

DOCUMENTS AND SPECIFICATIONS  
CONTRACT NO. NAT-201311 / NJETTY-REHAB

MURDERKILL RIVER  
NORTH JETTY REHABILITATION/ EXTENSION  
FOR

STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES  
AND ENVIRONMENTAL CONTROL (DNREC)

Division of Watershed Stewardship  
89 Kings Highway  
Dover, Delaware, 19901  
(302) 739-9921

Date: March 18, 2015



Job No. 1945B001

Andrews Miller and Associates  
A Division of Davis, Bowen & Friedel, Inc.  
106 North Washington Street  
Easton, Maryland 21601  
(410) 770-4744

BIDS WILL BE RECEIVED AT THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL UNTIL 2:00 P.M. April 30, 2015 AND WILL BE PUBLICLY OPENED AND READ ALOUD AT THAT TIME. PROPOSALS RECEIVED AFTER THE DATE AND TIME SET FOR THE OPENING WILL BE RETURNED UNOPENED.



**MURDERKILL RIVER NORTH JETTY REHABILITATION  
AT  
BOWERS BEACH, DE  
CONTRACT NO. NAT-201311 / NJETTY-REHAB  
ADVERTISEMENT DATES: April 7, 2015 & April 14, 2015  
BID OPENING DATE: April 30, 2015**

**INVITATION TO BID**

The Department of Natural Resources and Environmental Control, Division of Watershed Stewardship will receive sealed bids in Room B172, Richardson & Robbins Building, 89 Kings Highway, Dover, Delaware 19901, until **2:00 p.m., April 30, 2015** at which time they will be publicly opened for the following project **Murderkill River North Jetty Rehabilitation** at Bowers Beach, Delaware **Contract No. NAT-201311 / NJETTY-REHAB**.

The project includes rehabilitation of the North Jetty located at the entrance leading into the Murderkill River by extending the length, raising the height and capping the existing concrete filled bags with armor stone.

A pre-bid meeting will be held at **10:00 A.M., April 15, 2015** at the project's site being at the northerly jetty at Bowers Beach. Attendance at this meeting is **mandatory** for all prospective bidders and will be pre-requisite for submitting a bid.

Proposals shall be placed in a sealed envelope clearly marked "**BID ENCLOSED**", **Murderkill River North Jetty Rehabilitation; Contract No. NAT-201311 / NJETTY-REHAB** and be addressed to:

Department of Natural Resources and Environmental Control  
Division of Watershed Stewardship  
89 Kings Highway  
Dover, Delaware 19901  
Attn: Mr. Charles E. Williams, II      Phone: 302-739-9921

Prospective Bidders may obtain contract documents upon payment of \$50.00 for each set at The Department of Natural Resources And Environmental Control, Division of Watershed Stewardship, 89 Kings Highway, Dover, DE 19901. This payment is non-refundable and the documents need not be returned.

Each bid must be accompanied by a bid guarantee equivalent to ten percent (10%) of the amount of the base bid. The bid guarantee may be a certified check or a bid bond secured by a surety authorized to do business in Delaware. The bid guarantee shall be made payable to the Department of Natural Resources and Environmental Control, Division of Watershed Stewardship. Further, the successful bidder shall provide payment and performance bonds, each in an amount equal to the total contract amount.

The Department of Natural Resources and Environmental Control, Division of Watershed Stewardship reserves the right to reject any or all bids and to waive any informality therein. The Department also reserves the right to extend the time and place of the bid opening from that described in this advertisement with not less than two (2) calendar days' notice by certified mail, facsimile machine or other electronic means to those bidders who have obtained copies of the plans and specifications.

The Department of Natural Resources prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political belief and marital or family status.

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Andrews, Miller & Associates  
Issue Date March 18, 2015  
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**SECTION 1**  
**GENERAL PROVISIONS**

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## SECTION 1A

### DEFINITION OF TERMS

**DEFINITIONS** Wherever used in these Administrative Specifications or in the other Contract Documents, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof.

**Application for Payment** - The invoice sent to the Department by the Contractor, imprinted with the name and address of the firm in requesting progress payments.

**Bid** - The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the work to be performed.

**Bidder** - Any persons, firm or corporation submitting a bid for the work.

**Bonds** - Bid, performance and payment bonds and other instruments of security, furnished by the Contractor and his surety in accordance with the Contract Documents.

**By Others** - Refers to all persons or firms other than the contractor to whom this contract is awarded.

**Change Order** - A written order to the Contractor, issued after execution of the Contract, signed by the Director and Engineer, authorizing an addition, deletion or revision in the work, and if required, adjustment in the Contract Price or Contract Time.

**Contract** - The written agreement between the Department and the Contractor covering the work to be performed, including the Contractor's bid and the Bonds.

**Contract Documents** - The Contract, Specifications, Drawings, Addenda (whether issued prior to opening of bids or execution of the Contract) and Modifications.

**Contract Price** - The total moneys payable to the Contractor under the Contract Documents.

**Contract Time** - The total number of calendar or working days, and any completion dates for phases or segments of the contract work shown on the Construction Schedule or stated in the specifications or Contract.

**Contractor** - The person, firm or corporation with whom the Department has executed the Contract.

**Department** - The legally appointed body known as the Department of Natural Resources and Environmental Control.

**Drawings** - The drawings and plans which show the character and scope of the work to be performed and which have been prepared or approved by the Engineer and/or Architect and are referred to in the Contract Documents.

**Engineer and/or Architect** - Refer to Special Provisions, Section 1J.

**Field Work Order** - A written order to the Contractor, authorized by the Engineer or Inspector, for minor changes or alterations in the work, not involving extra cost and not inconsistent with the overall intent of the Contract Documents.

**Furnish** - To obtain and deliver on the job for installation by other trades.

**Inspector** - An authorized representative of the Department assigned to on-site inspection of any feature of materials or work entering into the Contract.

**Installation** - In addition to actual installation, includes all unloading, handling, rigging and hoisting, and the furnishing of all tools, equipment and materials required to handle and install the work, except as otherwise specified in the Contract Documents.

**Job Site** - The site upon which the Contract work is to be performed.

**Modification** - Any written amendments of any of the Contract Documents (including Change Orders and Field Work Orders) duly executed and delivered after execution of the Contract.

**Owner** - Same as Department.

**Property** - The metes and bounds of lands administered by the Department, and containing the project to be constructed.

**Project** - The entire construction to be performed as provided in the Contract Documents.

**Provide** - Furnish and install.

**Secretary** - The Secretary of the Department acting either directly or through authorized Agents.

**Shop Drawings** - All drawings, diagrams, illustrations, brochures, schedules and other data which illustrate the equipment, material and work to be furnished by the Contractor.

**Specifications** - The Administrative Specifications and the Technical Specifications.

**State** - State of Delaware.

**Subcontractor** - An individual, firm or corporation having a direct contract with the Contractor or with any other Subcontractor for the performance of a part of the work at the site.

**Superintendent** - The Contractor's representative at the site, and shall have authority to act on behalf of the Contractor.

**Testing Laboratory** - A materials testing laboratory approved by the Secretary.

**Work** - Any and all obligations, duties and responsibilities necessary to the successful completion of the Project assigned to or undertaken by the Contractor under the Contract Documents, including the furnishing of all labor, materials, equipment and other incidentals.

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## **SECTION 1B**

### **INSTRUCTIONS TO BIDDERS**

#### **1B.01 PROPOSALS**

(a) Refer to Special Provisions, Section 1J, for instructions for submitting proposal and bid opening date and time, Section 1J.05.

(b) Shall be on the furnished proposal forms. All blank spaces in the form shall be filled, signed in ink in longhand where designated, and all numbers shall be stated in words and in figures. The completed forms shall be without interlineations, alterations, or erasures. All attachments to the specifications and proposal are a necessary part thereof, and shall not be detached or altered.

(c) Shall not contain any recapitulation of the work to be done. No changes shall be made in the phraseology of the form. Nor partial bids nor any alternative bids not provided for in the form will be considered. Where proposal provides for quoting either addition or deduction for an "Alternate" item, indicate whether the sum named is an addition or deduction by ruling out the words not wanted.

#### **1B.02 DRAWINGS AND SPECIFICATIONS**

(a) Will be issued by the Department. Refer to Special Provisions, Section 1J.

(b) Prospective Bidders may obtain contract documents upon payment of \$50.00 for each set at the Department of Natural Resources and Environmental Control, Division of Watershed Stewardship, 89 Kings Highway, Dover, DE 19901. This payment is non-refundable and the documents need not to be returned.

#### **1B.03 THE BIDDER**

(a) Shall carefully examine the documents, the drawings and the specifications, shall visit the site and fully inform himself as to all existing and controlling conditions and limitations including availability of materials and labor. The submission of a bid shall be a representation that he has inspected the site and has familiarized himself with all of the controlling conditions. Failure to conduct these thorough examinations shall in no way relieve the successful bidder of his responsibility for the complete and satisfactory performance of all required work.

(b) Shall notify the Project Manager and/or Engineer in writing within seven working days following the pre-bid meeting if he finds discrepancies in, or omissions from, the drawings and/or specifications, or is in doubt as to their meanings. If explanation is necessary, a reply will be made by an addendum issued to all bidders. No oral statement shall change the requirements of the specifications or drawings unless confirmed in writing.

Addenda will be mailed or delivered to all who are known by the Agency to have received a complete set of the Bidding Documents.

Copies of the Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

No Addenda will be issued later than 5 calendar days prior to the date for receipt of bids except an Addendum withdrawing the request for Bids or one which extends the time or changes the location for the opening of bids.

Each bidder shall ascertain prior to submitting his bid that he has received all Addenda issued, and shall acknowledge their receipt in his bid in the appropriate space. Not acknowledging an issued Addendum could be grounds for determining a bid to be non-responsive.

(c) Shall state the lump sum price for which he will execute and complete base bid items in accordance with the drawings, specifications, and the requirements of the Contract. Prices quoted shall include federal or state taxes, if such are applicable.

(d) For Public Works Contracts, the contractor shall not subcontract, sublet, sell, transfer, assign, purchase work or materials from an organization other than his/her own, or otherwise dispose of the contract or contracts or any portion thereof, or of his/her right, title or interest therein, without written permission from the State. In case such permission is given, the contractor will be permitted to subcontract or sublet a portion thereof but shall perform with his/her own organization, work amounting to not less than fifty percent (50%) of the total contract bid price, exclusive of General Condition Items, Overhead, and Profit.

(e) Shall submit with his proposal a guarantee in accordance with Section 1B.05 below.

(f) Shall submit with his proposal a properly executed Non-Collusion statement in accordance with Section 1B.06 below.

(g) Shall submit with his proposal a properly executed Sub-Contractors List in accordance with Section 1B.07 below.

(h) Shall submit with his proposal a copy of their Delaware Business License.

(i) Shall sign his name in the space provided therefore. If the proposal is made by a partnership or corporation, the name and address of the partnership or corporation shall be shown, together with the names of the partners or the officers. A proposal made by a corporation shall be signed by one of the authorized officers thereof.

(j) If awarded the contract, the bidder will be required to furnish copies of Insurance Certificates endorsed to meet the requirements of the contract.

#### **1B.04 THE SECRETARY OF THE DEPARTMENT OR HIS REPRESENTATIVE**

(a) May, during the bidding period, advise the bidders by addenda, of additions, omissions or alterations in the specifications and drawings. All such changes shall be included in the work covered by the proposal and shall become part of the specifications as if originally included therein.

(b) Reserves the right to waive technicalities, to reject any and all bids, to advertise for new proposals, to proceed to do the work otherwise, or to abandon the work, if, in the judgment of the Secretary, the best interest of the State will be promoted thereby.

(c) Reserves the right to adjust, delete, increase or reduce any or all items contained in the technical specifications by amounts which will not exceed twenty-five percent (25%) of the total bid price.

(d) Reserves the right to reject bids if any unit or alternate bid prices are obviously unbalanced, either above or below reasonable cost analysis values.

