, and manatee injuries shall be submitted to the Imperiled Species Management Section, Division of Habitat and Species Conservation, 620 South Meridian Street, Mailbox 6A, Tallahassee, FL 32399-1600.

(3) The manatee observers must be on site during all in-water construction activities, and be given authority to advise personnel to cease operation upon sighting a manatee within 50 feet of any in-water construction activity.

f. After sunset, vessel movement within the Biscayne Bay Aquatic Preserve will be minimized to the greatest extent possible, as the likelihood of spotting submerged animals is negligible.

3.1.5.2 Manatee, Sea Turtle, and Whale Sighting Reports

Any take concerning a manatee, sturgeon, sea turtle or whale; or sighting of any injured or incapacitated manatees, sea turtles, or whales shall be reported immediately to the Corps of Engineers by notifying the personnel indicated in the table "Order of Contact of Corps Personnel" above.

A copy of the incidental take report shall be provided to the Contracting Officer within 24 hours of the incident. The Contractor shall also immediately report any collision with and/or injury to a manatee to the Florida Fish and Wildlife Conservation Commission "Manatee Hotline" 1-888-404-FWCC (3922) as well as the U.S. Fish and Wildlife Service, Vero Beach Field Office 772-562-3909 for South Florida. If a sea turtle is taken by the dredge (live or dead), or lethally taken by the sweep trawler or relocation trawler, the contractor shall email a PDF version of the incidental take report to NOAA-Fisheries Southeast Region at the following email address within 24 hours of the take - takereport.nmfsser@noaa.gov also providing a cc copy to the Contracting officer.

3.1.5.3 Report Submission

The Contractor shall maintain a log detailing all incidents, including sightings, collisions with, injuries, or killing of manatees, sturgeon (Gulf, Shortnose or Atlantic), sea turtles or whales occurring during the contract period. The data shall be recorded on forms provided by the Contracting Officer (sample forms are on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below). All data in original form shall be forwarded directly to Chief, Environmental Branch, P. O. Box 4970, Jacksonville, Florida, 32232-0019, within 10 days of collection and copies of the data shall be supplied to the Contracting Officer. Following project completion, a report summarizing the above incidents and sightings shall be submitted to the following:

Chief, Environmental Branch
U.S. Army Corps of Engineers (CESAJ-PD-E)
P.O. Box 4970
Jacksonville, Florida 32232-0019

Area Engineer
U.S Army Corps of Engineers (CESAJ-CD-W
4400 PGA Blvd, Suite 203
Palm Beach Gardens, FL 33410-6555

3.1.5.4 Sea Turtle Beach Nest Monitoring

a. Sea Turtle (Work Stoppage) Window and Monitoring: If dredging and placement of material in the beach fill area along Florida Beaches has commenced on or before April 1st, turtle monitoring and nest location shall commence on April 1st and continue concurrently with the performance of work. If dredging and placement of material on Florida Beaches has not commenced prior to April 1st, the Contractor shall commence turtle monitoring and nest location activities for a period of 65 days prior to performing any work (including movement of equipment) in the beach fill area or commence turtle monitoring on April 1st whichever date is later. In such case, after turtle monitoring and nest location activities have been performed for a period of 65 days, the Contractor shall commence work in the beach fill area and continue the monitoring activities concurrently with performance of the work. In any case turtle monitoring and nest location/relocation activities are required through November 30th or until completion of the work on Florida Beaches, whichever is earlier.

b. Daily Visual Inspection: Turtle monitoring activities shall include performance of daily visual inspections of the beach at sunrise by a person permitted by the FF&WCC for handling sea turtle eggs. Any nests discovered shall be excavated and relocated prior to 9:00 a.m. to a nearby self-release beach location where artificial lighting and/or other disturbances shall not interfere with successful incubation, hatching nor hatchling orientation. A log of the results of turtle egg monitoring and recovery activities shall be kept and a copy submitted weekly to the Chief, Environmental Branch, Jacksonville District (sample Marine Turtle Nesting Summary Report form is on the first web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below).

c. Turtle Subcontractor: The Contractor shall have a FF&WCC permitted subcontractor approved by the Contracting Officer to accomplish the sea turtle monitoring of this section unless he demonstrates to the satisfaction of the Contracting Officer the

capability to accomplish sea turtle monitoring and recovery by obtaining a permit from the FF&WCC to take turtles. It is suggested that the contractor coordinate with or directly retain the services of the Miami Dade Parks and Recreation Department - Sea Turtle Recovery Program to meet the required beach placement permit restrictions. They are currently holders of the necessary FF&WCC permits and are performing continual monitoring of the project area. The primary contact of the Sea Turtle Recovery Program is:

Mr. Bill Ahern
Sea Turtle Recovery Program
Haulover Beach Park
10800 Collins Ave.
Miami Beach, Fl. 33154
305-947-3525 Office
305-948-2802 Fax

d. Report Submission: Following completion of the project, a copy of the Contractor's log regarding sea turtles shall be forwarded to the Chief, Environmental Branch and the Area Engineer.

3.1.5.5 Beach Placement Restrictions

a. Equipment Lighting During Sea Turtle Nesting Period April 1 to November 30: Direct lighting of the beach and near shore waters shall be limited to the immediate construction area and shall comply with safety requirements. Lighting on offshore or onshore equipment shall be minimized through reduction, shielding, lowering, and appropriate placement to avoid excessive illumination of the waters surface and nesting beach while meeting all Coast Guard, EM 385-1-1, and OSHA requirements. Light intensity of lighting plants should be reduced to the minimum standard required by OSHA for General Construction areas, in order not to misdirect sea turtles. Shields should be affixed to the light housing and be large enough to block light from all lamps from being transmitted outside the construction area. Refer to Beach Lighting Schematic on the first web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below.

b. IWW, Vicinity of Bakers Haulover Inlet: From April 1 through November 30, staging areas for construction equipment shall be located off the beach. Nighttime storage of construction equipment not in use shall be off the beach to minimize disturbance to sea turtle nesting and hatching activities. All construction pipes that are placed on the beach shall be located as far landward as possible without compromising the integrity of the existing or reconstructed dune system..

c. In the event a sea turtle nest is excavated during construction activities, all work shall cease in that area immediately, and the permitted person responsible for egg relocation for the project should be notified so the eggs can be moved to a suitable relocation site.

d. Sea Turtle Nests: Nests will no longer be removed from the entire work area prior to commencing and during construction. They will only be moved in the instances of immediate danger of erosion or if overly encumbering the construction project. The nests will be moved to a safe location north of the inlet. The relocation of nests can only be preformed by properly certified personnel working under the authorization of an appropriate permit. Nests to remain in the vicinity of the construction area shall be protected by high visibly

barriers that will not restrict the movement of hatchlings and shall be installed as approved by the Sea Turtle Recovery Program with a 10 ft minimum buffer, or as deemed appropriate.

e. Pipeline Placement: Any construction pipes placed parallel to the shoreline shall be placed as far landward as possible up to the vegetated dune line.

f. Beach Tilling: Till the fill area between the landward edge and the seaward edge of the top of the berm with equipment operated so as to penetrate and loosen beach sand (a) to a depth of 36 inches and (b) laterally without leaving unloosened compact sand between the adjacent paths of tines or penetrating part of the equipment. (Suitable equipment is Caterpillar D9L/No. 9 Adjustable Parallelogram Multishank Ripper, or equal.) The Contractor shall be careful not to drag the beach where rock structures have been covered with less than 3 feet of sand. A relatively even surface, with no deep ruts or furrows, shall be created during tilling. Chain-linked fencing or similar item shall be dragged over those areas as necessary for tilling. The slope between the mean high water line and the mean low water line shall be maintained in such a manner as to approximate natural slopes.

3.1.5.6 Escarpments

Visual surveys for escarpments along the project area shall be made immediately after completion of the beach nourishment project. Results of the surveys shall be submitted to the Contracting Officer. Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet or more shall be mechanically leveled by the Contractor to the natural beach contour. If the project is completed during the main part of the nesting season, escarpments may be required to be leveled immediately, while protecting nests that have been relocated or left in place. Nourished beaches shall be surveyed monthly for escarpments by the protocol stated above. Once a beach section is accepted by the Contracting Officer as complete, Dade County Department of Environmental Resources Management (DERM) will take over the responsibility for visual surveys and escarpment removal.

3.1.5.7 Protection of Migratory Bird Species

The Contractor shall keep construction activities under surveillance, management, and control to prevent impacts to migratory birds and their nests. All construction personnel shall be advised that migratory birds are protected by the Florida Endangered and Threatened Species Act of 1977, Title XXVIII, Chapter 372.072, and the U.S. Fish and Wildlife Service pursuant to the Migratory Bird Treaty Act of 1918 and the Endangered and Threatened Species Act of 1982, as amended. The Contractor may be held responsible for harming or harassing the birds, their eggs or their nests as a result of the construction.

a. Monitoring of Construction Area: In order to meet these responsibilities, the Contractor shall conduct monitoring of the construction area beginning 1 April, or 10 days prior to project commencement (including surveying activities and other preconstruction presence on the beach) whichever is later, through 31 August or through fledgling or loss of identified nests or hatchlings, whichever is later, if construction activities occur during that period. Nesting season surveys shall be conducted in all potential beach-nesting bird habitats within the project boundaries that may be impacted by

construction or pre-construction activities during the nesting season. Portions of the project in which there is no potential for project-related activity during the nesting season may be excluded. Surveys for detecting new nesting activity will be completed on a daily basis prior to movement of equipment, operation of vehicles, or other activities that could potentially disrupt nesting behavior or cause harm to the birds or their eggs or young. Surveys shall also document the presence of any piping plovers within or adjacent to the dredge site. Activities shall be implemented to avoid disturbing this endangered species. Daily monitoring using the Daily Bird Monitoring Report shall be conducted during the dawn or dusk time frames by a bird monitor approved by the Contracting Officer. (Caution shall be taken by the monitor to avoid disturbance to the nesting birds.) The Contractor shall maintain a daily log detailing monitoring and nesting activity (not all bird species are listed). Sample monitoring report and qualification sheet are on the first web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. A summary of monitoring shall be submitted to the Government daily, detailing nesting and nesting success/failure including species, number of nests created, location, number of eggs, number of offspring generated during the project and reasons for nesting success or failure, if known.

b. Nesting or Breeding Activity Notification: Any nesting or breeding activity observed by the Contractor shall be reported immediately to the Contracting Officer who shall have sole authority for any work stoppages, creation of the buffer area, or restart of construction activities. In addition, notify the personnel indicated in the table "Order of Contact of Corps Personnel" above, and FWC Regional Biologist at (561) 625-5122 within 24 hours. All breeding activity shall be reported to the Beach-Nesting Bird website within one week of data collection. Observations of non-breeding shorebirds shall be reported to the Shorebird-Seabird Occurrence Database and the Regional Nongame Biologist.

c. Nesting Within Construction Area: Within the project area, the Contractor shall establish a 300 ft-wide buffer zone around any location where shorebirds have been engaged in nesting behavior, including territory defense. Any and all construction activities, including movement of vehicles, shall be prohibited in the buffer zone. The protocols shall be as follows:

(1) The width of the buffer zone shall be increased if birds appear agitated or disturbed by construction or other activities in adjacent areas.

(2) Site-specific buffers shall be implemented in coordination with FWC as needed.

(3) Reasonable and traditional pedestrian access shall not be blocked where nesting birds will tolerate pedestrian traffic. This is generally the case with lateral movement of beach-goers walking parallel to the beach at or below the highest tide line. Pedestrian traffic may also be tolerated when nesting was initiated within 300 feet of an established beach access pathway. The Contractor shall work with FWC staff to determine if pedestrian access can be accommodated without compromising nesting success.

(4) Designated buffer zones shall be posted with clearly marked signs around the perimeter. If pedestrian pathways are approved within the 300-foot buffer zone, these shall be clearly marked. These markings shall be maintained until nesting is completed or terminated. In the case of solitary nesters, nesting is not considered to be completed until all chicks have fledged.

(5) No construction activities, tilling and scarp removal, movement of vehicles, or stockpiling of equipment shall be allowed within the buffer area.

d. Travel Corridors: FWC-approved travel corridors shall be designated and marked outside the buffer areas. Heavy equipment, other vehicles, or pedestrians may transit past nesting areas in these corridors. However, other activities such as stopping or turning shall be prohibited within the designated travel corridors adjacent to the nesting site.

(1) Where such a travel corridor must be established within the project area, it shall avoid critical areas for shorebirds (known nesting sites, wintering grounds, FWC-designated Critical Wildlife Areas, and USFWS designated critical piping plover habitat) as much as possible, and be marked with signs clearly delineating the travel corridor from the shorebird buffer areas described above.

(2) To the degree possible, the Contractor shall maintain some activity within these corridors on a daily basis, without directly disturbing any shorebirds documented on site or interfering with sea turtle nesting, especially when those corridors are established prior to commencement of construction. Passive methods to modify nesting site suitability must be approved by FWC Regional Biologist.

e. Shorebird Nesting: If shorebird nesting occurs within the project area, a bulletin board shall be placed and maintained in the construction area with the location map of the construction site showing the bird nesting areas and a warning, clearly visible, stating that "BIRD NESTING AREAS ARE PROTECTED BY THE FLORIDA THREATENED AND ENDANGERED SPECIES ACT AND THE STATE AND FEDERAL MIGRATORY BIRD ACTS". If it is necessary to extend construction pipes past a known shorebird nesting site or over-wintering area for piping plovers, then whenever possible those pipes shall be placed landward of the site before birds are active in that area. No pipe or sand shall be placed seaward of a known shorebird nesting site during the shorebird nesting season.

f. Tilling: A relatively even surface, with no deep ruts or furrows, shall be created during tilling. To do this, chain-linked fencing or other material shall be dragged over those areas as necessary after tilling. The slope between the mean high water line and the mean low water line shall be maintained in such a manner as to approximate natural slopes.

g. Bird Monitoring Qualifications: The Contractor's Environmental Protection Plan shall contain the qualifications of the bird monitor and the steps to be taken to construct the project in such a manner as not to impact migratory birds or induce their nesting. The qualifications of the bird monitor are a demonstrated ability to identify bird species, general and nesting behavior characteristics,

nests and eggs, and a knowledge of habitat requirements. In addition, references must be provided to verify non-educational experience. The qualifications shall be submitted on the Bird Monitoring Qualification Sheet.

h. Work Delay: Delays in work due to the fault of negligence of the Contractor or the Contractor's failure to comply with this specification shall not be compensable. Any adjustments to the contract performance period or price that are required as a result of compliance with this section shall be made in accordance with the Clause SUSPENSION OF WORK of Section 00700 CONTRACT CLAUSES in Volume 1.

3.1.6 Seagrass Protection Measures

a. The Contractor shall instruct all personnel associated with the project of the presence of seagrasses, especially the Federally-listed threatened Johnson's Seagrass (*Halophlia johnsonii*), and the need to avoid contact with seagrasses.

b. All construction personnel shall be advised that there are civil and criminal penalties for harming or destroying seagrasses, especially Johnson's Seagrass which is protected under the Endangered Species Act of 1973, as amended. The Contractor may be held responsible for any seagrasses harmed or destroyed due to construction activities.

c. The Local Sponsor (Florida Inland Navigation District) is coordinating with Miami-Dade County environmental staff to obtain the seagrass surveys as required by the FDEP permit. The seagrass location information provided on the advertised plans is from a dated survey, however the updated seagrass survey results will be mapped and provided to the Contractor by the preconstruction conference.

d. The Contractor shall not anchor, place pipeline, or stage equipment in a manner that will cause any damage to seagrasses or hardbottoms. Anchoring, placing pipeline, or staging equipment shall avoid these sensitive areas. A pipeline corridor shall be defined that is free seagrasses and hardbottom resources within a three meter radius of the centerline with the pipeline not being placed within three feet of any identified resources. If such activities cannot be done without affecting these sensitive areas, the activities shall cease and the Contracting Officer and Chief, Environmental Branch (904-232-1665) shall be immediately notified (no later than the morning following the next working day if the incident occurs after normal working hours). Any actual or potential incident involving damage to, or disturbance of, seagrasses or hardbottoms shall be reported.

e. For IWW, Vicinity of Bakers Haulover Inlet, the Contractor shall limit pipeline and dredge anchorage such that contact with seagrasses is avoided. Before any work may begin, the Contractor shall install temporary buoys to mark any seagrasses found within 100 feet of the dredge area. One buoy shall be placed for every 100 feet of seagrasses found. The approximate location of these seagrasses is shown in the contract drawings, but as mentioned in subparagraph c, the information shown on the advertised plans is from an outdated survey and only provided to give a general idea of conditions as they have not drastically changed. The updated seagrass survey results will be provided to the contractor prior to the precon. Existing beach vegetation shall not be covered by beach placement of dredge material.

f. Vessels crossing seagrass beds shall have a minimum of eighteen inches of water below the hull or propellers, whichever is lower.

g. Coordinates of all dredge anchor drop points and the pipeline alignment shall be recorded in the dredge and tug operational logs (using DGPS technology, accurate to two (2) meters). Logs shall also include the dates, times and circumstances of all work stoppages and equipment malfunctions. A copy of the dredge and tug operational logs shall be submitted to the Contracting Officer with the submittal "Logs/Final Summary Report" in the above Closeout Submittals, and to the JCP Compliance Officer, DEP, and Bureau of Beaches and Coastal Systems within 90 days after completion of work.

h. Vessel-based visual inspections of the boundaries of the dredging areas and pipeline corridors shall occur within 24 hours prior to commencement of dredging, once approximately halfway through completion of the dredging, and once immediately following completion of the dredging but prior to demobilizing. If any unusual or unanticipated areas of impact during or after dredging, such as deposition, denuding, or other kinds of impacts, outside of the authorized channel are observed, the Contracting Officer shall be notified immediately.

3.1.7 Protection of Air Resources

The Contractor shall keep construction activities under surveillance, management, and control to minimize pollution of air resources. All activities, equipment, processes and work operated or performed by the Contractor in accomplishing the specified construction shall be in strict accordance with the applicable air pollution standards of the State of Florida (Florida Statute, Chapter 403 and others and Chapters 200 series of the FAC) and all Federal emission and performance laws and standards, including the U.S. Environmental Protection Agency's Ambient Air Quality Standards. Information regarding Florida Statutes can be obtained from the following web site: <http://www.dep.state.fl.us>.

3.1.7.1 Particulates

Particulates, such as dust, shall be controlled at all times, including weekends, holidays, and hours when work is not in progress. The Contractor shall maintain excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and work areas within or outside the project boundaries free from particulates that would cause air pollution standards to be exceeded or that would cause a hazard or nuisance. The Contractor shall have the necessary equipment and approved methods to control particulates as the work proceeds and before a problem develops.

3.1.7.2 Odors

Odors shall be controlled at all times for all construction activities.

3.1.8 Protection of Sound Intrusions

The Contractor shall keep construction activities under surveillance and control to minimize damage to the environment by noise.

3.2 POSTCONSTRUCTION CLEANUP

The Contractor shall clean up any area(s) used for construction.

3.3 PRESERVATION AND RESTORATION OF LANDSCAPE AND MARINE VEGETATION DAMAGES

The Contractor shall restore all landscape features and marine vegetation damaged or destroyed during construction operations outside the limits of the approved work areas. Such restoration shall be a part of the Environmental Protection Plan as defined in subparagraph "Environmental Protection Plan" of paragraph SUBMITTALS above. This work shall be accomplished at the Contractor's expense.

3.4 MAINTENANCE OF POLLUTION CONTROL FACILITIES

The Contractor shall maintain all constructed facilities and pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

3.5 CONSTRUCTION FORMS AND DETAILS

See the "Construction Forms & Details" module at the following web address:
<http://www.saj.usace.army.mil/About/DivisionsOffices/Engineering/DesignBranch/SpecificationsSection.aspx>.

-- End of Section --

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TURBIDITY AND DISPOSAL MONITORING - JUPITER INLET

10/12

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SECTION 01 57 25.10

TURBIDITY AND DISPOSAL MONITORING - JUPITER INLET
10/12

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all labor, materials, and equipment, and performing all work required to obtain, analyze, and report the results of turbidity and disposal monitoring.

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 that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Qualifications; G, DO

No later than 15 calendar days prior to the Preconstruction Conference, and prior to hiring, the Contractor shall furnish to the Contracting Officer for approval, the qualifications of the turbidity monitor. Appropriate qualifications for a turbidity monitor shall be familiarity with the dredging techniques being used and professional experience monitoring water quality in Florida. The turbidity monitor is required to be subcontractor for the IWW Jupiter dredging and disposal.

SD-03 Product Data

Calibration Standard

The Contractor shall furnish to the Contracting Officer a copy of the operating instructions and standards used in calibrating equipment used in collecting samples for turbidity.

SD-06 Test Reports

Turbidity Monitoring

All required daily turbidity test reports shall be submitted (by electronic mail in Excel format) to the Contracting Officer, within 24 hours after completion of each test.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 MONITORING REQUIREMENTS

3.1.1 General

Nearshore or inland water samples shall be obtained and analyzed for turbidity. Sampling shall be conducted in accordance with techniques described in the latest edition of "Standard Methods" published by the American Public Health Association (APHA), American Waterworks Association (AWWA), and Water Pollution Control Federation (WPCF), and other current techniques recognized by the scientific community and approved by the Jacksonville District, Corps of Engineers. Samples obtained for turbidity analysis shall be analyzed within 30 minutes of collection. Samples shall be taken with a sampler obtaining samples uncontaminated by water from any other depth.

3.1.1.1 Turbidity Monitoring Equipment

Monitoring required for turbidity shall be measured in Nephelometric Turbidity Units (NTU) using a standard Nephelometer. Global Positioning System (GPS) is also required to record sampling stations. The Contractor shall provide the Government with a certification, attesting to the accuracy of his testing equipment and procedure. The Contractor shall also provide the Contracting Officer with a duplicate of the standard used to calibrate his testing instrument as well as a complete set of operating instructions for the turbidity testing equipment. The Contractor and the Contracting Officer will use this standard throughout the project to maintain the calibration of the equipment.

3.1.2 Turbidity Monitoring

a. Dredge Site (Cuts P-1, P-2 and P-3 or within 75 meters of the Jensen Beach-to-Jupiter Inlet Aquatic Preserve and Cut P-4 inside or within 75 meters of the Loxahatchee River-Lake Worth Creek or Jensen Beach to Jupiter Inlet Aquatic Preserve boundary):

Frequency:

At least three (3) times daily during daytime dredging, at least four (4) hours apart, after dredging has been continual for an hour. Additional times, as necessary, when abnormally turbid plumes are observed, or as directed by the Contracting Officer following turbidity exceedances.

Location:

Compliance 1: (within 75 meters of and inside the aquatic preserves) No more than 75 meters downcurrent of the point of dredging or unauthorized discharge, within the densest portion of any visible turbidity plume, or in the direction of flow, if no plume is visible, at mid-depth.

Compliance 2: Downcurrent, at the nearest edge of any seagrass bed within 75 meters of the point of dredging or unauthorized discharge, within the densest portion of any visible turbidity plume, or in the direction of flow if no plume is visible, at mid-depth.

Background: At least 300 meters upcurrent of the point of dredging or unauthorized discharge, outside any visible turbidity plume and any influence of this project, at mid-depth.

Threshold:

05 NTUs (rounded to nearest whole number) above background at Compliance Location 1, and 15 NTUs above background at Compliance Location 2. If a visible plume caused by dredging activities is observed at the edge of the 75 meter mixing zone, compliance samples shall be taken 75 meters from the dredge within the densest portion of the turbidity plume.

- b. Dredge site (Cut P-4, when more than 75 meters from Loxahatchee River-Lake Worth Creek or Jensen Beach to Jupiter Inlet Aquatic Preserve boundary,):

Frequency:

Twice daily, at least four (4) hours apart, after dredging has been continual for at least one (1) hour.

Location:

Compliance 3: No more than 75 meters downcurrent of the point of dredging or unauthorized discharge, within the densest portion of any visible turbidity plume, at mid-depth.

Compliance 4: Downcurrent, at the nearest edge of any seagrass bed within 75 meters of the point of dredging or unauthorized discharge, within, or in the direction of, the densest portion of any visible turbidity plume, at mid-depth.

Background: At least 300 meters upcurrent of the point of dredging or unauthorized discharge, outside any visible turbidity plume and any influence of this project, at mid-depth.