#### **1B.05 PROPOSAL GUARANTEE**

Each bidder shall submit with proposal a guarantee in sum equal to ten percent (10%) of the total value of his bid. This guarantee shall be submitted in the form of a good and sufficient bond (sample copy attached) to the State of Delaware for the benefit of the Department; or, a certified check drawn on a reputable banking institution, or payable to the order of the Department of Natural Resources and Environmental Control. Certified check and bond guarantees of all bidders will be returned after the contract has been executed.

#### **1B.06 NON-COLLUSION STATEMENT**

The Department requires, as a condition precedent to acceptance of bids, a sworn statement executed by, or on behalf of the persons, firm association or corporation to whom such Contract is to be awarded, certifying that such person, firm, association or corporation has not, either directly or indirectly, entered into an agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with such contract. The form for this sworn statement is included in the proposal and must be properly executed in order to have the bid considered. Failure to execute the Non-Collusion Statement will automatically disqualify the bid.

#### **1B.07 SUB-CONTRACTOR LIST**

(a) As required by Delaware Code, Title 29, Section 6962 (d) (10) b, each Bidder shall submit with their Bid a completed List of Sub-Contractors included with the Bid Form. NAME ONLY ONE SUB-CONTRACTOR FOR EACH TRADE. A Bid will be considered non-responsive unless the completed list is included.

(b) Provide the Name and Address for each listed sub-contractor. Addresses by City, Town or Locality, plus State will be acceptable.

(c) It is the responsibility of the Contractor to ensure that their Sub-Contractors are in compliance with the provisions of this law. Also, if a Contractor elects to list themselves as a Sub-Contractor for any category, they must specifically name themselves on the Bid Form and be able to document their capability to act a Sub-Contractor in that category in accordance with this law.

### **1B.08 PREFERENCE FOR DELAWARE LABOR**

As referenced in 29DELC 6962 (d) (4) (b). "In the construction of all public works for the State or any political subdivision thereof or by firms contracting with the State or any political subdivision thereof, preference in employment of labors, workers or mechanics shall be given to bona-fide legal citizens of the State who have established citizenship by residence of at least 90 days in the State.

### **1B.09 LICENSE AND TAX REQUIREMENTS**

(a) Each Contractor and Subcontractor shall be licensed to do business in the State of Delaware and shall pay all fees and taxes due under State laws. In conformance with Section 2503, Chapter 25, Title 30, Delaware Code, the Contractor shall furnish the State Tax Department, within 10 days after award of contract, a statement of the total values of each contract and subcontract, together with the names and addresses of the contracting parties. The Contractor, before the payment of any award or amount payable to any contractor or subcontractor not a resident of Delaware, shall ascertain from said non-resident contractor or Subcontractor and/or State Tax Department, whether they have obtained a license and satisfied their liability paid by the non-resident Contractor or Subcontractor, the Contractor shall deduct from the award the amount payable to said non-resident Contractor or Subcontractor the amount of said license liability and shall pay the same to the State Tax Department within 10 days after final payment and settlement within the non-resident Contractor or Subcontractor.

(b) Taxes: The Contractor shall pay all sales, consumer, use and other taxes required by law.

### **1B.10 PAYMENTS**

The Department may, at the discretion of the Secretary, make partial payments based upon the Contractor's continuous and conscientious performance. The partial payments shall not exceed 95% of the cost of materials and labor incorporated in the work. See Section 1D General Conditions Part II Sections 1D.21; 1D.22; and 1D.23 for additional information and clarification.

### **1B.11 MINIMUM WAGES**

(a) The Contractor and each of his Subcontractors, or any other person employing laborers and/or mechanics at the site in the performance of this Contract, shall pay the various classes of laborers and mechanics no less than the hourly rate set forth in the attached prevailing wage rate scale determined by the Department of Labor of the State of Delaware, (Section 1F).

(b) The Contractor and each of his Subcontractors shall pay all mechanics and laborers employed directly on the site of the work, unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment, computed at wage rates not less than those stated in the attached wage rate scale, regardless of any contractual relationship which may be alleged to exist between the Contractor or Subcontractor and such laborers and mechanics.

(c) The scale of wages attached hereto shall be posted by the Contractor in a prominent and accessible place at the project site.

(d) The owner may withhold from the Contractor so much of the accrued payment as he may consider necessary to pay to laborers and mechanics employed by the Contractor or any Subcontractor the difference between the rates of wages required by the Contractor to be paid to laborers and mechanics employed in the work and the rates of wages received by such laborers and mechanics and not refunded to the Contractor, Subcontractor, or their agents.

(e) The Contractor shall furnish sworn payroll information to the Department of Labor weekly. Sample copies enclosed.

### **1B.12 NON-DISCRIMINATION**

The Department prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political belief, and marital or family status.

### **1B.13 LUMP SUM BID**

Notwithstanding any other provision of this contract to the contrary, this is a Lump Sum Bid contract and the State shall not be responsible for any cost escalations whatsoever, under any circumstances. In the event that this provision conflicts with any other provision of this contract, this provision shall control.

### **1B.14 ACCEPTANCE OF BID AND AWARD OF CONTRACT**

(a) A formal Contract shall be executed with the successful Bidder within twenty (20) calendar days after the award of the Contract.

(b) Per Section 6962(d)(13) a., Title 29, Delaware Code, “The contracting agency shall award any public works contract within thirty (30) days of the bid opening to the lowest responsive and responsible Bidder...”

(c) Each Bid on any Public Works Contract must be deemed responsive by the Agency to be considered for award. A responsive Bid shall conform in all material respects to the requirements and criteria set forth in the Contract Documents and specifications.

(d) The successful Bidder shall execute a formal contract, submit the required Insurance Certificate and furnish good and sufficient bonds, unless specifically waived in the General Requirements, in accordance with the General Requirements, within twenty (20) days of the official notice of contract award. Bonds shall be for the benefit of the Agency with surety in the amount of 100% of the total contract award. Said Bonds shall be conditioned upon the faithful performance for the contract. Bonds shall remain in effect for period of one year after the date of substantial completion.

(e) If the successful Bidder fails to execute the required Contract and Bond, as aforesaid, within twenty (20) calendar days after the date of official Notice of the Award of the Contract, their Bid guaranty shall immediately be taken and become the property of the State for the benefit of the Agency as liquidated damages, and not as a forfeiture or as a penalty. (A sample copy of the required contract is attached). Award will then be made to the next lowest qualified Bidder of the Work or re-advertised, as the Agency may decide.

(f) Each bidder shall supply with its bid its taxpayer identification number (i.e.: federal employer identification number or social security number) and a copy of its Delaware Business License, and should the vendor be awarded a contract, such vendor shall provide to the Agency the taxpayer identification license numbers of such sub-contractors. Such numbers shall be provided on the later of the date on which such sub-contractor is required to be identified or the time the contract is executed. The successful Bidder shall provide to the Agency to which it is contracting within 30 days of entering into such public works contract, copies of all Delaware Business Licenses of sub-contractors and/or independent contractors that will perform work for such public works contract. However, if a sub-contractor or independent contractor is hired or contracted more than 20 days after the Bidder entered the public works contract the Delaware Business License of such sub-contractor or independent contractor shall be provided to the agency within 10 days of being contracted or hired.

(g) The Bid Security shall be returned to the successful Bidder upon the execution of the formal contract. The Bid Security of unsuccessful bidders shall be returned within thirty (30) calendar days after the opening of the Bids.

## SECTION 1C

### GENERAL CONDITIONS - PART 1

#### AWARD AND EXECUTION OF CONTRACT

##### **1C.01 AWARD OF CONTRACT**

If the contract is awarded, it will be awarded to the eligible bidder whose Base Bid Price Bid selected by the Department produces the lowest net bid. If the contract is awarded, the Department will give the successful bidder written notice of the award within thirty (30) days after the opening of the bids. The contract award shall not be final until an approved Delaware State Purchase Order has been received by the Contractor.

##### **1C.02 DELIVERY OF BONDS**

The successful bidder must furnish the State of Delaware for the benefit of the Department of Natural Resources and Environmental Control a **performance bond and a payment bond**, each in an amount equal to the total contract price (sample copy attached). Delaware Code requires that all bonds for this bid and the ensuing contract be signed by a bona-fide agent duly empowered to represent the bonding/surety company, (also duly authorized to do business in the State of Delaware) that will furnish said bonds.

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## SECTION 1D

### GENERAL CONDITIONS PART II

#### **1D.01 NOTICE TO PROCEED**

The work shall be started at the job site promptly upon receipt of the State of Delaware Purchase Order and shall be performed with such progress as may be necessary to prevent any delay to other contractors, or to the general completion of the project. The work shall be prosecuted at such times and with such forces, materials, and equipment as may be necessary to assure the substantial completion of the work in accordance with the Contract Time. If the work falls behind the Progress Schedule submitted by the Contractor, the Contractor shall employ additional labor and equipment as necessary to bring the work up to schedule.

#### **1D.02 PRECONSTRUCTION CONFERENCE**

Before starting the work, a conference will be held to review schedules to establish procedures for handling shop drawings and other submissions and for processing Applications for payment, and to establish a working understanding between the parties as to the project. Present at the conference will be the Secretary or his authorized representative, the Contractor and the superintendent.

#### **1D.03 SCHEDULES**

(a) Delivery Schedule - The Contractor shall, within ten (10) calendar days after the award of the contract for the work prepare and submit to the Department, in triplicate, a Delivery Schedule in a form acceptable to the Department. The Delivery Schedule shall list the principal and critical equipment and materials required for the contract work, both of the Contractor's own production and those parts to be procured from others, with dates and time period of deliveries at the site. The Delivery Schedule shall be submitted each month on or before the 10th day of the month, corrected to reflect the current status of orders and deliveries until the completion of the deliveries.

(b) Progress Schedule - Prior to the starting date of erection of the work, the Contractor shall prepare and submit to the Department, in triplicate, a Progress Schedule in a form acceptable to the Department, listing the principal component parts of the work, and showing the proposed starting dates and duration of time allotted for the erection and installation of each component part. The Progress Schedule shall be submitted each month with the Application for Payment to show percentage of each component part of the work completed as of that date.

(c) Schedule of Values - At least ten days prior to submitting the first application for a progress payment, the Contractor will submit a schedule of values of the work including quantities and unit prices, aggregating the Contract Price. This schedule shall be satisfactory in form and substance to the Owner and shall subdivide the work into component parts in sufficient detail to serve as the basis for progress payments during construction. Upon approval of the Schedule of Values by the Owner, it shall be incorporated into the form of application for payment.

(d) The Contractor's Delivery Schedule and Progress Schedule shall be designed to meet the completion dates and sequences of construction required by the Contract Documents.

(e) It shall be the Contractor's responsibility to check with the Department concerning actual delivery dates, actual progress of the construction and other work being carried on by the Department and to schedule the arrival of his materials, equipment and labor at the site so as to properly coordinate his work with the Owner's work and the work of other contractors. There will be no extra compensation for work resulting from extra work which the Contractor must perform due to failure to coordinate this work with the Owner's work and the work of other contractors.

(f) In no case shall the contractor, except as instructed by the Department, delay the progress of the work, or any part thereof, on account of changes in the work or disputes of any nature, without limitation, caused by proposed or ordered changes in the work, or any disputes or disagreements as to the equitable value of the changes.

#### **1D.04 INTENT OF CONTRACT DOCUMENTS**

It is the intent of the contract documents, specifications and drawings, to describe a complete project to be performed under the Contract.

The Contract Documents comprise the entire agreement between the Department and the Contractor. They may only be altered by a modification or as provided in Section 1D.17, 1D.18, 1D.19 and 1D.20.