Threshold:

29 NTUs above background at Compliance Location 3 and 15 NTUs above background at Compliance Location 4.

- c. Beach Disposal Site:

Frequency:

Twice daily, at least four (4) hours apart, after disposal has been continual for at least one (1) hour.

Location:

Compliance: 150 meters from the point where effluent from the discharge pipe enters the ocean, within, or in the direction of, the densest portion of any visible turbidity plume, at surface and mid-depth. If no plume is visible, samples shall be collected 150 meters downcurrent of the point where effluent from the discharge pipe enters the ocean and 50 meters offshore.

Background: At least 300 meters upcurrent of the discharge point outside of any visible turbidity plume and any influence of this project, at the same distance offshore as the compliance point.

Threshold:

29 NTUs above background.

d. Discussion:

The mixing zone for the dredging sites shall extend 75 meters from the dredge, but with 50 meter compliance locations. The mixing zone for the beach disposal sites shall extend 150 meters downdrift and 50 meters offshore from the point where effluent from the discharge pipe enters the ocean. These temporary turbidity mixing zones shall only be in effect during the authorized dredging and filling. If monitoring reveals that the turbidity levels at the compliance sites, including those located within the mixing zones, are greater than the indicated thresholds, construction activities shall cease immediately (unless otherwise directed by the Department) and shall not resume until corrective measures have been taken and turbidity has returned to acceptable levels (i.e., following two consecutive measurements resulting in below-threshold values).

3.2 TURBIDITY TESTS

3.2.1 Testing

Whenever there is doubt as to the adequacy of the testing or validity of the results, the Contracting Officer may direct that additional tests be performed at no additional cost to the Government.

3.2.2 Reporting

The monitoring data shall be recorded on summary forms that contain the pertinent information in the following paragraphs. In addition, weekly summaries of all turbidity monitoring data shall be generated. Weekly summaries of all turbidity monitoring data shall be submitted to the JCP Compliance Officer of the Bureau of Beaches and Coastal Systems and to the Southeast District Office of the Department within one week of collection, with documents containing the following information: (1) "Permit Number 0262913-001-JC"; (2) "Jupiter AIWW Maintenance Dredging and Beach Fill Placement" (3) dates and times of sampling and analysis; (4) a statement describing the methods used in collection, handling, storage and analysis of the samples; (5) a map indicating the sampling locations, current direction, plume configuration and the location of the dredge and discharge point(s); and (6) a statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection and accuracy of the data. Monitoring reports shall also include the following information for each sample that is taken: a) time of day samples taken; b) depth of water body; c) depth of sample; d) antecedent weather conditions; e) tidal stage and direction of flow; f) wind direction and velocity; and g) DGPS position. Reports may be submitted electronically. Example forms are on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. Other data shall be submitted in the form supplied by the laboratory chosen to do the analysis. All data, including weekly summaries shall be forwarded (electronically) to the Contracting Officer, Environmental Branch (CESAJ-PD-E), and FDEP within 7 days of collection. Electronic mail addresses of the Corps and FDEP personnel to receive these reports are provided below. Reports shall be provided in Excel Spreadsheet (.xls) files.

NAME	ORGANIZATION	E-MAIL ADDRESS
George Cooper	USACE COR	john.g.cooper@usace.army.mil
Geoff Klug	USACE	geoffrey.m.klug@usace.army.mil

JCP Compliance Officer	FDEP	jcpcompliance@dep.state.fl.us
Pamela Sweeney	FDEP Aquatic Preserves	pamela.sweeney@dep.state.fl.us

3.2.2.1 Report Contents

- a. Permit application number.
- b. Dates of sampling and analysis.
- c. A statement describing the methods used in collection, handling, storage, and quality control methods used in the analysis of the samples.
- d. A map indicating the sampling location and plume configuration, if any.
- e. A statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection, and accuracy of the data.
- f. Results of the analyses.
- g. A description of any factors influencing the dredging or disposal operation or the sampling program. Reports shall be furnished daily even when no sampling is conducted. When sampling is not conducted, a brief statement shall be given in the report explaining the reason for not conducting the sampling, such as "dredge not working due to mechanical problems" or "no sampling taken due to high seas".
- h. State plane coordinates (x and y) shall be provided for all sampling stations along with the coordinates of the dredge and discharge pipe and the distance between the sampling station and dredge/discharge pipe for each sampling event to demonstrate compliance with the stated sampling distances.

3.2.2.2 Monitoring Reports

Monitoring reports shall also include the following information for each day that samples are taken:

- a. Time of day and date samples were taken.
- b. Depth of water body.
- c. Depth of sample.
- d. Antecedent weather conditions.
- e. Tidal stage and direction of flow.
- f. Salinity (provided for heavy metal and ammonia analysis only).
- g. pH (provided for heavy metal and ammonia analysis only).
- h. Water temperature, C degrees (heavy metal and ammonia analysis only).
- i. Dredge or disposal location (station location and map).
- j. Water sample location.
- k. Wind direction and velocity.

3.2.2.3 Notification

Any measurement greater than five (5) NTUs above background at Compliance Location 1 zero (0) NTUs above background within the Aquatic Preserve (dredge site), 15 NTUS above background at Compliance Location 2 and Compliance Location 4, or 29 NTUs above background outside the Aquatic Preserve (beach disposal site and a portion of Cut P-4) shall constitute a turbidity violation and must be immediately reported to the JCP Compliance Officer and the Jensen Beach-to-Jupiter Inlet Aquatic Preserve and Loxahatchee River-Lake Worth Creek Aquatic Preserve Manager (Laura Herren, Phone (772) 429-2995, email address Laura.Herren@dep.state.fl.us). If a visible plume caused by dredging activities is observed at the edge of the 75 meter mixing zone within an aquatic preserve, compliance samples shall

be taken 75 meters from the dredge within the densest portion of the turbidity plume. Any measurement greater than zero (0) NTUs above background at the edge of a mixing zone that terminates within an aquatic preserve shall constitute a turbidity violation and must be immediately reported, as indicated above. The Contractor shall immediately notify Chief, Environmental Branch at 904-232-3943 and the Contracting Officer, or on the morning of the following work day if it occurs after normal work hours. In addition, all dredging or disposal activity shall cease immediately and all measures to reduce turbidity shall be taken. Dredging or disposal shall not resume until corrective measures have been taken and turbidity has returned to acceptable levels as determined by proper testing described in subparagraph "Dredging and Disposal Locations" above.

3.3 WORK DELAY

Delays in work due to the fault or negligence of the Contractor or the Contractor's failure to comply with this specification shall not be compensable. Any adjustments to the contract performance period or price that are required as a result of compliance with this section shall be made in accordance with the provisions of the Clause SUSPENSION OF WORK of Section 00700 CONTRACT CLAUSES in Volume 1.

3.4 CONSTRUCTION FORMS AND DETAILS

See the "Construction Forms & Details" module at the following web address:
<http://www.saj.usace.army.mil/About/DivisionsOffices/Engineering/DesignBranch/SpecificationsSection.aspx>.

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SECTION 01 57 25

TURBIDITY AND DISPOSAL MONITORING - BAKERS HAULOVER
11/08

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all labor, materials, and equipment, and performing all work required to obtain, analyze, and report the results of turbidity and disposal monitoring.

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 that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Calibration Standard

The Contractor shall furnish to the Contracting Officer a copy of the operating instructions and standards used in calibrating equipment used in collecting samples for turbidity.

SD-06 Test Reports

Turbidity Monitoring

All required turbidity test reports shall be submitted (by electronic mail in Excel format) to the Contracting Officer, the Environmental Branch (CESAJ-PD-E), and the Florida Department of Environmental Protection (FDEP) within 7 days after completion of each test.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 MONITORING REQUIREMENTS

3.1.1 General

Nearshore or inland water samples shall be obtained and analyzed for turbidity. Sampling shall be conducted in accordance with techniques described in the latest edition of "Standard Methods" published by the American Public Health Association (APHA), American Waterworks Association (AWWA), and Water Pollution Control Federation (WPCF), and other current techniques recognized by the scientific community and approved by the Jacksonville District, Corps of Engineers. Samples obtained for turbidity analysis shall be analyzed within 30 minutes of collection. Samples shall be taken with a sampler obtaining samples uncontaminated by water from any

other depth.

3.1.1.1 Turbidity Monitoring Equipment

Monitoring required for turbidity shall be measured in Nephelometric Turbidity Units (NTU) using a standard Nephelometer. Global Positioning System (GPS) is also required to record sampling stations. The Contractor shall provide the Government with a certification, attesting to the accuracy of his testing equipment and procedure. The Contractor shall also provide the Contracting Officer with a duplicate of the standard used to calibrate his testing instrument as well as a complete set of operating instructions for the turbidity testing equipment. The Contractor and the Contracting Officer will use this standard throughout the project to maintain the calibration of the equipment.

3.1.2 Dredging and Disposal Locations

Routine monitoring shall occur at the following locations:

a. Dredge Site:

(1) Frequency: At least three (3) times daily during daytime dredging, at least four (4) hours apart, and at least once during peak flood tide (i.e., at the time of maximum incoming current through the inlet). Additional times, as necessary, when abnormally turbid plumes are spotted.

(2) Compliance Location 1: No more than 150 meters downcurrent of the point of dredging at the edge of the channel, within the densest portion of any visible turbidity plume, at mid-depth.

(3) Compliance Location 2: At the nearest edge of any seagrass bed within 150 meters of the point of dredging, in the direction of any turbidity plume (if visible), at mid-depth.

(4) Background: At least 300 meters upcurrent of the point of dredging or unauthorized discharge, outside any visible turbidity plume and any influence of this project, at mid-depth.

(5) Threshold: 1 NTU above average background at Compliance Location 1, or 29 NTUs above background at Compliance Location 2 (any single corresponding measurement).

b. Disposal Site:

(1) Frequency: Twice daily, at least six (6) hours apart, after disposal has been continual for at least one (1) hour.

(2) Compliance Location: 150 meters from the discharge point, within the densest portion of any visible turbidity plume, at surface and mid-depth. If no plume is visible, samples shall be collected 150 meters downcurrent of the discharge point and 50 meters offshore.

(3) Background Location: At least 300 meters upcurrent of the discharge point outside of any visible turbidity plume and any influence of this project at the same distance offshore as the compliance point.

(4) Threshold: 29 NTUs above background.

3.2 TURBIDITY TESTS

3.2.1 Testing

Whenever there is doubt as to the adequacy of the testing or validity of the results, the Contracting Officer may direct that additional tests be performed at no additional cost to the Government.

3.2.2 Reporting

The monitoring data shall be recorded on summary forms that contain the pertinent information in the following paragraphs. Example forms are on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. Other data shall be submitted in the form supplied by the laboratory chosen to do the analysis. All data shall be forwarded (electronically) to the Contracting Officer, Environmental Branch (CESAJ-PD-E), and FDEP within 7 days of collection. Electronic mail addresses of the Corps and FDEP personnel to receive these reports are provided below. Reports shall be provided in Excel Spreadsheet (.xls) files.

NAME	ORGANIZATION	E-MAIL ADDRESS
George Cooper	USACE COR	john.g.cooper@usace.army.mil
Geoff Klug	USACE	geoffrey.m.klug@usace.army.mil
JCP Compliance Officer	FDEP	jcpcompliance@dep.state.fl.us
Pamela Sweeney	FDEP Aquatic Preserves	pamela.sweeney@dep.state.fl.us

3.2.2.1 Report Contents

- a. Permit application number.
- b. Dates of sampling and analysis.
- c. A statement describing the methods used in collection, handling, storage, and quality control methods used in the analysis of the samples.
- d. A map indicating the sampling location and plume configuration, if any.
- e. A statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection, and accuracy of the data.
- f. Results of the analyses.
- g. A description of any factors influencing the dredging or disposal operation or the sampling program. Reports shall be furnished daily even when no sampling is conducted. When sampling is not conducted, a brief statement shall be given in the report explaining the reason for not conducting the sampling, such as "dredge not working due to mechanical problems" or "no sampling taken due to high seas".
- h. State plane coordinates (x and y) shall be provided for all sampling stations along with the coordinates of the dredge and discharge pipe and the distance between the sampling station and dredge/discharge pipe for each sampling event to demonstrate compliance with the stated sampling distances.