#### **1D.05 CORRELATION AND INTERPRETATION OF CONTRACT DOCUMENTS**

The Contract Documents are complementary; what is called for by one is as binding as if called for by all; if the Contractor finds a conflict, error or discrepancy in the Contract Documents, he will call it to the Owner's attention in writing before proceeding with the Work affected thereby. In resolving such conflicts, errors or discrepancies, the documents shall be given precedence in the following order: Contract, Specifications, Drawings. Within the specifications the order of the precedence shall be as follows: Special Conditions, Instructions to Bidders, General Conditions, Technical Provisions. Figures dimensions on Drawings shall govern over scale dimensions, and detailed drawings shall govern over general drawings. Any work that may be reasonably inferred from the specifications or drawings as being required to produce the intended result shall be supplied whether or not it is specifically called for. Work, materials or equipment described in words which so applied have a well-known technical or trade meaning shall be deemed to refer to such recognized standards. The Contractor assumes full responsibility for having familiarized himself with the nature and extent of the Contract Documents, work locality, conditions that may in any manner affect the work to be done.

#### **1D.06 WORK BY OTHERS**

(a) The Owner may perform work related to the project by himself, or he may let other direct contracts therefore which shall contain General Conditions similar to these. The Contractor will afford the other contractors who are parties to such direct contracts (or the Owner, if he is performing the additional work himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate his work with theirs.

(b) If any part of the Contractor's work depends for proper execution or results upon the work of any such other contractor (or the Owner), the Contractor will inspect and promptly report to the Owner in writing any defects or deficiencies in such work that render it unsuitable for such proper execution and results. His failure so to report shall constitute an acceptance of the other work as fit and proper for the relationship of his work except as to defects and deficiencies which may appear in the other work after the execution of his work.

(c) The Contractor will do all cutting, fitting and patching of his work that may be required to make its several parts come together properly and fit it to receive or be received by such other work. The Contractor will not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of the Owner.

(d) If the performance of additional work by other contractors or the Owner is not noted in the Contract Documents prior to the award of the Contract, written notice thereof shall be given to the Contractor prior to starting any such additional work. The contractor will afford the Owner and the other contractors who are parties to such direct contract reasonable opportunity for the introduction and storage of materials and equipment and the execution of their work. If the Contractor believes that the performance of such additional expense entitles him to an extension of the Contract Time, he may make a claim therefore as provided in Section 1D.18 and 1D.19.

### **1D.07 SUBCONTRACTORS**

The following is in compliance with Title 29, Chapter 69 of the Delaware Code:

(a) "Subcontractor" means any person, partnership, firm, corporation, or other business association which enters into a contract directly with a contractor to perform actual construction labor on the site, or to perform actual construction labor and provide material in connection with such labor on the site. Labor performed in the delivery and unloading of material at the project site is not to be construed to mean actual construction labor.

(b) In the case of any public works contract for the construction, reconstruction, alteration or repair of any public building (not a road, street or highway) of the State, of any county in the State, of any public school district, or of any political subdivision of the State, there shall be a meeting of all prospective bidders and of the Agency called by the agency upon reasonable notice and at a place and time stated in such notice which meeting shall be at least fifteen (15) days before the date for the submission of bids; at the meeting all the participants, including the agency, shall attempt to agree upon a listing of all subcontractor categories to be included in the bids for performing the work as required, and any such agreed listing shall be final and binding upon all bidders and upon the agency. If all of the participants do not agree on such a listing at the meeting then the agency itself at least ten (10) days before the due date for the submission of bids shall determine the subcontractor categories to be included in the listing. The listing, whether agreed to by all of the participants at the meeting or determined by the agency itself in the absence of the unanimous agreement of the participants at the meeting, shall be published by the agency at least ten (10) days before the due date for the submission of bids by mailing and listing to all of the participants at the meeting. The listing

as so published shall be final and binding upon all bidders and the agency and it shall be filled out completely in full without any abbreviations (Section 3B).

(c) Such contract shall be awarded only to a bidder whose bid is accompanied by a statement containing for each subcontractor category set forth in the listing as provided in S6962, the name and address and State of Delaware Business License number of the subcontractor whose services he intends to use in performing the work and providing the material, for such subcontractor category. No bidder for such a contract shall list himself in any accompanying statement as the subcontractor of any part of the public building unless the bidder, in addition to being licensed as a contractor of the State, shall also be recognized in the industry not only as a prime contractor, but also as a subcontractor or contractor in and for any such part or parts of such work so listed in such accompanying statement.

(d) Neither the State nor County nor public school district nor any political subdivision of the State, nor any agency of any of them, shall accept any bid for such a contract or award any such contract to any bidder, as the prime contractor, if the bidder has listed himself as the subcontractor for any subcontractor category set forth on the listing as provided in Section 6962, unless it has been established to the satisfaction of the awarding agency that the bidder has customarily performed the specialty work of such subcontractor category by artisans regularly employed by the bidder is duly licensed by the State to engage in such specialty work, if the State requires such licenses, and that the bidder is recognized in the industry as a bona fide subcontractor or contractor in such specialty work and subcontractor category. Illustrative only (and not intended to be exhaustive) of typical subcontractor categories involving their own respective types of specialty work, are plumbing, electrical wiring, heating, roofing, insulating, weather stripping, masonry, bricklaying and plastering. The decision of the awarding agency as to whether a bidder who lists himself as the subcontractor for a subcontractor category set forth in the listing as provided in Section 6962(b2) for such subcontractor category, shall be final and binding upon all bidders, and no action of any nature shall lie against any awarding agency because of its decision in this regard.

### **1D.08 SUBCONTRACTS**

(a) The Contractor shall not make any substitution of subcontractors or suppliers who have been submitted with the Contractor's proposal without the written authorization of the Owner. The Contractor will not make any substitution for any subcontractor or supplier who has been accepted by the Owner unless the Owner determines that there is good cause for doing so.

(b) The Contractor will be fully responsible for all acts and omissions of his subcontractors and of persons directly or indirectly employed by them and of persons whose acts may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between any subcontractor and the Owner or any obligation on the part of the Owner to pay or to see to the payment of any moneys due any subcontractor. The Owner may furnish to any subcontractor, to the extent practical, evidence of amounts paid to the Contractor on account of specific work done in accordance with the schedule of values.

(c) The divisions or sections of the specifications or the identifications of any drawings shall not control the Contractor in dividing the work among subcontractors or delineating the work to be performed by any trade.

(d) The Contractor agrees to specifically bind every subcontractor to all of the applicable terms and conditions of the Contract Documents. Every subcontractor, by undertaking to perform any of the work, will thereby automatically be deemed to be bound by such terms and conditions.

### **1D.09 MATERIALS, EQUIPMENT AND LABOR**

(a) Unless otherwise specified the Contractor will provide and pay for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of the work.

(b) Unless otherwise specified all materials and equipment will be new. If required by the Owner, the Contractor will furnish satisfactory evidence as to the kind and quality of materials and equipment.

(c) All manufactured materials and equipment shall be applied, installed, connected, erected, used, cleansed and conditioned as directed by the manufacturer.

(1) General - All materials, fittings and equipment shall be new, unless otherwise specified, of the best quality obtainable within the class or type specified, and in strict compliance with the requirements of the specifications.

(2) Substitutions - Where materials or equipment are specified by description or by brand or manufacturer's names, they are so named in the specifications to denote the kind and quality required, whether or not the words "or approved equal" are used, and bids shall be based on the products described or named. The Contractor's having submitted a bid shall be a representation that he is prepared to furnish the products described or named or substitutes acceptable and approved by the Department. Regardless of whether or not the phrase "or approved equal" or similar notation appears in the specifications or on the drawings, no substitutions for any materials or equipment will be allowed except upon written request of the Contractor and written approval of the Department and subject to the conditions specified below:

a. All requests for substitutions shall be made in a consolidated request submitted with the Contractor's Delivery Schedule within ten (10) days after the award of the contract. Requests shall give complete description of the proposed alternate material, the reason for substitution, and comparison of the price of the substitution with the price of the material specified. No requests for substitution will be considered unless accompanied by technical information sufficient for comparison with the quality and suitability of the specified products. Samples shall be provided by the Contractor if requested by the Department.

b. No request for substitution will be considered thereafter except for emergency requests made because of non-availability of the specified material, danger of schedule delay, or to adjust unforeseen field conditions. All emergency requests shall be made through the Inspector. If in

connection with such emergency requests the Contractor's proposed substitute is declined, the Department shall have the privilege of specifying a substitute material or equipment, provided that, if the Contract is performed on a lump sum, unit price or maximum sum basis, the current market price of the Substitute specified by the Department does not exceed the current market price of the product named in the specifications.

c. The Contractor shall not be entitled to additional compensation for additional cost or extra work resulting from any substitutions requested by him. If the cost of the material substituted is less than the cost of the material specified, such savings in cost shall be credited to the Department and deducted from the Contract Price.

d. The Department may decline substitutions and require that products specified be furnished.

(3) Warranties - In addition to and not in limitation of the provisions of Section 1D.24, the Contractor shall fulfill any special warranties of material or equipment he is furnishing. The Contractor's having submitted a bid shall be a representation that he is able and prepared to obtain manufacturer's warranty bonds, where required for the products named in the specifications.

(4) Samples - The Contractor shall furnish, for approval, samples of the items he is to supply, as required by the Contract Documents or requested by the Department. The work shall be in accordance with the approved samples.

(5) Department Furnished Materials & Equipment - If any materials or equipment are to be furnished by the Department for the work, they will be so specified in the Contract Documents. Unless otherwise specified, it shall be the Contractor's responsibility to locate, receive, handle and store, if necessary, any item of Department furnished material or equipment which he is required by the Contract to install, erect or handle in any way, from the time it is received by the Contractor at the job site or other Department approved location until completion of the work in accordance with the Contract Documents. Damaged or lost Department furnished items shall be repaired or replaced by the Contractor without additional cost to the Department.

#### **1D.10 PATENT FEES AND ROYALTIES**

The Contractor will pay all license fees and royalties and assume all costs incidental to the use of any invention, design, process or device which is the subject of patent rights or copyrights held by others. He will indemnify and hold harmless the Department and the Engineer and/or Architect and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorney's fees) arising out of any infringement of such rights during or after completion of the work, and shall defend all such claims in connection with any alleged infringement of such right.

#### **1D.11 USE OF PREMISES**

(a) The Contractor will confine his equipment, the storage of materials and equipment and the operation of his workmen to limits indicated by law, ordinances, permits or the requirements of the Contract Documents and shall not unreasonably encumber the premises with materials or equipment.

(b) The Contractor will not load nor permit any part of the structure to be loaded with weight that will endanger the structure.

(c) Storage areas will be provided for the storage of the Contractor's materials and equipment and he shall confine his materials, equipment and operations of his workmen to such limits as indicated by the Department and shall not encumber the premises. Unless otherwise indicated in the specifications, the storage areas will be outdoors, and the Contractor shall provide whatever shelter is necessary for his storage and fabricating needs. No workmen shall trespass within areas or buildings of the Department other than those related to the work of the contract. The Contractor shall rigidly enforce this regulation. Any materials, equipment or temporary structures belonging to the Contractor shall be moved when so directed by the Department to permit the execution of the work of others in connection with the project.

### **1D.12 TESTS**

(a) If the Contract Documents, the Owner's instructions, laws, ordinance or any public authority requires any work to be tested specifically or approved by another authority, the Contractor will give the Inspector timely notice of readiness therefore. The Contractor will furnish the Department the required certificates of testing or approval. All such tests will be in accordance with the methods prescribed by the American Society for Testing and Materials, or as otherwise required by the Department or by applicable codes or ordinances. If any such work required to be tested is covered up without written approval or consent of the Inspector, it must, if directed by the Inspector be uncovered for examination at the Contractor's expense. The cost of all such tests shall be borne by the Contractor; provided that, if such test is called for only by the Department's instructions (and not required by the Contract Documents or otherwise) and if the test reveals that the work involved meets the requirements of the Contract Documents, the Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time directly attributable to making the test if he makes claim therefore as provided in Section 1D.18, 1D.19, or 1D.20.