3.2.2.2 Monitoring Reports

Monitoring reports shall also include the following information for each day that samples are taken:

- a. Time of day and date samples were taken.
- b. Depth of water body.
- c. Depth of sample.
- d. Antecedent weather conditions.
- e. Tidal stage and direction of flow.
- f. Dredge or disposal location (station location and map).
- g. Water sample location.
- h. Wind direction and velocity.

3.2.2.3 Notification

If turbidity exceeds background levels by more than 29 NTU or as described in subparagraph "Dredging and Disposal Locations" above, the Contractor shall immediately notify Chief, Environmental Branch at 904-232-1665 and the Contracting Officer, or on the morning of the following work day if it occurs after normal work hours. In addition, all dredging or disposal activity shall cease immediately and all measures to reduce turbidity shall be taken. Dredging or disposal shall not resume until corrective measures have been taken and turbidity has returned to acceptable levels as determined by proper testing described in subparagraph "Dredging and Disposal Locations" above. Although exceedances at Compliance Station 1 that fall between 0NTU standard and the 1 NTU threshold do not require immediate shutdown, they shall still be reported immediately. For every third exceedance of the indicated thresholds within any seven-day period, the Government will consult with DEP staff prior to resuming Construction.

3.3 WORK DELAY

Delays in work due to the fault or negligence of the Contractor or the Contractor's failure to comply with this specification shall not be compensable. Any adjustments to the contract performance period or price that are required as a result of compliance with this section shall be made in accordance with the provisions of the Clause SUSPENSION OF WORK of Section 00700 CONTRACT CLAUSES in Volume 1.

3.4 CONSTRUCTION FORMS AND DETAILS

See the "Construction Forms & Details" module at the following web address:
<http://www.saj.usace.army.mil/About/DivisionsOffices/Engineering/DesignBranch/SpecificationsSection.aspx>.

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SECTION 02 22 13

VIBRATION MONITORING REQUIREMENTS FOR EXISTING STRUCTURES
01/13

PART 1 GENERAL

1.1 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 following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Vibration Control Specialist; G, DO
Vibration Control Specialist Alternate; G, DO
Vibration Monitoring Technician(s); G, DO
Structural Inspection/Evaluation Engineer; G, DO

Within 5 calendar days after Notice of Award, submit qualifications for the Vibration Control Specialist and his Alternate; Vibration Monitoring Technician(s); and, Structural Inspection/Evaluation Engineer. Refer to qualifications in paragraph PERSONNEL QUALIFICATIONS below for each person.

Pre-Construction Structural Survey; G, DO

Within 15 calendar days after Notice of Award and prior to mobilization of equipment, submit 3 copies of the Pre-Construction Structural Survey. Refer to requirements in paragraph PRE-CONSTRUCTION STRUCTURAL SURVEY below.

Vibration Control Plan; G, DO

Within 20 calendar days after Notice of Award and prior to mobilization of equipment, submit 3 copies of a Vibration Control Plan. Submit the Vibration Control Plan for compliance with the requirements in paragraph VIBRATION CONTROL PLAN below. The Plan shall include, but not be limited to, the following:

- a. List of structures that are susceptible to vibration damage.
- b. Number of monitors (seismographs) required for the project and location of monitors that will operate simultaneously in each work area.
- c. Calibration data for each seismograph that will be used for the project. Calibrations shall be current, not older than one year, and follow the manufacturer's recommended procedures.
- d. List of methods and procedures to reduce ground vibrations induced by construction activities to below the pre-determined

maximum allowable vibration level for the designated vibration sensitive structure(s); i.e., reducing equipment speed, changing fill placement method, reducing equipment size, and using manual labor.

e. Plan for each work area showing the proposed construction equipment in the area, the description of susceptible structure(s) in the work area, monitors in the work area, and the list of methods and procedures in subparagraph d. above.

f. The minimum safe working distance that vibration producing equipment may operate from each vibration sensitive structure(s).

g. The maximum allowable ground vibration level that is permissible without causing threshold damage to each vibration sensitive structure(s).

SD-06 Test Reports

Vibration Monitoring Report

Submit a Vibration Monitoring Report every 2 weeks for compliance with the requirements in paragraph VIBRATION MONITORING REPORT below. Submit the Vibration Monitoring Report and the Daily Instrument Logs concurrently.

Daily Instrument Logs

Submit the Daily Instrument Logs every 2 week for compliance with the requirements in paragraph DAILY INSTRUMENT LOGS below. Submit the Daily Instrument Logs and the Vibration Monitoring Report concurrently.

Post-Construction Structural Survey; G|DO

Submit 3 copies of the Post-Construction Structural Survey within 15 calendar days after completion of the inspection. Submit the Post-Construction Structural Survey for compliance with the requirements in paragraph POST-CONSTRUCTION STRUCTURAL SURVEY below.

1.2 PERSONNEL QUALIFICATIONS

1.2.1 Vibration Control Specialist

The Vibration Control Specialist shall have a background in structural and/or geotechnical engineering, have a minimum of three years of demonstrated experience in vibration monitoring and related work, and be a registered professional engineer or registered professional geologist. The alternate may serve in the event of the Vibration Control Specialist's absence. Periods of absence shall not exceed one week at any one time and not more than fifteen workdays during a calendar year. The requirements for the alternate are the same as for the Vibration Control Specialist. The Vibration Control Specialist shall be designated in the Vibration Control Plan.

1.2.2 Vibration Monitoring Technician(s)

Personnel responsible for operation, maintenance and calibration of

seismographs shall have a minimum of three years of demonstrated experience in vibration monitoring and related work.

1.2.3 Structural Inspection/Evaluation Engineer

Structural inspections shall be performed by professional structural engineers registered in the State of Florida with a minimum of three years of demonstrated experience in structural condition inspections. The Structural Inspection Engineer shall have responsibility for pre-construction and post-construction structural surveys. The Structural Inspection Engineer shall be designated in the Vibration Control Plan.

1.2.4 Organizational Changes

When it is necessary to make changes to personnel, resubmit qualifications in accordance with paragraph SUBMITTALS above.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 VIBRATION CONTROL PROGRAM

Implement a program that protects existing structures from damages that result from construction equipment operations and vibrations. The purpose of the program is to avoid damages and potential claims that allege damages were caused by construction activities. The Contractor is responsible to document pre-existing conditions, to avoid damaging existing structures that were determined to be susceptible to vibration damage, and to avoid damaging existing structures that were not determined to be susceptible to vibration damage; related responsibilities include inspection, damage claims, and work stoppage that results from monitoring.

The Contractor's attention is called to Clauses PERMITS AND RESPONSIBILITIES and PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES AND IMPROVEMENTS of Section 00700 CONTRACT CLAUSES in Volume 1 of this contract that define the Contractor's responsibilities. The Contractor shall process any claim arising from his operation; in particular, all property damage claims shall be acknowledged by the Contractor (or his agent) immediately, and the claimed damage inspected within 30 calendar days following initial notification, and processed to a conclusion (honored, denied, or compromised) within 90 calendar days after completion of the contract; but, in no case shall the claim(s) remain unresolved for a period exceeding six months.

3.2 PRE-CONSTRUCTION STRUCTURAL SURVEY

Inspect existing structures within 200 feet from the beach fill limit as to their potential susceptibility to vibration damage from construction equipment induced ground vibration. Visible structural and/or cosmetic damage to buildings, exterior walls, foundations, decks, pools, bulkheads and seawalls shall be documented by photographs, sketches, and field notes.

Factors to consider in determining potential susceptibility shall include but not be limited to: foundation design; foundation conditions; soils testing data; changes in structural loads and local water levels due to beach fill placement; structural condition including construction materials; past damage history and existing stresses, magnitude, frequency, and duration of predicted vibrations from construction equipment and

distance from fill placement.

Inspect all existing structures that are determined to be vibration sensitive. Any damage found shall be documented thoroughly by photographs (supplemented with video as necessary), sketches of visible structural and/or cosmetic damage, and field notes. Photographs shall be at least 3-by 5-inch (or digital) and shall provide a detailed visual explanation of the damage. Include a reference scale in each close-up photograph. Sketches shall show the general damage location and extent. All inspection items shall be indexed and cross-referenced and shall use the stationing and locations shown on the contract drawings. Include hotel/motel names and addresses where applicable. Structural damage shall be additionally documented by measuring crack or damage size, width, and length. Every effort shall be made to inspect and document the condition of the building's interior where the building has been determined to be extremely susceptible to vibration damage. Structure(s) determined not to be susceptible to vibration damage shall be noted as such.

3.3 VIBRATION CONTROL PLAN

Use the results of the Pre-Construction Structural Survey to develop the Vibration Control Plan. The Plan shall include procedures to monitor vibration sensitive structures, adjust daily mobilization and demobilization activities, and alter fill placement operations. The Plan shall include the appropriate tolerable ground vibration level for each structure that has been determined to be susceptible to vibration damage. Should ground vibrations equal or exceed the pre-determined maximum vibration level(s), construction operations shall be halted and corrective measures taken in accordance with the approved Plan.

The minimum safe working distance that vibration producing equipment may operate from each vibration sensitive structure shall be documented in the Plan.

The maximum allowable ground vibration level that is permissible without causing threshold damage to each vibration sensitive structure shall be documented in the Plan. Threshold damage is defined as the occurrence of cosmetic damage.

Each seismograph shall have the capability to measure peak particle velocity and frequency and shall be equipped with an alarm system to alert the on-site Vibration Control Specialist that ground vibrations are approaching the maximum tolerable ground vibration level.

The Contractor's personnel responsible for implementation of the Plan is hereinafter called Vibration Control Specialist. The Vibration Control Specialist shall be on the site during mobilization, demobilization and operation of fill placement equipment.

3.4 DAILY INSTRUMENT LOGS

Daily instrument logs shall document satisfactory performance of the equipment during monitoring periods. Strip charts shall be documented daily with monitoring station number, date, technician signature, and instrument serial number.

3.5 VIBRATION MONITORING REPORT

The monitoring report shall detail the daily activities of the vibration

monitoring program. This report shall include, but not be limited to, locations of monitoring equipment; instrument serial number; date and times of readings; magnitude of vibration levels; a sketch and photograph (3- by 5-inch) of each monitoring station showing the relationship of the monitor to vibration sensitive structures; daily instrument logs; instructions transmitted to the Contractor's personnel regarding the modification or stoppage of work operations to keep vibrations below the allowable levels; description of complaint(s); and, any other information pertinent to the vibration monitoring program.

3.6 POST-CONSTRUCTION STRUCTURAL SURVEY

Immediately after completion of work, conduct a post-construction inspection of the structures previously inspected under the Pre-Construction Structural Survey. Documentation procedures shall be identical to those performed under the Pre-Construction Structural Survey. Changes or deviations from the pre-construction inspection conditions in any structure shall be identified and described in the inspection documentation. All citizen complaints and remedies that occurred during the placement of beach fill shall be summarized and included in the report.

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SECTION 35 20 23

DREDGING
11/08

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all labor, materials, and equipment, and performing all excavation and disposal of all material as specified herein or indicated on the drawings. This scope also includes all necessary measures for protection of the environment. Environmental protection requirements under this contract are as important to overall completion of the work as other technical aspects. Failure to meet the requirements of these specifications for environmental protection may result in work stoppages or termination for default. No part of the time lost due to any such work stoppages shall be made the subject of claims for extensions of time or for excess costs or damages by the Contractor. If the Contractor fails or refuses to promptly repair any damage caused by violation of the provisions of these specifications, the Contracting Officer may have the necessary work performed and charge the cost thereof to the Contractor.

1.2 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.

ASTM INTERNATIONAL (ASTM)

ASTM D 422 (1963; R 2007) Particle-Size Analysis of Soils

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2008) U.S. Army Corps of Engineers Safety and Health Requirements Manual

EM 1110-1-1000 (1993) Photogrammetric Mapping

EM 1110-1-1002 (1990) Survey Markers and Monumentation

EM 1110-1-1003 (1996) NAVSTAR Global Positioning System Surveying

EM 1110-1-1004 (1994) Deformation Monitoring and Control Surveying

EM 1110-1-2909 (1998; Chg 2) Geospatial Data and Systems

EM 1110-2-1003 (2002) Hydrographic Surveying

FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS (FBPSM)

FBPSM

Minimum Technical Standards, Chapters 177,
472, 61G17

TRI-SERVICE STANDARDS (TSS)

TSS

(2006) A/E/C CADD Standards

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. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Notice of Intent to Dredge

Prior to commencement of work on this contract, the Contractor shall notify the Commander, Seventh Coast Guard District of his intended operations to dredge and request that it be published in the Local Notice to Mariners. This notification must be given in sufficient time so that it appears in the Notice to Mariners at least two weeks prior to the commencement of this dredging operation. A copy of the notification shall be provided to the Contracting Officer.