(b) Any work which fails to meet the requirements of any such test or approval and any work which meets the requirements of any such test or approval but does not meet the requirements of the Contract Documents shall be considered defective or may be rejected. Rejected work shall be removed promptly from the site by the Contractor unless the deficiencies are corrected promptly by him. If, instead of requiring correction or removal of any such defective work, the Department prefers to accept it, they may do so, in which case a Change Order shall be issued incorporating the necessary revisions in the Contract Documents including an appropriate reduction in the Contract Price.

### **1D.13 CONTRACTOR'S SUPERVISION AND SUPERINTENDENCE**

(a) The Contractor will supervise and direct the work efficiently and with his best skill and attention. He will be solely responsible for techniques and sequences of construction. Before undertaking the work he will carefully study and compare the Contract Documents and check and verify all figures shown thereon and all field measurements. He will at once report in writing to the Department any conflict, error or discrepancy which may be discovered. The Contractor will be responsible to see that the finished work complies accurately with the Contract Documents.

(b) He shall keep on the work site at all times during its progress a competent resident superintendent and supervisory staff. The superintendent will be the Contractor's representative at the site and shall have authority to act on behalf of the Contractor. All instructions and notices given to the superintendent will be as binding as if given to the Contractor.

(c) The Contractor will provide competent, suitably qualified personnel to survey and lay out the work and perform construction as required by the Contract Documents. He will at all times maintain good discipline and order among his employees at the site.

(d) The Department will not be responsible for the acts or omissions of the Contractor, or any subcontractors, or any of his or their superintendents, supervisory staffs, agents or employees.

#### **1D.14 SAFETY AND PROTECTION: EMERGENCIES**

(a) The Contractor will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to:

1. All employees and other persons who may be affected thereby.
2. All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site.
3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

The Contractor will comply with all applicable safety and building laws and codes of federal, state, municipal and other governmental bodies for the safety of persons or property to protect them from damage, injury or loss. He will maintain and erect, as required by the conditions and progress of the work, all necessary safeguards for their safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners of adjacent utilities. When the use or storage of explosives or other hazardous materials is necessary for the prosecution of the work, the Contractor will exercise the utmost care and will carry on such activities under the supervision of licensed specially qualified personnel. All damage injury or loss to any such property caused, directly or indirectly, in whole or in part, by the Contractor, any subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, will be remedied by the Contractor.

(b) In emergencies affecting the safety of persons or the work or property at the site or adjacent thereto, the Contractor, without special instructions or authorization from the Owner, is obligated to act, at his discretion, to prevent threatened damage, injury or losses. He will give the Owner prompt written notice of any significant changes in the work or deviations from the Contract Documents caused thereby, and a Change Order will thereupon be issued covering the changes and deviations involved. If the Contractor believes that additional work done by him in an emergency which arose from causes beyond his control entitles him to an increase in the Contract Price or and extension of the Contract Time, he may make a claim therefore as provided in Section 1D.18 or 1D.19 or 1D.20.

(c) The Contractor shall at all times protect all work, materials, equipment and fixtures against dirt, water, chemical and mechanical injury. The Contractor shall make good at his own expense any and all damage to his work, to the work of others, or to any materials or equipment in place or stored in the structure, whether such damage is caused directly in or indirectly by his work or by his failure to take adequate protective measures. During the progress of the work the Contractor shall handle the materials and equipment with care and good judgment to avoid the accumulation of unnecessary dirt, and shall use special care to prevent foreign materials from entering the interior parts of the equipment.

(d) The Contractor shall be responsible for maintaining the proper fire prevention safeguards and discipline necessary for the type of work he is performing, and shall institute procedures for giving alarm and protecting adjacent work and materials in case of fire, so as to minimize loss or damage.

(e) The Contractor shall use established roadways except as otherwise authorized and shall be responsible for the coordination of his work activities with those of others so as to minimize traffic congestion on roads, streets and highways and shall cooperate with officials who have jurisdiction over those facilities.

(f) All construction must be done in compliance with the Occupational Safety and Health Act of 1970 and all rules and regulations thereto appurtenant.

#### **1D.15 CLEANING UP**

The Contractor will keep State property free from accumulations of waste materials, rubbish and other debris from and about the site clean and ready for occupancy by the Department. The Contractor will restore to their original condition those portions of the site not designated for alteration by the Contract Documents.

It shall be understood that the cost of regular or continuous cleanup as required to keep the worksite clean has been included in the Contract Price.

#### **1D.16 ACCESS TO THE WORK: UNCOVERING FINISHED WORK**

(a) The Department will at all times have access to the work. The Contractor will provide proper facilities for such access and observation of the work or for any examination or testing thereof.

(b) Should it be considered necessary or advisable by the Department to reexamine any part of work already fabricated, installed, or completed, the Contractor, at the Department's request, will uncover, expose or otherwise make available for examination or testing that portion of the work in question, furnishing all necessary labor, material and equipment. If it is found that such work, does not meet the requirements of the Contract Documents, the Contractor will defray all the expense of such examination, and testing of satisfactory reconstruction.

If, however, such work is found to meet the requirements of the Contract Documents, the Contractor will be allowed an increase in the Contract Price or extension of the Contract Time directly attributable to such uncovering, exposure, examination and testing, if he makes a claim therefore as provided in Section 1D.18, 1D.19 and 1D.20.

### **1D.17 DEFECTIVE OR NEGLECTED WORK**

(a) All work not conforming to the requirements of the Documents shall be considered defective, and all defective work, whether in place or not, may be rejected. Rejected work shall be removed promptly from the site by the Contractor unless the deficiencies are corrected promptly by him. The Contractor will also bear the expense of making good all work of other contractors destroyed or damaged by removal or replacement of his defective work. If the Contractor does not correct such deficiencies within a reasonable time, fixed by written notice from the Department, the Department may correct the deficiency or remove the rejected work. All direct or indirect costs of such correction or removal will be charged against the Contractor. If, instead of requiring correction or removal of any such defective work, the Department prefers to accept it, they may do so in which case a Change Order shall be issued incorporating the necessary revisions in the Contract Documents including an appropriate reduction in the Contract Price.

(b) If the Contractor should neglect to prosecute the work in accordance with the Contract Documents, including any requirements of the Progress Schedule, the Department, after three days written notice to the contractor may, without prejudice to any other remedy he may have, make good such deficiencies and the cost thereof shall be charged against the Contractor, in which case a Change Order shall be issued incorporating the necessary revisions in the Contract Documents, including an appropriate reduction in the Contract Price.

### **1D.18 CHANGES IN WORK**

(a) Without invalidating the Contract, the Department may, at any time or from time to time, order additions, deletions or revisions in the work; these will be authorized by Change Orders. Upon receipt of a Change Order, the Contractor will proceed with the work involved. All such work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension/shortening of the Contract Time, the change in the Contract Price/Time, will be noted in the Change Order. Any equitable adjustment will be made as provided in Sect. 1D.19 and 1D.20.

(b) The Inspector may authorize minor changes and/or alterations in the work not involving extra cost and not inconsistent with the over-all intent of the Contract Documents by means of a Field Work Order. If the Contractor believes that any minor change or alteration authorized by the Inspector entitles him to an increase in the Contract Price or Contract Time, he shall not proceed with the work until after receipt of a Change Order.

(c) The Contractor shall submit a written lump sum quotation within forty-eight (48) hours after receipt of a Field Work Order from the Inspector at the jobsite, or within five (5) days after receipt of a change notice from the Department for changes or alterations which the Contractor believes entitles him to an increase in the Contract Price. These time limits may be extended only with the written consent of the Department.

(d) Additional work performed by the Contractor without authorization of a Change Order will not entitle him to an increase in the Contract Price or an extension of the Contract Time, except in

case of an emergency as provided in Section 1D.14b and except as provided in Section 1D.06b, 1D.12a and 1D.16b.

(e) The Department will execute any appropriate Change Order for work performed in an emergency as provided in Section 1D.19b and any other valid claim of the Contractor accompanied by a lump sum quotation agreeable to the Department for a change in the Contract Time or the Contract Price approved by the Department.

(f) It is the Contractor's responsibility to notify his Surety for any changes affecting the general scope of the work or change in the Contract Price and the amount of the applicable Bonds shall be adjusted accordingly. The Contractor will furnish proof of such adjustment to the Department.

### **1D.19 CHANGE OF CONTRACT PRICE**

(a) The Contract Price constitutes the total compensation payable to the Contractor for performing the work. All duties, responsibilities and obligations assigned to or undertaken by the Department shall be at his expense without change in the Contract Price.

(b) The Contract Price may only be changed by a Change Order. If the Contractor is entitled by the Contract Documents (Section 1D.06, 1D.12b, 1D.18a and 1D.18b) to make a claim for an increase in the Contract Price, his claim shall be in writing delivered to the Department within fifteen (15) days of the occurrence of the event giving rise to the claim. Any change in the Contract Price resulting from any such claim shall be incorporated in a Change Order.

(c) The value of any work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

1. Where the work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantity of the times involved.
2. By mutual acceptance of a lump sum.
3. By payment of Reimbursable Costs and mutually acceptable fixed amount for overhead and profit.
4. Reimbursable Costs and overhead shall be as defined in Section 1D.31 of these General Conditions, and shall apply only to costs incurred solely for the work covered by the Change Order, claim or allowance.

(d) The amount of credit to be allowed by the Contractor to the Owner for any such change which results in a net decrease in cost, will be the amount of the actual net decrease agreed by the Owner.

(e) The additional cost, or credit to the Owner resulting from a change in the work shall be by mutual agreement of the Owner, Contractor and the Architect. In all cases, this cost or credit shall be based on the "DPE" wages required and the "invoice price" of the materials/equipment needed.

"DPE" shall be defined to mean "direct personnel expense". Direct payroll expense includes direct salary (prevailing wage rates) plus customary fringe benefits and documented statutory costs such as workman's compensation insurance, Social Security/Medicare, and unemployment insurance (a maximum of the prevailing wage rate times 1.35.)

“Invoice price” of materials/equipment shall be defined to mean the actual cost of materials and /or equipment that is paid by the Contractor, (or subcontractor), to a material distributor, direct factory vendor, store, material provider, or equipment leasing entity. Rates for equipment that is leased and/or owned by the Contractor or subcontractor(s) shall not exceed those listed in the latest version of the “Means Building Construction Cost Data” publication.

In addition to the above, the General Contractor is allowed a fifteen percent, 15%, overhead and profit for additional work performed by the General Contractor’s own forces. For additional subcontractor work, the Subcontractor is allowed a fifteen percent overhead and profit on change order work above and beyond the direct costs stated previously. To this amount, the General Contractor will be allowed a mark-up not exceeding five percent, 7.5%, on the subcontractors work. These mark-ups shall include all costs including, but not limited to: overhead, profit, bonds, insurance, etc. There will be no other costs associated with the change order.

#### **1D.20 CHANGE OF THE CONTRACT TIME**

(a) The Contract Time may only be changed by a Change Order. If the Contractor is entitled by the Contract Documents to make a claim for an extension in the Contract Time, his claim shall be in writing delivered to the Owner within 10 days of the occurrence of the event giving rise to the claim. Any change in the Contract Time resulting from any such claim shall be incorporated in the Change Order.

(b) The Contract Time will be extended to an amount equal to time lost due to delays beyond the control of the Contractor if he makes a claim therefore as provided in Section 1D.18a.

#### **1D.21 APPLICATION FOR PROGRESS PAYMENT**

(a) At least ten days prior to submitting the first application for a progress payment, the Contractor will submit a schedule of values of the work including quantities and unit prices, aggregating the Contract Price. This schedule shall be satisfactory in form and substance to the Owner and shall subdivide the work into component parts in sufficient detail to serve as the basis for progress payments during construction. Upon approval of the schedule of values by the Owner, it shall be incorporated into the form of application of payment.

(b) At least ten (10) days before each progress payment falls due (but not more often than once a month), the Contractor will submit to the Inspector for review the Application for Payment filled out and signed by the Contractor covering the work completed as of the date of application and supported by such data as the Architect/Project Manager may reasonably require.

(c) The Contractor warrants that he and all his subcontractors have and will have good title to all materials and equipment incorporated in the Project and all material and equipment otherwise listed in an Application for Payment, free and clear of all liens, claims, security interests and encumbrances; and he will not permit any Subcontractor to, acquire any such material and equipment subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the Contractor.

(d) The Inspector will, within ten (10) days after receipt of each application for payment, either indicate in writing his approval of payment, or return the Application to the Contractor indicating in writing his reasons for refusing to approve payment. In the latter case, the Contractor may make the necessary corrections and re-submit the application. The Department will, within ten (10) days of presentation to him of an approved Application of Payment, pay the Contractor the amount approved by the Inspector.

## **1D.22 APPROVAL OF PAYMENTS**

(a) The Inspector's approval of any payment requested in an Application of Payment shall constitute a representation by him, based on the on-site observation of work in progress and on his review of the Application of Payment and the supporting data, that the work has progressed to the point indicated; that, to the best of his knowledge, information and belief, the quality of the work is in accordance with the Contract Documents (subject to the results of any subsequent tests called for in the Contract Documents and any qualifications stated in his approval); and that the Contractor is entitled to payment of the amount approved. However, by approving any such payment the Inspector shall not thereby be deemed to have represented that he made exhaustive or continuous on-site inspections to check the quality or the quantity of the work, or that he has made any examination to ascertain how or for what purpose the Contractor has used monies paid or to be paid to him on account of the Contract Price.

(b) The Inspector may refuse to approve the whole or any part of any payment if, in his opinion, he is unable to make such representations. He may also refuse to approve any such payment, or, because of subsequent tests, nullify in his opinion to protect the Department from loss because:

1. The work does not comply with the requirements of the Contract Documents.
2. Claims have been filed or there is reasonable evidence indicating the probable filing thereof.
3. The Contract Price has been reduced because of modifications, or
4. The Department has been required to correct faulty or defective work or complete work in accordance with Section 1D.16.

## **1D.23 SUBSTANTIAL COMPLETION**

Prior to final payment, the Contractor may, in writing to the Department certify that the entire project is substantially complete and request that the Department issue a certificate of Substantial Completion. With a reasonable time thereafter, the Contractor and Inspector will make an inspection of the project to determine the status of completion. If the Department does not consider the project substantially complete, the Department will execute and deliver to the Contractor a certificate of Substantial Completion with a tentative list of items to be completed or corrected before final payment will be made and the certificate shall fix the time within which such items shall be completed or corrected.

The Department shall have the right to exclude the Contractor from the project after the date of Substantial Completion, but the Department will allow the Contractor reasonable access to complete or correct items on the tentative list.

#### **1D.24 GUARANTEES AND CORRECTION OR WORK AFTER SUBSTANTIAL COMPLETION**

The Contractor warrants and guarantees that all work, materials and equipment will be of good quality and free from faults or defects and in accordance with the Contract Documents. Upon receipt of written instructions from the Department, he will correct all faults and deficiencies in the work and remedy all variations from the Contract Documents which appear within one year after Substantial Completion and also comply with the terms of any special guarantee provided in the Contract Documents. The Department will give prompt written notice of observed defects. The warranties and guarantees provided in this Section shall be in addition to and not a limitation of any other remedies provided by the Contract Documents or by law.

If the Contractor, after notice, fails to proceed promptly to comply with the terms of the guarantee, the Department may have the work corrected and the Contractor and his surety shall be liable for all expenses incurred.

#### **1D.25 FINAL PAYMENT**

(a) Upon written notice from the Contractor that the project is complete, the Inspector and Engineer will make final inspection with the Contractor and will notify the Contractor in writing of any particulars in which this inspection reveals that the work does not comply with the requirements of the Contract Documents. The Contractor shall immediately make such corrections as are necessary to meet such requirement.

(b) After the Contractor has completed any such corrections to the satisfaction of the Department and delivered all maintenance and operating instructions, schedules, guarantees, bonds, certificates or inspection and other documents, all as required by the Contract Documents, he may make application for final payment following the procedure for progress payments. The final application for payment shall be accompanied by such supporting data as the Inspection may require, together with complete and legally effective releases and releases (satisfactory to the Department) of all liens arising out of the Contract Documents and the labor and services performed and the material and equipment furnished receipts and releases in full and affidavit of the Contractor that the releases and receipts include all labor, services, materials and equipment for which a lien could be filed. If any Subcontractor or supplier fails to furnish a release or receipt in full, the Contractor shall furnish a bond satisfactory to the Department to indemnify him against any liens.

(c) If, on the basis of his observation and review of the work during construction, his final inspection and review of the final application for payment, all as required by the Contract Documents, the Inspector is satisfied that the work has been completed and the Contractor has fulfilled all of his obligations under the Contract Documents, he will within ten (10) days after receipt of the final application for payment indicate in writing his approval of payment and present the application to the Department for payment. Otherwise, he will return the application to the

Contractor indicating in writing his reasons for refusing to approve final payment, in which case the Contractor will make the necessary corrections and re-submit the application.

(d) The acceptance by the Contractor of the final payment made shall operate as and be released to the Owner and every agent thereof from all claims and liabilities to the Contractor for anything done or furnished for or relating to the work, or for any act or neglect of the Owner or of any persons relating to or affecting this work.

#### **1D.26 WAIVERS OF CLAIMS AND CONTINUING OBLIGATIONS**

(a) The Contractor's obligation to perform the work and complete the project in accordance with the Contract Document shall be absolute. Neither approval of any progress for the issuance of a certificate of Substantial Completion, nor any payment by the Department to the Contractor under the Contract Documents, nor any use of occupancy of the project or any part thereof by the Department, nor any act of acceptance by the Department nor any failure to do so, nor any correction of faulty or defective work by the Department shall constitute an acceptance of work not in accordance with the Contract Documents.

(b) The making and acceptance of final payment shall constitute:

1. A waiver of all claims by the Department against the Contractor other than those arising from unsettled liens, from faulty or defective work appearing after final payment or from failure to comply with the requirements of the Contract Documents or the terms of any special guarantees specified therein, and

2. A waiver of all claims by the Contractor against the Department other than those previously made in writing and still unsettled.

#### **1D.27 INDEMNIFICATION**

The Contractor will indemnify and hold harmless the Department and the Engineer and/or Architect and all of their agents and employees from and against all claims, damages, losses and expenses (including attorney's fees) arising out of or resulting from operations under the Contract Documents by the Contractor, any Subcontractor, anyone directly or indirectly employed by the Contractor or any Subcontractor, or anyone for who's acts the Contractor or Subcontractor, may be liable, the indemnification obligations of the Contract under this Section 1D.26 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor, or any Subcontractor, under Workman's Compensation Laws, disability benefit laws, or other employee benefit laws.

#### **1D.28 OWNER'S RIGHTS TO SUSPEND WORK**

The Owner may, at any time without cause, suspend the work or any portion thereof for a period of not more than ninety (90) days by notice in writing to the Contractor which shall fix the date on which work shall be resumed. The Contractor will resume the work on the date so fixed. In general, no allowance will be made for suspended work except for possible extension of the Contract Time, if completion of the work is later carried on to successful conclusion. If the Contractor believes that

the suspension of work by the Owner entitled him to increase in the Contract Price of any extension of the Contract Time directly attributable to any suspension, he may make a claim within five (5) days after receipt of a notice of suspension and any equitable adjustment will be made as provided in Sections 1D.18 and 1D.19.

#### **1D.29 OWNER'S RIGHT TO TERMINATE**

(a) If the Contractor is adjudged as bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the Contractor or for any of his property, or if he files petition to take advantage of any debtors act, or to reorganize under the bankruptcy or similar laws, or if he refuses to supply sufficient skilled workmen or suitable materials and equipment, or if he fails to make prompt payments to Subcontractor or for labor, materials or equipment or if he disregards laws and ordinances, or if he otherwise violates any provision of the Contract Documents, then the Owner, may without prejudice to any other right or remedy and after giving the Contractor seven (7) days written notice, terminate the services of the Contractor and take work by whatever method he may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the project, including compensation for additional professional services, such excess shall be paid to the Contractor. If such costs exceed such unpaid balance the Contractor will pay the difference to the Owner.

(b) Where the Contractor's services have been so terminated by the Owner, said termination shall not affect any rights of the Owner against the Contractor then existent or which may thereafter accrue. Any retention or payment of monies by the Owner due the Contractor will not release the Contractor from liability.

(c) Upon seven (7) days written notice to the Contractor, the Owner may, without cause and without prejudice to any other right or remedy, elect to abandon the project and terminate the Agreement. In such case, the Contractor shall be paid for all work executed and any expense sustained plus a reasonable profit.

#### **1D.30 CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE**

If, through no act or fault of the Contractor, the work is suspended for a period of more than ninety (90) days by the Owner or under an order of court or other public authority, or the Owner's Representative fails to act on any application for payment within thirty (30) days after it is submitted, or the Owner fails to pay the Contractor any sum approved by the Owner's Representative or awarded by arbitrators within thirty (30) days of its approval and presentation, then the Contractor may, upon seven (7) days written notice to the Owner, terminate the Agreement and recover from the Owner payment for all work executed and any expense sustained plus a reasonable profit.

#### **1D.31 PAYMENT FOR EXTRA WORK**

(a) All extra work done will be paid for in the following manner.

(b) Labor. For all labor and foreman indirect charge of the specific operations, the Contractor shall receive the State wage rates (or scale) agreed upon in writing before beginning work for each and every hour that said labor and foreman are actually engaged in such work.

The Contractor shall receive the actual cost paid to, or in behalf of, workmen by reason of subsistence and travel allowances, health and welfare benefits, pension fund benefits or other benefits, when such amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the work. An amount equal of 20% of the sum of the above items will also be paid the Contractor.

(c) Bond, Insurance and Tax. For property damage, liability and workmen's compensation insurance premiums, unemployment insurance contributions and social security taxes on the force account work, the Contractor shall receive the actual cost, to which cost 6% will be added. The Contractor shall furnish satisfactory evidence of the rate or rates paid for such bond, insurance and tax.

(d) Materials. For materials accepted by the Engineer and used, the Contractor shall receive the actual cost of such materials delivered on the work, including transportation charges paid by him (exclusive of machinery rentals as hereinafter set forth), to which cost 15% will be added.

(e) Equipment. For any machinery or special equipment (other than small tools) including fuel and lubricants, plus transportation costs, the use of which has been authorized by the Engineer, the Contractor shall receive the rental rates agreed upon in writing before such work is begun for the actual time that such equipment is in operation on the work, to which rental sum 15% will be added.

(f) Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.

(g) Compensation. The Contractor's representative and the Engineer shall compare records daily of the cost of work done as ordered on a force account basis.

(h) Statements. No payment will be made for work performed on a force account basis until the Contractor has furnished the Engineer with duplicate itemized statements of the cost of such force account work detailed as follows:

1. Name, classification, date, daily hours, total hours, rental rate, and extension for each laborer and foreman.
2. Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
3. Quantities of materials, prices and extensions.
4. Transportation of materials.
5. Cost of property damage, liability and workmen's compensation insurance premiums, unemployment insurance contributions, and social security tax.

(i) Statements shall be accompanied and supported by invoices for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices the Contractor shall furnish an affidavit certifying that such materials were taken from his stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor. If unit measurement is by weight, certified weight slips will be required.

Should the Contractor refuse or fail to prosecute the work as directed or to submit his claim as required, the Engineer may withhold payment of all current estimates until the Contractor complies with these requirements or, after giving the Contractor due notice, the Engineer may make payment for said work on the basis of a reasonable estimate for the value of work performed.