Relocation of Navigation Aids

The Contractor shall not remove, change the location of, obstruct, willfully damage, make fast to, or interfere with any aid to navigation. Within 7 calendar days following receipt of Notice of Award, the Contractor shall notify the Commander, Seventh Coast Guard District, Miami, Florida, of his plan to dredge adjacent to any aids which require relocation to facilitate dredging. The notification shall be sent via Fax to 305-415-6757, ATTN: Mr. Joe Embres. This notification shall be immediately followed by a formal written request with a copy to the Contracting Officer. The Contractor shall also contact the U.S. Coast Guard, 305-415-6730, for information concerning the position to which the aids will be relocated.

Construction and Grade Stakes Recovery Plan; G|RO

After the Notice to Proceed, the Contractor shall submit a Construction and Grade Stakes Recovery Plan. The Plan will outline the steps that the Contractor will implement to recover all the stakes used on the project. This Plan will include the use of an inventory log that will be made available for review by the appropriate Government personnel. A sample Plan is on the Jacksonville District Home Page, click the links ENGINEERING DIVISION, then CONSTRUCTION FORMS AND DETAILS. See web site address <http://www.saj.usace.army.mil/About/DivisionsOffices/Engineering/DesignBranch/SpecificationsSection.aspx>

SD-02 Shop Drawings

Drag Bar

Submit drawings and one photograph showing drag bar equipment used for final leveling work indicated in paragraph FINAL EXAMINATION AND ACCEPTANCE.

Screening Device; G|AO

Submit drawings and/or photographs and written description of screening equipment to be utilized.

SD-07 Certificates

Calibration of Positioning Equipment

Prior to commencement of work provide documentation indicating proof of positioning equipment calibration.

Historical Period Shipwreck Sites

The Contractor shall immediately notify the Contracting Officer if any shipwreck, artifact, or other objects of antiquity that have scientific or historical value, or are of interest to the public, are discovered, located, and/or recovered.

Surveys

The Contractor shall give 10 days advance notice, in writing, to the Contracting Officer of the need for a pre-dredging survey or after-dredging survey for final acceptance for each acceptance section.

Daily/Monthly Report of Operations

The Contractor shall prepare on QCS and submit one (1) hard copy of the Daily Report of Operations, using either ENG Form No. 27A or ENG Form No. 4267, for each dredge and/or unloader working. This report shall be submitted on a daily basis and not in groups (groups = multi-days reports packaged together at one time). In addition to the daily report, the Contractor shall prepare a Monthly Report of Operations for each month or partial month's work on either ENG Form No. 27A or ENG Form No. 4267. The monthly report shall be submitted on or before the 7th of each month, consolidating the previous month's work. Upon completion of the job, the Contractor shall submit a consolidated job report, combining the monthly reports. The Contractor shall distribute one copy of each report to the District Engineer; ATTN: CESAJ-EN-C; U.S. Army Engineer District, Jacksonville, P.O. Box 4970; Jacksonville, Florida 32232-0019. Reports shall be submitted on a monthly basis with daily reports accompanying the monthly report and job report.

Additionally, one copy of the form(s) shall be maintained by the Contractor on the dredge(s) for the Contracting Officer's inspection purpose. Further instructions on the preparation of the reports will be furnished at the Preconstruction Conference.

ETS Data Submission

Submit ETS data within 24 hours of collection as required in subparagraph "ETS Data Requirements and Submissions".

Misplaced Material

The Contractor shall notify the U.S. Coast Guard Marine Safety Office of any misplaced material as stated in the Clause OBSTRUCTION OF NAVIGABLE WATERWAYS of Section 00700 CONTRACT CLAUSES in Volume 1.

Declaration of Inspection Stateside

Refer to paragraph FUEL OIL TRANSFER OPERATIONS for submittal.

SD-11 Closeout Submittals

Post Dredge Summary Report and Summary Table

Submit the Post Dredge Summary Report and Summary Table within 5 calendars days of after completion of dredging as required in subparagraph "ETS Data Requirements and Submissions" .

1.4 DREDGING RESTRICTIONS

All dredging shall be performed using a cutter-suction dredge.

1.4.1 Order of Work

The first order of work shall be dredging all cuts within Jupiter Inlet.
The second of work shall be dredging all cuts within Bakers Haul over Inlet.

1.5 SPECIAL INSTRUCTIONS

Dredging of insitu rock is not required; but if encountered, the location and extent of any insitu rock above grade or required depth shall be reported to the Contracting Officer.

1.6 PUMPING OF BILGES

Contractors are warned that pumping oil or bilge water containing oil into navigable waters, or into areas which would permit the oil to flow into such waters, is prohibited by Section 13 of the River and Harbor Act of 1899, approved 3 March 1899 (30 Stat. 1152; 33 U.S.C. 407). Violation of this prohibition is subject to the penalties under the referenced Acts.

1.7 HISTORICAL PERIOD SHIPWRECK SITES

If any shipwreck, artifact, or other objects of antiquity that have scientific or historical value, or are of interest to the public, are discovered, located, and/or recovered, the Contractor acknowledges that:

a. The site(s), articles, or other materials are the property of the State of Florida, with title vested in the Department of State, Division of Historical Resource; and that,

b. He/She will immediately notify the Contracting Officer.

1.8 UTILITY CROSSINGS

1.8.1 General

It is the Contractor's responsibility to investigate the location of all utility crossings. The Contractor shall take precautions against damages which might result from his operations in the vicinity of the utility crossings. If any damage occurs as a result of his operations, the Contractor will be required to suspend dredging until the damage is repaired and approved by the Contracting Officer. Costs of such repairs and downtime of the dredge and attendant plant shall be at the Contractor's expense.

1.9 PERMITS

The Contractor's attention is directed to the Clause PERMITS AND RESPONSIBILITIES of Section 00700 CONTRACT CLAUSES in Volume 1 and the paragraph PERMITS AND AUTHORIZATIONS of Section 01 57 20 ENVIRONMENTAL PROTECTION.

1.10 FUEL OIL TRANSFER OPERATIONS

In accordance with U.S. Coast Guard regulations (33 CFR 156.120), couplings used in fuel oil transfer operations on any vessel with a capacity of 250 or more barrels of oil shall be either a bolted or full-threaded connection; or a quick-connect coupling approved by the Commandant; or an automatic back-pressure shutoff nozzle used to fuel the vessel. An executed fuel oil transfer (Declaration) form signed by the tanker operator shall be submitted to the Contracting Officer for each refueling operation. The U.S. Coast Guard shall also be notified prior to any refueling. A copy of the [Declaration of Inspection for Refueling](#) is on the web site indicated in the paragraph CONSTRUCTION FORMS AND DETAILS.

1.11 SIGNAL LIGHTS

The Contractor shall display signal lights and conduct operations in accordance with the General Regulations of the Department of the Army and 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 in navigable channels, as set forth in Commandant U.S. Coast Guard Instruction M16672.2, Navigation Rules: International-Inland (COMDTINST M16672.2), or 33 CFR 81 Appendix A (International) and 33 CFR 84 through 33 CFR 89 (Inland) as applicable.

1.12 NOTICE TO MARINERS -- DREDGING CONTRACTS

Should the Contractor, during operations, encounter any objects on the channel bottom which could be a hazard to navigation, the Contractor shall immediately notify the Contracting Officer as to the location of said object and shall provide any other pertinent information necessary for the Contracting Officer to prepare and issue a Notice to Mariners.

1.13 FINAL CLEANUP

Final cleanup, as stated in the paragraph COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK of Section 00700 CONTRACT CLAUSES in Volume 1, shall include the removal of all the Contractor's plant and equipment either for disposal or reuse. Plant and/or equipment and/or materials to be disposed of shall only be disposed in a manner and at locations approved by the Contracting Officer. Unless otherwise approved by the Contracting Officer, the Contractor will not be permitted to abandon any equipment in the disposal area or other areas adjacent to the worksite.

a. Failure to promptly remove all plant, pipeline, equipment, and materials upon completion of the dredging will be considered a delay in the completion of the final cleanup and demobilization work. In such case, the Government will exercise its right as stated in Clause DEFAULT (FIXED-PRICE CONSTRUCTION) of Section 00700 CONTRACT CLAUSES in Volume 1 to remove any plant and/or equipment and/or materials at the Contractor's expense. All areas disturbed due to work performed under this contract shall be repaired to equal or better than original condition.

1.14 WORK VIOLATIONS

Work done in violation of these specifications or a verbal or written stop order of the Contracting Officer will be considered as unsatisfactory progress for purposes of progress payments in accordance with Clause PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS of Section 00700 CONTRACT CLAUSES in Volume 1.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 NOTIFICATION OF COAST GUARD

3.1.1 Navigation Aids

Navigation aids located within or near the areas required to be dredged will be removed, if necessary, by the U.S. Coast Guard in advance of dredging operations. The Contractor shall not remove, change the location of, obstruct, willfully damage, make fast to, or interfere with any aid of navigation.

3.1.2 Dredging Aids

The Contractor shall obtain approval from the U.S. Coast Guard for all buoys, dredging aid markers to be placed in the water, and dredging aid markers affixed with a light prior to the installation. Dredging aid markers and lights shall not be colored or placed in a manner that they will obstruct or be confused with navigation aids.

3.2 WORK AREA

The Contractor will be permitted to exclude the public from the work areas in the immediate vicinity of his dredging, and disposal operations. The Contractor shall prevent public access to the discharge end of the pipeline. The Contractor shall erect, maintain, and move as necessary, a restrictive barrier around the discharge of the hydraulic pipeline. The barrier shall be constructed so as to prevent the public from approaching

the discharge from any direction closer than 40 feet. The Contractor shall post signs in a conspicuous location with the wording "DANGER - HIGH PRESSURE DISCHARGE FROM DREDGE". Enforcement shall be the Contractor's responsibility at no additional cost to the Government. The enforcement shall be coordinated with local enforcement agencies and will be subject to approval of the Contracting Officer. Additionally, the Contractor shall place a safety person at the discharge end of the disposal pipeline. The safety person shall be present at all times during discharge operations and will maintain radio communication between the dredge and the disposal operation.

3.2.1 Access

The Contractor shall be responsible for providing and maintaining access necessary for his equipment and plant to and from the work site, mooring area, and disposal area. The Contractor shall ascertain the environmental conditions which can affect the access such as climate, winds, currents, waves, depths, shoaling, and scouring tendencies.

3.2.2 Protection of Existing Waterways

The Contractor shall conduct his operations in such a manner that material or other debris are not pushed outside of dredging limits or otherwise deposited in existing side channels, basins, docking areas, or other areas being utilized by vessels. The Contractor will be required to change his method of operations as may be required to comply with the above requirements. Should any bottom material or other debris be pushed into areas described above, as a result of the Contractor's operations, the same must be promptly removed by and at the expense of the Contractor to the satisfaction of the Contracting Officer.

3.2.3 Adjacent Property and Structures

No dredging will be permitted within 25 feet of any structure. Any damage to private or public property or structures resulting from the disposal or dredging operations shall be repaired promptly by the Contractor at his expense. Any damage to structures as a result of Contractor's negligence will result in suspension of dredging and require prompt repair at the Contractor's expense as a prerequisite to the resumption of dredging.

3.2.4 Subaqueous Cable Crossings

The Contractor shall be responsible for verifying the locations and depths of all utility crossings and take precautions against damages which might result from his operations, especially the sinking of dredge spuds and/or anchors into the channel bottom, in the vicinity of utility crossings. If any damage occurs as a result of his operations, the Contractor will be required to suspend dredging until the damage is repaired and approved by the Contracting Officer. Costs of such repairs and downtime of the dredge and attendant plant shall be at the Contractor's expense.

3.3 DISPOSAL OF EXCAVATED MATERIAL

3.3.1 General

3.3.1.1 Bakers Haulover

The materials excavated from the shoals in the vicinity of Bakers Haulover Inlet Cut DA-9 shall be transported to, screened as necessary and deposited

at the beach placement area designated on the drawings. The average distance to which the material will have to be transported is approximately 1.0 miles, and the maximum distance will be approximately 1.6 miles. no alternative placement will be allowed.