### **1D.32 ASSIGNMENT OF ANTITRUST CLAIMS**

As consideration for the award and execution by the Owner of this Contract, the Contractor hereby grants, conveys, sells, assigns and transfers to the State of Delaware all of its right, title and interests in and to known or unknown causes of action it presently has or may now or hereafter acquire under the antitrust laws of the United States and the State of Delaware, relating to the particular goods or services purchased or acquired by the Owner pursuant to this Contract.

### **1D.33 MISCELLANEOUS**

(a) Whenever any provision of the Contract Documents requires the giving of written notice, it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, who it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to him who gives the notice.

(b) Should the Owner or the Contractor suffer injury or damage to its person or property because of any error, omission or act of the other or of any of his employees or agents or others for whose acts he is legally liable, claim shall be made in writing to the other party within a reasonable time of the first observance of such injury or damage.

(c) The Contract Documents shall be governed by all Delaware laws and all such laws shall be as binding as though quoted herein and their applicable provisions shall be fully adhered to by all parties affected thereby.

### **1D.34 ARCHAEOLOGICAL EVIDENCE**

When in the course of construction any archaeological evidence is encountered on the surface or below the surface of the ground the Contractor shall notify the Bureau of Archives and Historic Preservation and suspend work in the immediate area for a reasonable time to permit those authorities, or persons designated by them to examine the area and insure the proper removal of the archaeological evidence for suitable preservation in the State Museum.

### **1D.35 SAFETY AND HEALTH REGULATIONS**

All contracts shall be governed by the Department of Labor Safety and Health Regulations for Construction, provided by the Associated General Contractors of America, printed March 14, 1972.

### **1D.36 FOREST PROTECTION**

In carrying out work within or adjacent to State, County and National Forests and/or Parks, the Contractor shall comply with all regulations of the State Fire Marshal, Conservation Commission, State Forestry Department, or other Authority having jurisdiction, governing the protection of forests and the carrying out of work within forests, and shall observe all sanitary laws and regulations with respect to the performance of work in forest areas. He shall keep the areas in an orderly condition, dispose of refuse, and obtain permits for the construction and maintenance of all construction camps, stores, warehouses, residences, latrines, cesspools, septic tanks and other structures in accordance with the requirements of the State Forester.

The Contractor shall take all responsible precautions to prevent and suppress forest fires and shall require his employees and subcontractors, both independently and at request of the forest or park officials, to do all reasonably within their power to prevent and suppress and to assist in preventing and suppressing forest fires and make every possible effort to notify a forest or park official at the earliest possible moment of the location and the extent of any fire seen by them.

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## **SECTION 1E**

### **SPECIAL CONDITIONS - PART 1**

#### **SCOPE OF WORK**

##### **1E.01 SCOPE OF WORK**

Furnishing all materials, labor and supervision, and performing all operations required to complete the construction described in Section 1J, Special Provisions, as shown on the drawings or described in the specifications and as evidently necessary to complete the work.

##### **1E.02 LOCATION AND ACCESS**

The site upon which the contract work is to be performed, and its access, is set out in Section 1J, Special Provisions.

##### **1E.03 REFERENCE POINTS**

The Owner and/or Engineer will, if required, establish a base line as shown on the drawings and an adjacent bench mark. The Contractor will be responsible for the layout of the work and will protect and preserve the established reference points and will make no changes or relocations without the prior written approval of the Department. The Contractor will be responsible for replacing and accurately relocating reference points lost, destroyed or moved.

##### **1E.04 DATUM**

The datum, from which all elevations mentioned herein or shown on the drawings, is measured from Mean Lower Low Water (MLLW) with MLLW understood to mean zero depth and zero elevation. References to North American Vertical Datum (NAVD 88) shown in parenthesis on the drawings are for reference purposes only.

##### **1E.05 COOPERATION WITH PUBLIC UTILITY CORPORATIONS**

It shall be the duty of the Contractor to ascertain from the utility corporations the locations of services adjacent to the work under this contract. Wherever water or gas pipes, telephone or electric cable ducts or poles are encountered, and may be interfered with in any way, the Contractor shall keep the utility company involved fully informed of same. He shall fully protect such structure and, where necessary, shall cooperate with the utility company in the removal, relocation, or replacement of same. Any damage caused by the neglect of the Contractor to first locate these structures shall be repaired by the Contractor at his expense.

### **1E.06 WORK IN OR OVER NAVIGABLE WATERS**

All work in, on or over waters declared navigable by the Department of the Army of the United States shall conform to all applicable Federal Rules and Regulations. All such rules and regulations are hereby made a part of the Contract. The Contractor is cautioned and charged with the responsibility of obtaining complete knowledge thereof and complying therewith. The Contractor shall also comply with the provisions of other applicable Federal, State and local laws which pertain to work in these locations.

### **1E.07 USE OF EXPLOSIVE**

The use of explosives will not be permitted adjacent to or on any existing structures unless authorized in writing by the Engineer. When the use of explosives is permitted, the Contractor shall use the utmost care, so as not to endanger life or property. Whenever necessary the number of charges and size of the charge shall be reduced. The Contractor's attention is directed to the necessity of safeguarding the public during dynamiting operations and a sufficient number of watchmen, flagmen signs, etc., shall be clearly marked, and shall be in care of competent watchmen at all times. Explosives shall be stored and handled in conformity with the provisions of the statutes of the State of Delaware, and local laws and ordinances.

The Contractor shall notify each public utility company, having structures in proximity to the site of the work, of his intention to use explosives and such notice shall be given sufficiently in advance to enable the companies to take such steps as they may deem necessary to protect their property from injury. Such notice shall not relieve the Contractor of responsibility for any damage resulting from his blasting operations.

### **1E.08 EROSION CONTROL AND WATER POLLUTION**

The Contractor shall schedule and conduct his operations to minimize erosion of soils and to prevent silting and muddying of streams, rivers, irrigation systems and impoundments (lakes, reservoirs, etc.). Construction of drainage facilities and performance of other contract work which will contribute to the control of erosion and sedimentations shall be carried out in conjunction with earthwork operations or as soon thereafter as practicable. The area of bare soil exposed at any one time by construction operations shall be kept to a minimum.

Prior to suspension of construction operations for appreciable lengths of time the Contractor shall shape the earthwork in a manner that will permit storm run-off with a minimum of erosion. Temporary erosion and sediment control measures such as berms, dikes, slope drains, or sedimentation basins deemed necessary by the Engineer shall be provided and maintained until permanent drainage facilities and erosion control measures are installed. Temporary measures will not be paid for directly, but will be considered as a subsidiary obligations of the Contractor covered under the various contract items of work.

The Contractor shall also conform to the following practices and controls:

1. When borrow material is obtained from other than commercially operated sources, erosion of the borrow site shall be so controlled during and after completion of the work that erosion will be minimized and sediment will not enter streams or other bodies of water. Waste or disposal areas and construction roads shall be located and constructed in a manner that will keep sediment from entering streams.

2. Frequent fording of live streams will not be permitted; therefore, temporary bridges or other structures shall be used wherever an appreciable number of stream crossings are necessary. Unless otherwise approved in writing, mechanized equipment shall not be operated in live streams.

3. When work areas or gravel pits are located in or adjacent to live streams, such areas shall be separated from the main stream by a dike or other barrier to keep sediment from entering a flowing stream. Care shall be taken during the construction and removal of such barriers to minimize the muddying of a stream.

4. All waterways shall be cleared as soon as practicable of falsework, piling, debris or other obstructions placed during construction operations and not a part of the finished work.

5. Water from aggregate washing or other operations containing sediment content shall not contain more sediment than that of the stream into which it discharges.

6. Pollutants such as fuels, lubricants, bitumens, raw sewage and other harmful materials shall not be discharged into or near rivers, streams, and impoundments or into natural or manmade channels leading thereto. Wash water or waste from concrete mixing operations shall not be allowed to enter live streams.

7. All applicable regulations of fish and wildlife agencies and statutes relating to the prevention and abatement of pollution shall be complied with in the performance of the contract.

8. It shall be the responsibility of the Contractor to comply with all applicable regulations of the Department of Natural Resources and Environmental Control regarding any open burning operations carried out during the conduct of this contract.

9. When it becomes necessary, the Engineer will inform the Contractor of unsatisfactory construction procedures and operations insofar as erosion control and water pollution are concerned. If the unsatisfactory construction procedures and operations are not corrected promptly, the Engineer may suspend the performance of the other construction until unsatisfactory condition has been corrected. There will not be any adjustment of contract time for suspension of other work in the event it is necessary to suspend the other work until correction of unsatisfactory control of erosion and water pollution has been accomplished.

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## SECTION 1F

### SPECIAL CONDITIONS - PART II

#### MINIMUM WAGES AND EMPLOYMENT

##### 1F.01 MINIMUM WAGES

The following minimum wages are to be paid various classes of laborers and mechanics as determined by the Department of Labor and Industrial Relations of the State of Delaware in accordance with Title 29, Section 6960, Delaware Code relating to wages. Delaware Code relating to wages further stipulates that the Contractor or his subcontractor shall pay all mechanics and laborers employed directly upon the site of the work, unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment, computed at wage rates not less than those stated in the advertised specifications, regardless of any contractual relationship which may be alleged to exist between the contractor or sub-contractor and such laborers and mechanics, and that the scale of wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of work; and so much of accrued payments as may be considered necessary by the contracting officer to pay laborers and mechanics employed by the contractor or any sub-contractor on the work, the difference between the rates of wages required by the contractor to be paid laborers and mechanics on the work and rates of wages required received by such laborers and mechanics and not refunded to the contractor, subcontractor or their agents.

These rates in certain instances include a monetary equivalent for health, welfare and pension, benefits which are given employees pursuant to a bona fide enforceable, uniformly applied agreement between employers and employees. The direct payment to the employee may be reduced by such monetary equivalent. In the absence of any such agreement, the full amount indicated, less any legal deductions, shall be paid directly to the employee.

**The Wage scale for this project is; Heavy Construction in New Castle, Kent and Sussex Counties:**

The Scope of Work includes: Rehabilitation of the North Jetty at the entrance leading into the Murderkill River by extending the length, raising the height and capping the existing concrete filled bags with armor stone. Supplementing nourishment of the beach at North Bowers Beach is Not In Contract (NIC).

In addition, the following information shall be furnished weekly to the Department by the Contractor and Sub-Contractor (if any) in the form of sworn copies of payrolls.

- (a) Identification of the contract.
- (b) Payroll period covered.
- (c) For each worker listed on the payroll:

1. Name of worker
2. Job classifications or classifications at which he was employed during the payroll period.
3. Hourly rate paid for work at such classification or classifications.
4. Number of hours worked at such classification or classifications.

The Department may withhold from the contractor and sub-contractors the amount of funds necessary to pay laborers and mechanics employed on the work the minimum prevailing hourly wages.

The Delaware Code (Title 29, Chapter 69, Section 6960, Paragraph (c)) requires the Contractor to keep and maintain the sworn payroll information for a period of 2 years from the last day of the work week covered by the payroll.

If the Contractor needs further clarification pertaining to prevailing wage rates, the Department has on file two publications published by the Delaware Department of Labor, entitled "Delaware Prevailing Wage Regulations" and "Classifications of Workers Under Delaware Prevailing Wage Law." These publications are available for review upon request. These documents and other relevant information can also be found online at:

<http://www.delawareworks.com/industrialaffairs/services/LaborLawEnforcementinfo.shtml#pw1>

### **1F.02 SUNDAYS AND OFFICIAL HOLIDAYS**

Except with the written permission of the Secretary, and extreme emergencies, there shall be no contract work performed on Saturdays, Sundays and the following official holidays of this Department:

New Year's Day	Veterans Day
M.L. King's Birthday	Return Day (Sussex Co. only)
Election Day	after 12:00 noon Election Year
Good Friday	Thanksgiving Day
Memorial Day	Day after Thanksgiving
Independence Day	Christmas Day
Labor Day	

### **1F.03 OVERTIME WORK**

(a) Overtime Notices:

If the contractor should desire to perform work at night or outside regular working hours, he shall notify the Secretary and shall allow ample time for satisfactory arrangements to be

made for observation by the Inspector of the work in progress. The contractor shall adequately light the work as necessary for safety and for satisfactory performance of the work.

(b) Compensation for Overtime:

If and when the Owner orders the contractor to perform work included in the Contract outside of regular working hours for purposes not covered by the Contract, the contractor shall be paid an extra to the contract price. The payment for such overtime ordered by the Owner shall be at the applicable rate for overtime hours, minus the applicable rate for straight time hours. The contractor shall not be entitled to extra compensation for overtime necessary to meet the construction schedule of the completion date of the Contract. Note: The provisions of this paragraph 1F.02 (b) apply only when the Contract is performed on a lump sum, unit price or maximum sum basis.

**1F.04 DELAWARE STATE EMPLOYMENT AGENCY (BRANCH OFFICES)**

New Castle County                      Delaware State Employment Agency  
4425 N. Market Street  
Wilmington, DE 19802  
Telephone (302) 761-8446

Kent County                                Delaware State Employment Agency  
1114 S. Dupont Hwy.; Suite 103  
Dover, Delaware 19901  
Telephone (302) 739-5461

Sussex County                            Delaware State Employment Agency  
600 N. Dupont Hwy.; Suite 205  
Georgetown, DE 19947  
Telephone (302) 856-5611

**1F.05 DELAWARE LAW, SECTION 6913 OF TITLE 29 OF THE DELAWARE CODE (AS AMENDED)**

"On the construction of all public works for city, county or the State, preference in employment of laborers, workmen or mechanics shall be given to bona fide legal citizens of the State, who have established such citizenship by residence of at least 90 days in the State. Each contract for the construction of public works for city, county or the State shall contain a stipulation that any person, company or corporation who violates the provisions of this section shall pay a penalty to the State Treasurer equal to the amount of compensations paid to any person, in violation of this chapter. This section shall not apply to any project or contract, any part of the cost of which shall be paid by the United States Government, if the provisions of this section are contrary to or inconsistent with any Federal statute, regulation or rule governing or applying to the Federal participation in the cost of such project."

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## SECTION 1G

### SPECIAL CONDITIONS PART III

#### PERMITS, LAWS, TAXES, INSURANCE AND INDEMNIFICATION

##### 1G.01 PERMITS

The Owner will secure the U.S. Army Corps of Engineers and State of Delaware DNREC permits. The Contractor will secure and pay for all remaining construction/ trade permits and licenses including all governmental and public utility charges and inspection fees necessary for the prosecution of the Work.

##### 1G.02 LAWS AND REGULATIONS

The Contractor will give all notices and comply with all laws, ordinances, rules and regulations applicable to work. If the Contractor observes that the Specifications or Drawings are at variance therewith, he will give the Owner prompt written notice thereof. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Owner, he will bear all costs arising therefrom.

##### 1G.03 INSURANCE AND INDEMNIFICATION

###### **2. Insurance coverage**

- 2.1 The Contractor shall carry all insurance required by law, such as Unemployment Insurance, etc. He shall carry such insurance coverage as he desires on his own property such as his field office, storage sheds or other structures erected upon the project site that belong to him and for his own use. The Subcontractors involved with this project shall carry whatever insurance protection they consider necessary to cover the loss of any of their personal property, etc.
- 2.2 Upon being awarded the contract, the Contractor shall obtain a minimum of two (2) copies of all required insurance certificates called for herein, and submit one (1) copy of each certificate, to the Owner, within 20 days of contract award.
- 2.3 Bodily Injury Liability and Property Damage Liability Insurance shall, in addition to the coverage included herein, include coverage for injury to or destruction of any property arising out of the collapse of or structural injury to any building or structure due to demolition work and evidence of these coverages shall be filed with and approved by the Owner.
- 2.4 The Contractor's Property Damage Liability Insurance shall, in addition to the coverage noted herein, include coverage on all real and personal property in their care, custody and

control damaged in any way by him or his Subcontractors during the entire construction period on this project.

2.5 The Contractor and his Subcontractors shall be responsible for insuring building materials (installed and stored) and their tools and equipment whenever in use on the project, against fire damage, theft, vandalism, etc.

2.6 Certificates of the insurance company or companies stating the amount and type of coverage, terms of policies, etc., shall be furnished to the Owner, within 20 days of the contract award.

2.7 The Contractor shall, at his own expense, (in addition to the above) carry the following forms of insurance:

2.7.1 Contractor's Contractual Liability Insurance

Minimum coverage to be:

Bodily Injury      \$ 500,000 for each person  
                          \$ 1,000,000 for each occurrence  
                          \$ 1,000,000 aggregate

Property Damage \$ 500,000 for each occurrence  
                          \$ 1,000,000 aggregate

2.7.2 Contractor's Protective Liability Insurance

Minimum coverage to be:

Bodily Injury      \$ 500,000 for each person  
                          \$ 1,000,000 for each occurrence  
                          \$ 1,000,000 aggregate

Property Damage      \$ 500,000 for each occurrence  
                                  \$ 500,000 aggregate

2.7.3 Automobile Liability Insurance

Minimum coverage to be:

Bodily Injury      \$ 1,000,000 for each person  
                          \$ 1,000,000 for each occurrence

Property Damage \$ 500,000 per accident

2.7.4 Prime Contractor's and Subcontractor's policies shall include contingent and contractual liability coverage in the same minimum amounts as 2.7.1 above.

2.7.5 Workman's Compensation (including Employer's Liability):

Minimum Limit on employer's liability to be as required by law.

Minimum Limit for all employees working at one site.

2.7.6 Certificates of Insurance must be filed with the Owner guaranteeing fifteen (15) days prior notice of cancellation, non-renewal, or any change in coverage and limits of liability shown as included on certificates.

2.7.7 Social Security Liability

2.7.7.1 With respect to all persons at any time employed by or on the payroll of the Contractor or performing any work for or on his behalf, or in connection with arising out of his business, the Contractor shall accept full and exclusive liability for the payment of any and all contributions or taxes or unemployment insurance, or old age retirement benefits, pensions or annuities now or hereafter imposed by the Government of the United States and the State or political subdivision thereof, whether the same be measured by wages, salaries or other remuneration paid to such persons or otherwise.

2.7.7.2 Upon request, the Contractor shall furnish Owner such information on payrolls or employment records as may be necessary to enable it to fully comply with the law imposing the aforesaid contributions or taxes.

2.7.7.3 If the Owner is required by law to and does pay any and/or all of the aforesaid contributions or taxes, the Contractor shall forthwith reimburse the Owner for the entire amount so paid by the Owner.

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## **SECTION 1H**

### **SPECIAL CONDITIONS - PART IV**

#### **DRAWINGS**

##### **1H.01 BIDDING DRAWINGS**

Proposals shall be based upon the bidding drawings as listed in the Special Provisions Section J, and included with the specifications as issued to all bidders, which drawings may be modified by addenda issued by the Department during the bidding period, and later will, as modified by the addenda, become the contract drawings.

##### **1H.02 CONSTRUCTION DRAWINGS**

The owner will furnish to the Contractor, free from charge, five (5) sets of the drawings as issued or released for construction and for each subsequent construction revision. The Contractor shall bear the cost of reproduction of any additional copies which he may require.

##### **1H.03 RECORD OR AS-BUILT DRAWINGS**

The Contractor shall keep at the site a record set of prints on which he shall clearly and accurately record all approved changes and/or additions to the contract work made to meet field conditions. The set of drawings shall be used for this purpose only. At project completion, the Contractor shall obtain a set of sepia reproductions, and neatly transfer to it all the recorded as-built information; and then provide two (2) prints of these sepias, along with the sepias themselves. These drawings shall be delivered to the Owner at the completion of the work, before the final payment shall be due and payable, as an accurate record of the work as actually executed.

##### **1H.04 ADJACENT CONDITIONS**

Wherever existing conditions, or construction not required as part of the work of this contract are shown on the drawings, they are so shown as a source of information to the Bidder. The Owner while believing such information to be substantially correct assumes no responsibility therefore. The Contractor shall have made himself familiar with all conditions affecting the nature and manner of performing the work and shall not be entitled to any extra compensation for any work or expense arising from or caused by his neglect to have verified all existing conditions and requirements.

## **1H.05 DIMENSIONS**

The drawings are made to scale unless otherwise noted on drawing. All working dimensions shall be taken from the figured dimensions, or by actual measurements at the job. The Contractor shall study and compare all drawings and verify all figures before laying out or constructing the work and shall be responsible for any and all errors in his work which might have been avoided thereby. Whether or not an error is believed to exist, deviations from the drawings and the dimensions given thereon shall be made only after all measurements of existing established conditions notwithstanding the figured dimensions on the drawings. When figured dimensions are not in agreement with the Contractor's measurements, he shall immediately notify the Owner, who shall promptly adjust the same.

## **1H.06 DISCREPANCIES**

If the Contractor discovers any discrepancies between the physical conditions of the work and the drawings, he shall immediately notify the Owner, who shall promptly adjust the same. Any work performed after such discovery without the approval of the Owner shall be at the Contractor's risk and expense.

## **1H.07 SHOP DRAWINGS**

(a) After checking and verifying all field measurements, the Contractor will submit to the owner for approval in accordance with the accepted schedule of shop drawings submissions, a minimum of three copies of all shop or setting drawings or schedules for approval, two will be retained by the Department and one copy will be returned. When the drawings or schedules have been corrected, if necessary, and approved, six (6) copies shall be furnished to the Owner, including, if requested, one (1) transparent reproducible copy. All shop drawings shall have been checked and approved by the Contractor before submitting to the Owner. The date shown on the shop drawings will be complete with respect to dimensions, design criteria, materials of construction and the like to enable the Owner to review the information as required.

(b) The Contractor will also submit to the Owner for approval with such promptness as to cause no delay in the work, all samples required by the Contract Documents. All samples will have been checked and approved by the Contractor, identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended.

(c) At the time of each submission, the Contractor will, in writing, call the Owner's attention to any deviations that the shop drawing or sample may have from the requirements of the Contract Documents. Substitution of alternate materials or equipment will be considered for approval by the Owner only in accordance with the provisions of Section 1D.09.

(d) The Owner will check and approve with reasonable promptness shop drawings and samples, but his checking and approval shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The Contractor will make any corrections required by the Owner and return the required number of

corrected copies of shop drawings or resubmit new samples. The approval of a separate item as such will not indicate approval of the assembly in which the item functions.

(e) No work requiring a shop drawing or sample submission shall be proceeded with until the submission has been approved by the Owner.

(f) The Owner's approval of shop drawings or samples shall not relieve the Contractor from his responsibility for any deviations from the requirements of the Contract Documents unless the Contractor has in writing called the Owner's attention to such deviations at the time of submission and the Owner has given written approval to the specific deviation, nor shall it relieve the Contractor from errors or omissions in the shop drawings.

#### **1H.08 LIST OF BIDDING DRAWINGS**

(a) At the Contractor's written request, electronic copies of Engineer's Digital Data Files of the Contract Drawing's site plan will be provided by the engineer per the following. Files for details, etc. will not be provided.

(b) AutoCAD (or other dwg format files): Contractor or Sub-Contractor to be utilizing the files will obtain and sign an Electronic File Agreement from the Engineer.

(c) Engineer makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings. Files are for recipients use only and files are not to be transferred to others.

(d) First Digital File (per order): Eight Hundred Dollars (\$800.00). A file is defined to mean a single drawing sheet. Subsequent Files (per same order): Four Hundred Dollars (\$400.00). A file is defined to mean a single drawing sheet. Electronic File Agreement and payment to be received by Engineer prior to release of file(s).

(e) Digital File Format: AutoCAD 2007.

#### **1H.09 LIST OF BIDDING DRAWINGS**

The drawings issued for bidding and which are a part of these specifications are listed in Section 1J, Special Provisions.