3.3.1.2 Jupiter Inlet

Material excavated must be transported to and deposited in the beach disposal area designated on the drawings. The average distance to which the material will have to be transported is approximately 1.8 miles and the maximum distance will be approximately 2.3 miles.

3.3.2 Beach Placement Area

Dredged material from the vicinity of Bakers Haulover Inlet shall be placed in the Beach Placement Area as shown on the drawings. The dredged material shall be placed to the sections and limits as shown on the drawings to the extent of the dredged material. Passage of equipment, pipeline, etc., shall be landward of the apparent MHW within the limits of Bakers Haulover Beach placement area. Refer to Specification Section 01 57 20 paragraph 3.1.5.5(e) for additional information or pipeline restriction.

3.3.2.1 Bakers Haulover

Dredged material from the vicinity of Bakers Haulover Inlet shall be placed in the Beach Placement Area as shown on the drawings. The dredged material shall be placed to the sections and limits as shown on the drawings to the extent of the dredged material. Passage of equipment, pipeline, etc., shall be seaward of the apparent MHW within the limits of Bakers Haulover Beach placement area.

3.3.2.1.1 Special Dredge Areas

Material dredged in Cut DA-9 between Stations 48+00 and 51+00 and Ranges 0.0 to 62.5 shall have special handling requirements. The dredged slurry shall be contained and dewatered above the mean high water line toward the landward edge of the design berm. It shall then be re-worked and utilized to slope (fade) the existing planted shoreline vegetation into the design berm by building a low profile dune on top of the 75-foot wide design berm. The dune shall be no more than 3 feet higher than the 75-foot design berm and no more than 25 feet in width immediately adjacent to the existing dune vegetation as shown on the plans. While dredging this area, no discharge of effluent is allowed with turbidity above background.

3.3.2.2 Jupiter Inlet

Dredged material from the Intracoastal Waterway (IWW) Vicinity of Jupiter Inlet must be placed in the permitted beach placement area between R-13 and T-19. Proposed beach placement area is as shown on the drawings. The Contracting Officer will evaluate beach fill based on previous or on-going beach placement work to determine the contract beach fill area. The dredged material must be placed to the sections and limits as shown on the drawings to the extent of the dredged material. The pipeline access route from the beach placement area to Jupiter Inlet is shown on the drawings. Place pipe seaward of any vegetated sand dune or contour El. 9.0 NGVD within 50-foot pipeline corridor. Refer to Specification Section 01 57 20.10 paragraph 3.1.5.6 for additional information or pipeline restriction.

3.3.2.3 Order of Placement

3.3.2.3.1 General

a. Prior to placement of fill, the Contractor shall remove from the site of the work all snags, driftwood, and similar debris lying within the foundation limits of the beach fill section. All materials removed shall be disposed of in areas provided by and at the expense of the Contractor and approved by the Contracting Officer. Grading and other construction equipment will not be permitted outside the easement lines shown on the drawings except for ingress and egress to and from the site, in a manner acceptable to the Contracting Officer.

b. The excavated material shall be placed and brought to rest on the beach to the lines, grade, and cross sections indicated on the drawings, unless otherwise provided for herein or directed by the Contracting Officer. The Contractor shall not stockpile pipe or any other equipment or debris on the beach except as approved by the Contracting Officer. The beach is subject to changes and the elevations on the beach at the time the work is done may vary from the elevations shown on the drawings. The Contracting Officer reserves the right to vary the width or grade of the berm from the lines and grade shown on the plans in order to establish a uniform beach for the entire length of the project. The beach disposal section shown on the drawing is for the purpose of estimating the theoretical amount of capacity and will be used by the Contracting Officer in making any change in the lines and grade. The Contractor may not be able to achieve the exact disposal area shown on the drawings. He/She will, however, be required to move the pipeline discharge to another part of the disposal area when he/she has discharged the amount of dredged materials in an area that would produce that cross section. Earthen pedestrian access ramps shall be provided across the dredge discharge pipeline at 200-foot intervals. At all permanent public access ways blocked by the dredge pipe, the Contractor shall provide Americans With Disabilities (ADA) Act compliant ramps over the pipe. The Contractor shall monitor the dredge and fill operations and shall notify the Contracting Officer if and when the quantity to be dredged appears to be excessive for the designated beach disposal area. The Contractor will not be required to dress the fill below the water line to the slope shown but will be required to do the dressing specified in subparagraph "Dressing".

3.3.2.3.2 Baker Haulover

Dredged material shall be placed commencing at DEP Monument R-28 and proceeding southerly, or as directed by the Contracting Officer, until all dredged material has been placed to the sections and limits shown on the contract drawings.

3.3.2.3.3 Jupiter Inlet

Dredged material shall be placed commencing at coordinates X=959000 and Y=948060 (NAD 83/90) and proceeding southerly, or as directed by the Contracting Officer, until all dredged material has been placed to the sections and limits shown on the contract drawings.

3.3.2.4 Beach Observer

The Contractor shall station a designated beach observer at the beach placement area throughout dredging and placement operations. The observer shall continuously monitor the material being conveyed to the beach for the presence of unacceptable fill material as defined in subparagraph "Beach Placement Criteria". The beach observer shall not have other construction related responsibilities. The observer shall remain in constant radio contact with the dredge and shall report encounters with unacceptable materials to the dredge operator. If unacceptable materials are encountered during dredging, the Contractor shall notify the Contracting Officer verbally at the first available normal business hours, providing the time, location, and source of the unacceptable material; and proceed in accordance with the contract. The Contractor shall also report encounters with unacceptable material in the Daily QC Report, providing location of where the material was dredged from, location and elevation (in the project reference datum), and where materials were placed in the beach disposal area, and any associated beach sample name. If debris, trash, rocks, or silty materials that exceed acceptable levels are conveyed to the beach disposal area by the Contractor's dredging operations, the Contractor shall remediate as directed by the Contracting Officer.

3.3.3 Grade Stakes

Grade stakes and any other stakes for any purpose shall be made of steel that can and must be completely removed intact after filling to cross sections accepted by or as directed by the Contracting Officer. Grade All stakes shall have sufficient length above grade so they may not be accidentally covered by fill. The Contractor must consecutively number each piece of pipe used for grade stakes, must clearly mark that number upon the pipe, and must record the location of each numbered pipe in a grade stake log. The removal of each numbered pipe must be recorded in the grade stake log at the time of the pipe/stake removal. At the request of the Contracting Officer, all of the grade stake pipes must be displayed after their removal to demonstrate those pipes that have been removed. All pipes used for grade stakes placed within the limits of the beach fill work must be numbered and must be recorded in the log. It is the Contractor's responsibility to track, locate, and completely remove all grade stakes in their entirety to the satisfaction of the Contracting Officer.

3.3.4 Temporary Longitudinal Dikes

Temporary longitudinal dikes and spreader and/or pocket pipe shall be used to prevent gullying and erosion of the beach and fill and to retain the fill on the beach and within the limits of the fill cross section. As the work progresses, dikes or mounds shall be constructed along the beach to direct the pipeline discharge longitudinally along the beach to avoid transverse gullying directly from the discharge point to the ocean, and to build the new berm to design grade. Longitudinal dikes shall initially be 300 feet long in advance of filling operations. They may need to be lengthened to meet water quality standards, to build to the required lines and grades, and to keep material within the toe-of-fill. The Contractor will not be held responsible for erosion caused by waves after the beach fill has been satisfactorily placed. No undrained pockets shall be left in any fill during or upon completion of the work. The Contractor shall not permit wastewater to flow landward of the fill section or water to pond between the fill and upland. Groins, bulkheads, revetments, seawater pipe structures, and other structures within the fill section shall be protected by the Contractor to prevent damage thereof by the Contractor's

operations. Any damages assessed as a result of any of the above items shall be at the Contractor's expense.

3.3.5 Electronic Tracking System (ETS)

The Contractor is required to have, in continuous operation on the dredge, electronic positioning equipment that will accurately compute and plot the position of the dredge. The electronic positioning equipment shall be used so as to monitor, as closely as possible, the actual location of the excavation device(s). Dredge position information shall be made available to the Contracting Officer on a weekly basis. The Contractor shall prepare a plot of the data that includes the state plane coordinate grid system, channel stationing and dredge limits.

3.3.5.1 ETS Positioning and Dredge Depth Monitoring Equipment

The Contractor shall furnish and continuously operate electronic positioning equipment to monitor the precise positioning of the dredge position(s). The furnished system and components shall perform in accordance with [EM 1110-1-2909](#). Horizontal location shall have accuracy equal to or better than a standard Differential Global Positioning System (DGPS), with an equal to or better than plus/minus 5 feet (horizontal repeatability). Vertical data shall have an accuracy of plus/minus 0.5 foot (vertical repeatability) or better with continuous tidal corrections, if applicable. Horizontal position and vertical data shall be collected in sets and minimally at 1 minute intervals. Each data set shall be referenced in real-time to date and local time (to nearest minute), and shall be referenced to the same state plane coordinate system and datum used for the channel survey shown in the contract plans. Regardless of the dredge type used, these same basic elements detailed above shall be monitored to specifically document where excavation takes place, how the excavated material is moved to the Disposal Area, and to provide proof that the excavated material was properly deposited into the specified Disposal Area. It is the Contractor's responsibility to select a system that will operate properly at the work location. The system shall be calibrated, as required, in the presence of the Contracting Officer or his authorized representative at the work location before disposal operations have started, and at 30-day intervals, or as required to maintain positioning accuracy, while work is in progress. The complete system is subject to the Contracting Officer's approval.

3.3.5.2 ETS Data Requirements and Submissions

The ETS shall be in operation during all dredging activities. The Contracting Officer shall be notified immediately in the event of ETS failure and all dredging operations for the vessel shall cease if ETS is not restored to full operation in 24 hours. Any delays resulting from ETS failure shall be at the Contractor's expense. Log Data shall include the required digital data to be collected and report generated for each dredging 12 hour work shift, or other work shift as appropriate.

a. Data Submission. ETS data shall be furnished to the Contracting Officer within 24 hours of collection. The digital plot files shall be in an easily readable format such as Adobe Acrobat PDF file, Microstation DGN file, JPEG, BMP, TIFF, or similar. The hardcopy of the ETS data and tracking plots shall be maintained both onboard the vessel and submitted to the Contracting Officer on a weekly basis.

b. The following reports shall be submitted to the Contracting

Officer in hard copy and digital format within 5 calendar days after completion of the dredging:

(1) Post Dredge Summary Report. This summary report shall indicate the contract number, contract title, name of contractor, name and type of vessel(s), dredging timeframes for each work shift, total volume transported to the disposal area, any misplaced material, and shall contain a brief narrative discussing any abnormalities experienced during the dredging cycle, such as pipeline leaks and discharge outside the permitted area(s). This narrative shall include a description of the violation, the time the violation occurred, when it was reported to the Contracting Officer, discussion of the circumstances surrounding the violation, and specific measures taken to prevent a reoccurrence. This report shall be submitted in Microsoft Word format.

(2) Summary Table. A summary table, in Microsoft Excel format, shall be submitted for all dredging shifts. This table shall contain the log data indicated above and the following additional information at a minimum: Datum and coordinate system, dredge vessel name, leverman in charge of dredge (captain), trip number (if applicable), vessel draft (if applicable), type of disposal vessel (if applicable), material placement location, position of start and stop of material placement (hoppers and scows), and volume of material deposited.

3.3.6 Rehandled Materials

Any material that is rehandled or moved and placed in its final position by methods other than hydraulic shall be placed in horizontal layers not exceed three (3) feet in thickness. Compaction of the layers will not be required. The Contractor shall schedule his operations to take advantage of tides so that filling is done in the dry or as directed by the Contracting Officer.

3.3.7 Dressing

Final dressing shall not take place until all dredging is completed, at which time all evidence of haul road or pipeline shall be removed and the fill shall be graded and dressed so as to eliminate any undrained pockets and abrupt humps and depressions in the beach fill surfaces and as necessary to comply with subparagraph "Tolerances". Grade stakes used in the placement of the fill shall be removed intact, without breaking. All dikes shall be completely degraded. The bank caused by wave forces shall be graded down to a slope no steeper than 1 vertical on 20 horizontal.

3.3.8 Tolerances

A tolerance of one (1.0) foot above the prescribed berm grade and slopes above the wave zone will be permitted in the final beach surface.

3.3.9 Debris Screening Devices

Previous projects have demonstrated the need for debris removal prior to beach placement of material. Therefore, the Contractor shall provide and install a screening device at the discharge end of the pipeline to trap debris during fill material placement operations when necessary. The Contractor shall perform an on-sight demonstration of its proposed screening device(s), and it is subject to review and approval of the

Contracting Officer.

a. The Contractor's screening devices shall:

(1) Be of durable construction and shall be fabricated from metal and/or composite materials that are durable and compatible with the harsh conditions and discharge forces in which the devices will be used,

(2) Enclose the end of the discharge pipeline in a manner that precludes the passage of all material greater than two inches in any dimension (i.e. screen opening shall be a maximum of 2" x 2"),

(3) Allow a discharge flow that does not impede the rate of production required to meet the contract construction time in relation to the cubic yardage required to be dredged on an average daily basis,

(4) And be readily removable for easy replacement if damaged.

b. The Contractor shall maintain adequate replacement parts and/or additional screening devices on site and keep the screening device in place when necessary and in good working order during pumping operations. The cost of any repairs due to the utilization of a screening device shall be at the Contractor's expense, and such repairs shall not be a basis for a time extension. Any remediation effort resulting from not employing the screening device will be at the Contractor's expense and shall not be a basis for a time extension.

3.3.10 Debris Removal

The Contractor shall remove all trash and debris conveyed to the beach disposal area by the Contractor's dredging operations. The debris shall become the property of the Contractor and be disposed of in accordance with all local, state, and federal laws and in a manner acceptable to the Contracting Officer.

3.3.11 Existing Jetty

The approximate location of existing Jetties are shown on the drawings. The groins are made of concrete H-piling. The Contractor shall take all precautions to protect the groins from damage as a result of his operations. Placement of sand around and near the groins shall be to the general lines and grades shown on the drawings unless directed otherwise by the Contracting Officer. If any damage occurs as a result of his/her operations, the Contractor will be required to suspend dredging until the damage is repaired and approved by the Contracting Officer. Costs of such repairs and downtime of the dredge and attendant plant shall be at the Contractor's expense.

3.3.12 Pipeline Access

Pipeline corridors are shown on the plans. In addition, the beaches of Baker's Haulover, above mean high water line, may be used for pipeline access. Exact pipeline routes are to be coordinated with the Contracting Officer and subject to their review and approval.

3.3.13 Barges

Water and dredged materials shall not be permitted to overflow or spill out of barges while transporting to the disposal site(s). Failure to repair leaks or change the method of operation which is resulting in overflow or spillage will result in suspension of dredging operations and require prompt repair or change of operation to prevent overflow or spillage as a prerequisite to the resumption of dredging.

3.3.14 Dredge Pipelines

3.3.14.1 Dredge Discharge Pipeline

The Contractor shall plainly mark the pipeline access routes with conspicuous stakes, targets and/or buoys to be maintained throughout the contract operations. A tight dredge discharge pipeline shall be maintained to prevent the spilling of dredged material or dredge water outside of the disposal area. The Contractor shall provide and maintain radio communication between the dredge and the disposal areas and the dredge and the Contracting Officer. The pipeline shall be inspected at least twice daily for leaks. Failure to immediately repair leaks in the discharge pipeline will result in suspension of dredging operations and require prompt repair of pipeline as a prerequisite to the resumption of dredging. Any damage to private or public property resulting from the Contractor's operations shall be repaired by the Contractor at his expense.

3.3.14.2 Submerged Pipeline

In the event the Contractor elects to submerge his pipeline, the pipeline shall rest on the bottom, and the top of the submerged pipeline and any anchor securing the submerged pipeline shall be no higher than the required project depth for the channel in which the submerged pipeline is placed. Should the Contractor elect to use a pipeline material which is buoyant or semi-buoyant, such as PVC pipe or similar low density materials, the Contractor shall securely anchor the pipeline to prevent the pipeline from lifting off the bottom under any conditions. The Contractor shall make daily inspections of the submerged pipeline to ensure buoyancy has not loosened the anchors. The Contractor shall remove all anchors when the submerged pipeline is removed. The location of the entire length of submerged pipeline shall be marked with signs, buoys, lights, and flags conforming to U.S. Coast Guard regulations.

3.3.14.3 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 paragraph SIGNAL LIGHTS. The lights shall be supported either by buoys or by temporary piling, provided by the Contractor and reviewed and approved by the Contracting Officer. Where the pipeline does not cross a navigable channel, the flashing yellow all-around lights shall be spaced not over 200 feet apart, unless closer spacing is required by U.S. Coast Guard personnel, in which case the requirements of the U.S. Coast Guard shall govern, at no additional cost to the Government.

3.3.15 Booster Pumps

Any booster pumps installed by the Contractor shall be located at least 300 feet from any residential-type building or house. Booster pumps, their prime movers, and any auxiliary equipment shall be fitted or equipped with mufflers, noise control enclosures, or other engineering noise control methods, measures, and features such that steady noise emanating from this equipment does not exceed 85 decibels on the A scale at slow response, and impulsive noise does not exceed 140 decibels. Such items shall be maintained throughout the course of the work.

3.3.16 Misplaced Materials

Materials deposited above the maximum indicated elevation or outside of the disposal area template shown will require the degrading or removal of such materials at the Contractor's expense. The Contractor will not be held responsible for erosion caused by waves after the material has been satisfactorily placed.

3.3.17 Quality Control for Beach Placement of Sand

The Contractor shall have on-site personnel who can identify obvious changes in sediment quality at the active placement location. The Contractor shall acquire the equipment and personnel to remediate the beach if so directed by the Contracting Officer.

3.3.17.1 Beach Placement Sediment Criteria

The composite values for the placed material shall approach the mean values presented for the channel area. Individual material samples will likely vary from these values. The acceptable range of values for placed material are shown in Table 1 below.

These criteria take into account the natural variability observed within the channel areas as determined using the existing core boring data. Silt is defined as any material passing the #230 sieve (see Table 1 on the next page). Materials which fall outside of the compliance ranges will be considered unacceptable. Unacceptable material also includes debris, trash, and rocks or rubble larger than 3/4 inch in diameter, which exceed the size of the natural occurrence of rock or shell on the beach. Deviations from these criteria are acceptable provided that the spatial extent of the deviations does not exceed 10,000 continuous square feet.

Bakers Haulover Inlet

Table 1 - Fill Material Compliance Values

Sediment Parameter	Compliance Value
Maximum Silt Content (Passing #230 sieve)	10 percent
Mean Grain Size Range	0.2 mm to 0.8 mm
Maximum Fine Gravel Content (retained on #4 sieve)	40 percent

Jupiter Inlet

Table 2 - Fill Material Compliance Values

Sediment Parameter	Compliance Value
Maximum Silt Content (Passing #230 sieve)	10 percent
Maximum Fine Gravel Content (Retained on #4 sieve)	5 percent
Maximum Carbonate Content/ Visual Shell Content	30 percent

3.3.17.2 Contingency Plan

The Contractor shall be responsible for establishing such control as may be necessary to ensure that the construction tolerances are not exceeded. If unacceptable materials are encountered, the Contractor shall notify the Contracting Officer immediately, providing the time, location, and source of the unsatisfactory material. The Contractor shall proceed as follows:

a. Should any beach sample not comply with the beach placement sediment criteria, the Contracting Officer shall be notified at the first available normal business hours.

b. Should three consecutive beach samples not comply with the beach placement sediment criteria, the Contracting Officer shall be notified immediately.

The Contractor shall also report any encounters with unacceptable material in the daily quality control reports. The Contractor shall report the approximate elevation and horizontal position (in project reference datum) where the materials were encountered, as well as the location where material was placed in the beach disposal area.

3.3.17.3 Beach Observation

The Contractor's Beach Observer shall visually monitor the material being placed on the beach for unacceptable material continuously. The material can be deemed unacceptable based on the content of rock, debris, shell, and

silty materials. If occasional debris, trash, rocks, or silty materials appear on the beach during dredging operations and appear to exceed background or existing levels, the Contractor shall remediate. The Contractor shall notify the Contracting Officer of any observed non-beach compatible sediment.

A representative sample of placed material shall be collected, handled, and visually inspected every four hours during placement operations during daylight hours only. Material placed at night shall be sampled and visually inspected at the beginning of the following day to an extent equivalent to the sampling that would have occurred during daylight hours. The result of the visual inspection shall be recorded in the Contractor's daily report regardless of sediment quality. If potentially non-compliant material is observed, the Contractor shall verbally notify the Contracting Officer (per subparagraph "Contingency Plan"). The location of the dredge at the time the unacceptable material was excavated will be recorded in the Contractor's daily report.

At the discretion of the Contracting Officer, a sample of material shall be saved. Each saved sample shall be archived with the date, time, and location of the sample. Additional information regarding dredge operations (approximate time of fill placement, approximate dredge area location, etc.) shall also be recorded. The samples shall be visually compared to the sediment criteria. At the discretion of the Contracting Officer, these samples may be analyzed and reported according to the procedures listed in subparagraph "Laboratory Analyses". A record of these sand evaluations shall be provided to the Contracting Officer to include in the Government's daily inspection reports.

If any samples have been saved for the duration of the project (at the discretion of the Contracting Officer), all final samples shall be turned over to the Government prior to completion of work.

3.3.17.4 Laboratory Analysis

The existing beach sediments shall be characterized as to sand-type, moist color (Munsell), grain size distribution (sand grain frequency, median grain size, mean grain size, sorting coefficient), percent visual shell, percent fines (retained on #230 sieve), percent fine gravel (retained on the #4 sieve), and percent coarse gravel, cobbles or material (retained on the 3/4 inch sieve). Sample granulometrics shall be quantified by performing a gradation analysis using nested sieves based upon [ASTM D 422](#). U.S. Standard sieve sizes shall include 3/4 inch, 3/8 inch, and numbers 4, 7, 10, 14, 18, 25, 35, 45, 60, 80, 120, 170, 200, and 230.

3.3.17.5 Debris Provision

A screen of appropriate size (approximately 2 inch opening) shall be kept on-site readily available to be used or installed on the project as needed. Should any debris be pumped on the beach at any time during the project, the screen shall be immediately installed to prevent any further debris from being placed on the beach, until no further debris is being pumped. Any debris placed on the beach due to the screen not being in place shall be removed from the site, and properly disposed, at no additional cost to the Government.

3.3.17.6 Remediation

Any remediation actions for material not meeting the sediment criteria

shall be coordinated with the Contracting Officer prior to commencement.

3.4 REQUIRED DEPTH, ALLOWABLE OVERDEPTH, AND SIDE SLOPES

3.4.1 Required Depth

The material actually removed from the designated areas to be dredged, to a depth of not more than the required depth shown on the drawings, will be estimated and paid for in accordance with the provisions contained in the subparagraphs "Measurement" and "Payment" of Section 01 22 00 MEASUREMENT AND PAYMENT.

3.4.2 Allowable Overdepth

To cover the inaccuracies of the dredging process, material actually removed from the designated areas to be dredged, to a depth below the required depth of not more than the allowable overdepth shown on the drawings, will be measured and paid for in accordance with the provisions contained in the subparagraphs "Measurement" and "Payment" of Section 01 22 00 MEASUREMENT AND PAYMENT.

3.4.3 Side Slopes

Although dredging of side slope material may be necessary to provide the required project channel dimensions (depth and width), the side slopes shown on the drawings are provided for payment purposes only. Side slopes may be formed by box cutting, step cutting, or dredging along the side slope. Material actually removed, within the limits approved by the Contracting Officer, to provide for final side slopes not flatter than that shown on the contract drawings, but not in excess of the amount originally lying above this limiting side slope, will be measured and paid for in accordance with the provisions contained in subparagraphs "Measurement" and "Payment" of Section 01 22 00 MEASUREMENT AND PAYMENT. Such amount will be estimated and paid for whether dredged in original position or by box cut dredging whereby a space is dredged below the allowable side slope plane on the bottom of the slope for upslope material capable of falling into the cut. End slopes and transition slopes will not be estimated or paid for under this contract. In such cases, a 0 horizontal on 1 vertical will be used with no upslope allowance provision applied outside the required prism.

3.4.4 Excessive Dredging

It is recognized that the limits of dredging need to extend beyond the pay prism in order to remove material from within the pay prism. Therefore, the limits of active dredging may exceed the limits of the pay prism in vertical dimension as well as horizontal dimension to the extent necessary to remove material from the pay prism. Indirect impacts (side slope sloughing, etc) may extend even beyond the limits of active dredging. Nevertheless, material taken from beyond the limits of the pay prism as described in subparagraphs "Allowable Overdepth" and "Side Slopes" will be deducted from the total amount dredged as excessive overdepth dredging, or excessive side slope dredging, for which payment will not be made. Nothing herein shall be construed to prevent payment for the removal of shoals performed in accordance with the applicable provisions of the paragraphs FINAL EXAMINATION AND ACCEPTANCE or SHOALING of this Section.

3.4.5 Areas to be Dredged

Based on information currently available to the Government, areas known to

require dredging are depicted on the drawings as hatched areas. The actual areas to be dredged may vary from the hatched areas shown in the drawings. In order to provide the required project dimensions within and throughout the project limits shown on the drawings, the Contractor shall remove material located within the project limits as directed by the Contracting Officer, regardless of whether the material is located in a hatched area or not. Payment for all dredged material dredged from a hatched area will be made at the applicable contract unit price. Payment for all material dredged from a non-hatched area may be made at the applicable contract unit price; however, the Contractor may request an adjustment to the contract unit price in accordance with DFAR Clause 252.243-7002 REQUESTS FOR EQUITABLE ADJUSTMENT and/or FAR Clause 52.243-4 CHANGES of Section 00700 CONTRACT CLAUSES in Volume 1.

3.5 SURVEYS

3.5.1 General

The Contracting Officer shall be notified, in writing, 10 days in advance of the need for pre-dredging and after-dredging surveys. Surveys will be performed in accordance with the paragraph QUANTITY SURVEYS of Section 00700 CONTRACT CLAUSES in Volume 1; paragraph LAYOUT OF WORK of Section 01 11 00 SUMMARY OF WORK; Section 01 45 05 DREDGING/BEACH FILL PLACEMENT - CONTRACTOR QUALITY CONTROL; EM 1110-1-1000, EM 1110-1-1002, EM 1110-1-1003, EM 1110-1-1004, EM 1110-1-2909, and EM 1110-2-1003; FBPSM; and, TSS. A copy of the EM's can be downloaded from the following web site: <http://140.194.76.129/publications/eng-manuals/>. A copy of the TSS can be downloaded from the following web site: <https://cadbim.usace.army.mil/>.

3.5.2 Contractor Representative

The Contractor or his authorized representative will be notified when soundings and/or sweepings are to be made. All in-place measurement surveys and final acceptance sweep surveys will be performed with a representative of the Contractor on board the Government platform during the full execution of the survey. No in-place measurement or final acceptance sweep survey will be performed without a representative of the Contractor on board the survey vessel. The Contractor's representative shall be fully knowledgeable in offshore construction subsurface surveying procedures, techniques, equipment, and horizontal and vertical calibration methods, and state-of-the-art horizontal and vertical accuracy limitations. The Contractor's representative shall observe and review, in progress, the adequacy and accuracy of the survey for in-place payment purposes, and for the potential existence of collusion, fraud, or obvious error in the data.

3.5.3 Survey Certification

a. Immediately upon completion of any survey, the Contractor's representative shall, based on his on-site review of the survey execution, determine that the survey contains no evidence of collusion, fraud, obvious error, and that subsequent horizontal and vertical corrections are accurately annotated on the subsurface record.

b. The Contractor's authorized representative shall bring aboard the survey vessel a blank copy of the Certification Statement and shall attest to an acceptable survey by signing the Certification Statement before leaving the vessel. Sample copy of the Certification Statement is on the web site indicated in paragraph CONSTRUCTION FORMS AND

DETAILS.

c. In the event the Contractor's authorized representative observes (and quantifies) specific documentary evidence of either fraud, collusion, or obvious error, the survey will be immediately rerun. Resurveys will totally supersede any previously run survey and will be run over the full reach of any particular Acceptance Section.

d. If acceptability is not acquired after performing one resurvey of an Acceptance Section, a meeting shall be held between the Contractor and the Contracting Officer to expeditiously resolve the issue causing rejection of the survey. Contractor equipment and personnel standby time to resolve acceptability of the survey shall be at the Contractor's expense.

e. In no case shall a previously unacceptable survey be later judged acceptable by the Contractor; unless such a reassessment/reevaluation is performed within 24 hours after the original survey, and prior to initiating any resurvey action based upon identifiable collusion, fraud, or obvious error.

f. Should the Contractor or his authorized representative refuse to certify to the acceptability of a survey for contract payment without identifiable collusion, fraud, or obvious error, then the following actions will follow:

(1) Preconstruction (pre-dredging) Survey: Excavation shall not commence until representatives of the Contractor and Contracting Officer have met and resolved the basis for refusal of certification. Should the Contractor commence excavation prior to obtaining an acceptable survey, he/she shall be liable for any excavation performed. If a resurvey is performed, and accepted, prior excavation will not be measured, estimated, or paid for.

(2) Post-Construction (after-dredging) Survey: The 3-week survey window allowed under subparagraph "Measurement" of Section 01 22 00 MEASUREMENT AND PAYMENT will be indefinitely extended until a final survey is accepted. Any material accretion which might occur due to such a time extension will neither be measured, estimated, or paid for.

(3) Refusal to Certify: Contractor equipment and personnel standby time to resolve his refusal to certify to the acceptability of a survey when there is no identifiable collusion, fraud, or obvious error shall be at the Contractor's expense and resultant delays shall not be the basis for time extensions of the contract.

g. Intermediate surveys taken between the pre-dredging and post-dredging surveys will not be considered for the purposes of determining quantities for final payment and acceptance of the area dredged.

3.6 INSPECTION

3.6.1 Quality Assurance Representative (QAR)

The QAR shall be notified prior to the establishment of horizontal control work (baseline layout, ranges, station flags, shore-based control for

EPS/RPS, etc.) and vertical control work (tide staff(s), upland cross sections, construction elevations top/invert, maximum/minimum elevations of dredged materials within disposal area(s), etc.), but the presence or absence of the QAR shall not relieve the Contractor of his responsibility for proper execution of the work in accordance with the specifications. The Contractor is required:

a. To furnish, on the request of the Contracting Officer or any QAR, the use of such boats, boatmen, laborers, and material forming 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. However, the Contractor is not required to furnish such facilities for the surveys prescribed in paragraph FINAL EXAMINATION AND ACCEPTANCE of this Section.

b. To furnish, on the request of the Contracting Officer or any QAR, suitable transportation from all points on shore designated by the Contracting Officer to and from the various pieces of plant, and the beach placement area.

3.6.2 Failure to Comply

In conjunction with the Clause INSPECTION OF CONSTRUCTION of Section 00700 CONTRACT CLAUSES of Volume 1, 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.

3.7 FINAL EXAMINATION AND ACCEPTANCE

3.7.1 Final Examination of Work

As soon as practicable and no later than three (3) weeks after the completion of the entire work or any section thereof (if the work is divided into sections) as in the opinion of the Contracting Officer will not be subject to damage by further operations under the contract, such work will be thoroughly examined at the cost and expense of the Government by sounding or by sweeping, or both, as determined by the Contracting Officer. Should any shoals, lumps, or other lack of contract depth be disclosed by this examination, the Contractor will be required to remove same by dragging the bottom in accordance with the subparagraph "Bed Leveling" or by dredging at the appropriate contract rate of dredging.

The Contractor or his authorized representative will be notified when soundings and/or sweepings are to be made and will be permitted to accompany the survey party. When the area is found to be in a satisfactory condition, it will be accepted finally. Should more than two sounding 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 soundings or sweeping operations will be charged against the Contractor at the rate of \$5,500 per day for each day in which the Government plant is engaged in sounding or sweeping and/or is enroute to or from the site or held at or near the said site for such operation.

3.7.2 Bed Leveling

Bed leveling by dragging the bottom with a drag bar or other apparatus shall be allowed only in the designated dredging areas shown on the

drawings. Dragging in areas outside of the designated dredging areas shown on the drawings is specifically prohibited without written approval of the Contracting Officer.

3.7.3 Bed Leveling - Reporting and Documenting

The Contractor shall fully document all bed leveling activity including date and time for initiation and completion of bed leveling. All bed leveling activity shall be documented on the Contractor's Quality Control Report (QCR).

3.7.4 Final Acceptance

Final acceptance of the whole or a part of the work and the deductions or corrections of deductions made thereon will not be reopened after having once been made, except on evidence of collusion, fraud or obvious error, and the acceptance of a completed section shall not change the time of payment of the retained percentages of the whole or any part of the work.

3.8 SHOALING

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 the appropriate contract price, within the limits of available funds may be done if agreeable to both the Contractor and the Contracting Officer.

3.9 CONTINUITY OF WORK

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 in-situ 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 gauges or ranges cannot be seen or properly followed.

3.10 NOISE CONTROL

All hauling and excavating equipment and dredges, boats, and tugs used on this work shall be equipped with satisfactory mufflers or other noise abatement devices. The Contractor shall conduct his operations so as to comply with all Federal, State and local laws pertaining to noise. The use of horns and whistle signals shall be held to the minimum necessary in order to ensure as quiet an operation as possible.

3.11 GENERAL DREDGING SAFETY REQUIREMENTS

3.11.1 Dredge Plant Restriction Definitions

To increase the safety of dredges on Federal contracts, the contract plans and specifications may identify a location within the Federal channel (usually indicated by a channel station or navigation aid) requiring minimum equipment standards. This is a Certification Required Line (CRL). The following are specific designations that may apply to this contract.

3.11.1.1 Certification Required Line - Coast Guard Inspected (CRL-C)

A designation of Certification Required Line - Coast Guard inspected (CRL-C) means only dredges with a current U.S. Coast Guard Certificate of Inspection for the intended use of the vessel will be allowed to work seaward of this line under this contract. The inspections shall include both topside and drydock. The topside inspection shall have occurred within 15 months prior to the date that dredging commences. The drydock inspection shall have occurred within 3 years prior to the date that dredging commences.

3.11.1.2 Certification Required Line - Load Line (CRL-L)

A designation of Certification Required Line - Load Line (CRL-L) means only dredges having a current Load Line Certification issued pursuant to 46 CFR 41-47 will be allowed to work seaward of this line under this contract. Load Line inspections may be performed by either the American Bureau of Shipping (ABS) or Des Norkte Veritas (DNV) on behalf of the U.S. Coast Guard. The statutory requirement for Load Line Certification is 46 U.S.C. 5101-5116.

3.11.2 Certification of Attendant and Auxiliary Plant

In addition to the requirements of USACE EM 385-1-1, Section 19, Subparagraph 19.A.01.b., all supporting floating plant for dredging operations (to include, but not limited to, anchor barges, deck barges, deck/work barges, tug boats, tenders, workboats, pump-out barges, derrick barges, and spider barges) shall have a current marine survey inspection certificate. The only exceptions to this requirement include pipeline support pontoons or floats and outboard skiffs under 16 feet in length. The certification shall have been issued by a licensed and accredited marine surveyor within the previous 12 months. The marine surveyor must be accredited by either the National Association of Marine Surveyors or the Society of Accredited Marine Surveyors. No attendant plant that does not have a valid certification shall be used on this contract. The certifications and inspection shall be appropriate for the intended use of the plant in all locations specified in this contract. Unless the Contracting Officer decides otherwise, documentation of the inspection for each piece of plant shall be provided prior to issuance of Notice to Proceed.

3.11.3 Minimum Tow-Boat Requirements

In addition to the requirements of USACE EM 385-1-1, Section 19, Subparagraph 19.A.03.e., when dredging with non-self propelled dredges seaward of the CRL-L or CRL-C, the Contractor shall provide the following.

- a. One primary towboat of adequate size and horsepower to move any and all attendendant and support plant against privailing tides, currents, and winds during normal and severe weather conditions. The towboat shall be available within the project work area at all times.
- b. A towboat(s) of adequate size and horsepower to move the dredge(s) against prevailing tides, currents, and winds during normal and severe weather conditions shall be able to mobilize to the work site, and move the dredge(s) to safe harbor with 4 to 6 hours of first notification.

3.12 CONSTRUCTION FORMS AND DETAILS

See the "Construction Forms & Details" module at the following web address:
<http://www.saj.usace.army.mil/About/DivisionsOffices/Engineering/DesignBranch/SpecificationsSection.aspx>.

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