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## SECTION 1I

### SPECIAL CONDITIONS PART V

#### COMPLETION DATE AND PENALTY CLAUSE

##### 1I.01 COMPLETION DATE

All work of this contract shall be completed within the time limit set out in Section 1-J of the Special Provisions, (1J18; 1J19).

##### 1I.02 FAILURE TO COMPLETE WORK ON TIME

**Failure to Complete on Time.** For each calendar day or work day that work remains uncompleted after the Contract time has expired or beyond the completion date established by the Contract, the sum specified in Subsection 1.03 will be deducted from any money due the Contractor. This sum shall not be considered and treated as a penalty but as liquidated damages due the Department by reason of inconvenience to the public, added cost of engineering and supervision, and other extra expenditures of public funds due to the Contractor's failure to complete the work on time. Any adjustment of the Contract time for completion of work granted will be considered in the assessment of liquidated damages.

The column indicated in the charts as "Calendar Day" will also be used in the assessment of liquidated damages for contracts with a predetermined completion date.

Computations for the assessment of liquidated damages shall be made in accordance with the daily computations described in the definition of working day, when the Contract is a working contract. On all other contracts each and every consecutive calendar day, including Saturdays, Sundays and holidays, shall be included in the computations for the assessment of liquidated damages.

The Contractor shall become liable for liquidated damages for delays commencing from the date on which the Contract time shall expire.

If there is a delay in the delivery of critical materials, such as steel, copper, or aluminum, due to defense needs, energy crisis, etc. a time extension shall be allowed for such delays. Each case will be independently evaluated to determine if delays were, in fact, beyond the control of the Contractor or fabricator and delayed the Project completion. Satisfactory supported time extension requests shall be made concurrently with the delay and not after the fact.

Requests for time extensions shall be subject to review by the Engineer, and the Engineer will determine the amount of time extension allowed.

There will be no acceptance of unsupported claims of delays in delivery of material as a basis for time extensions. The Contractor is presumed to have included in its Contract price, allowance for any anticipated delays in procurement of materials, which procurement is its sole responsibility. Unless some unusual market condition such as an industry wide strike, natural disaster, or area wide storages arises after bids are taken and prevents procurement of materials within the allowable time limitations, delays in delivery of such materials do not provide sufficient reason for suspending time charges.

Permission for the Contractor or surety to continue and finish work after the Contract

time and approved extensions have elapsed shall not waive the Department's rights under the Contract.

The Department may waive such portions of the liquidated damages as may accrue after the work is substantially complete and is in a condition for safe and convenient use by the traveling public.

Payment of liquidated damages will be deducted from payments otherwise due the Contractor or be made by direct payment by the Contractor in the event the total liquidated damages due exceed said deductions.

**Subsection I.03 Schedule of Liquidated Damages**

**Schedule of Liquidated Damages**

<b>Awarded Contract Value</b>		<b>Daily Change</b>	
<b>For More Than---</b>	<b>To and including--</b>	<b>Work Day</b>	<b>Calendar Day</b>
\$ 0	\$ 25,000	\$ 380.00	\$ 275.00
25,000	50,000	400.00	290.00
50,000	100,000	540.00	390.00
100,000	500,000	840.00	600.00
500,000	1,000,000	1,090.00	780.00
1,000,000	2,000,000	1,350.00	960.00
2,000,000	5,000,000	1,410.00	1,010.00
5,000,000	10,000,000	1,590.00	1,130.00
10,000,000	15,000,000	2,510.00	1,790.00
15,000,000	20,000,000	4,180.00	2,990.00
20,000,000	25,000,000	5,850.00	4,180.00
25,000,000	30,000,000	7,520.00	5,370.00
30,000,000	35,000,000	9,190.00	6,570.00
35,000,000	Over	10,870.00	7,760.00

**CONTRACT NO. NAT-201311 / NJETTY-REHAB**

**SPECIAL PROVISIONS (SECTION 1-J)**

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**DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL**

**CONTRACT NO. NAT-201311 / NJETTY-REHAB**

**SECTION 1-J**

**SPECIAL PROVISIONS**

**1J.01 GENERAL**

These special conditions shall govern over the drawings and other sections of these Specifications.

**1J.02 SCOPE OF WORK**

A. The Contractor shall not begin construction until authorization is received from the State.

B. The plans and specifications are intended to cover a complete project. It should be distinctly understood that failure to mention any work that would be required to complete this project shall not relieve the Contractor of his responsibility to perform such work.

C. The work to be done under this contract includes, but is not limited to furnishing all labor, materials, tools, equipment, superintendent, transportation and performing all work in strict accordance with these specifications and required drawings.

D. The work shall be accomplished under contract to and supervision of Department of Natural Resources and Environmental Control (DNREC) for the State of Delaware.

E. The Contractor shall assume all responsibility for the project and construction site until accepted by DNREC, Division of Watershed Stewardship.

F. The work under this Contract including all necessary temporary items required for good, safe and sanitary construction practices and administration of the project, is subject to the approval of the Owner or Owner's Representative.

G. The work shall be complete in all its parts and ready for use in the time specified and in strict accordance with the terms and conditions of the Contract. Any deviation shall be subject to the written approval of the Owner and Owner's Representative.

H. The Contractor shall follow the requirements of all the permits issued for the proposed construction.

**1J.03 CONTRACT DOCUMENTS AND SCHEDULE OF DRAWINGS**

A. The Contract Documents consist of these specifications and any all subsequent addenda thereto and the Drawings as listed below.

The following list of, Inc. drawings all dated March 18, 2015 form a part of the Contract Documents.

	<b><u>INDEX OF SHEETS</u></b>
<b>C-1</b>	<b>Cover Sheet</b>
<b>C-6</b>	<b>Plan &amp; Sections – Jetty Rehabilitation</b>
<b>C-8</b>	<b>Details</b>

#### **1J.04 PROJECT SITE**

A. The project site is located at the entrance leading into the Murderkill River channel in Bowers Beach, Kent County, Delaware as indicated on the Drawings.

B. The project site will be turned over to the Contractor as is, including any and all structures and/or construction work that may be present. He shall perform all work of every description necessary to permit him to proceed with the execution of all the work called for in the Specifications and/or as shown or indicated on the Contract Drawings.

C. The Contractor shall satisfy himself as to the accuracy and completeness of these specifications regarding the nature and extent of all work described.

D. Because of the proximity of improved properties, the Contractor shall exercise extreme care in his construction operations. The Contractor shall secure the approval of the property owner for the particular method of ingress and egress, place for storage of materials and equipment, etc., prior to beginning work.

E. The existing bottom profiles, beach contours and/or bank alignment shown on the Drawings were correct when surveyed. However, because of interim erosion and littoral transport, the Contractor shall satisfy himself as to all conditions at the time of bidding this project and include in his proposal any changes that would be necessary to accomplish a complete and functional project.

F. The Contractor shall make all necessary field measurements at the job site so as to complete the project as required in the specifications.

G. Should there be any discrepancies between the Drawings, Specifications and/or field conditions after bidding and prior to the beginning work, the Contractor shall bring such discrepancies to the attention of the Owner or Owner's Representative at the initiation conference.

H. The Contractor shall take all necessary precautions and measures to protect all properties from damage. He shall repair all damage caused by his operations to all public and private property including roads, walks, curbing, utilities, trees, shrubs, plantings, etc. and leave the property in good condition and/or at least equivalent to the condition found.

I. The Contractor shall, at all times, keep the work site free from accumulation of waste materials, rubbish, surplus materials, etc. and shall leave the work area completely clean.

### **1J.05 PRE-BID MEETING AND BID OPENING**

A mandatory pre-bid meeting will be held at **10:00 A.M., April 15, 2015** at the site. The bid quotation reply section must be completed and returned no later than **2:00 P.M., April 30, 2015**. The bid must be returned in a sealed envelope clearly marked on the outside, **“Contract No. NAT-201311 / NJETTY-REHAB Murderkill River North Jetty Rehabilitation/ Extension” to DNREC DIVISION OF WATERSHED STEWARDSHIP** the bid opening will be held in Room B172, 89 Kings Highway, Dover, Delaware 19901.

### **1J.06 PRICE**

Prices shall be quoted net 30 days.

### **1J.07 BOND REQUIREMENTS**

#### A. Bid Bond

Each bidder shall furnish a bond to the State of Delaware, for the benefit of the Department of Natural Resources and Environmental Control, in the amount equal to 10% of the total bid. The bond shall be drawn upon an insurance or bonding company authorized to do business in the State of Delaware. If the enclosed State of Delaware bond form is not used, the substitute bond must reflect the minimum conditions specified in the standard form. A certified check made out to the Department of Natural Resources and Environmental Control in an amount equal to 10% of the total contract value may be submitted in lieu of a bid bond.

#### B. Performance Bond and Payment Bonds

Vendors awarded contracts are required to furnish 100% Performance Bond AND Payments Bonds to the State of Delaware for the benefit of the Department of Natural Resources with each surety in the amount of the 100% of total contract. Said bonds shall be conditioned upon the faithful performance of the contract. These guarantees shall be submitted in the form of good and sufficient bond drawn upon an insurance or bonding company authorized to do business in the State of Delaware. If the Department form is not utilized, the substituted bond form must reflect the minimum conditions specified in the form. (1C.02)

### **1J.08 DRAWINGS**

Any required drawings shall be produced by the Contractor, following on the job measurements. All drawings must be approved by the Owner and/or Engineer before fabrication or construction begins.

### **1J.09 SPECIFICATIONS**

The Technical specification section lists the materials to be used for this project. The list generally indicates the type and quality of the desired item. Substitutes are permitted provided the substituted item is of equal quality and will provide the same functionality and longevity as the item specified. Items with the initials OAE (OR APPROVED EQUAL) will require written approval of the Project Manager for substitution.

### **1J.10 REFUSE & WASTE MATERIALS**

The Contractor shall at all times keep the project site clean and free from refuse and construction waste materials. It shall be the Contractor's responsibility to arrange for removal of any and all waste material generated from this project. The project area shall be clean and free from construction refuse at project completion.

### **1J.11 BID ALTERNATIVES**

Bid alternatives that provide comparable functionality, maintenance, and utility, while reducing the project cost, will be entertained as a value engineering issue following the award of the contract.

### **1J.12 CONTACT PERSON(S)**

Charles E. Williams, II  
DNREC – Division of Watershed Stewardship  
(302) 739-9921

### **1J.13 FUNDING**

The Department reserves the right to award partially by BID Item or to make no award pending availability of funds.

### **1J.14 AWARD OF CONTRACT**

This contract shall be awarded to the lowest responsible bidder submitting the lowest lump sum price accepted by the Owner, pending availability of funds.

The Owner reserves the right to select any combination of lump sum or unit prices (based on estimated quantities), to be consistent with allowable moneys and to best serve the interest of the State.

### **1J.15 SPECIAL INSTRUCTIONS TO THE CONTRACTOR**

A. As soon as possible after the Award of Contract, and before starting work, the Contractor shall meet with the State on site, to discuss all aspects of the proposed work. At this meeting the Contractor shall be prepared to review all procedures involved in carrying out the proposed work and shall deliver a planned work schedule and material delivery schedule.

- B. The Contractor shall coordinate his work schedule with the State at all times. The Contractor shall not perform any work at the site without representatives of the State present unless he has previously obtained the permission from the State.
- C. The Contractor shall not ingress into any existing wetlands areas.
- D. Existing Utilities: The Contractor shall contact Miss Utility at 1-800-257-7777 at least 72 hours prior to the onset of construction, so that existing utilities in the work area may be located and marked. If utilities are to remain in place, provide adequate means of protection during earthwork operations. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult the Owner or Owner's Representative immediately for directions on how to proceed. Cooperate with the Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner. Do not interrupt existing utilities serving facilities occupied and used by Owner or others, except when permitted in writing by the Owner or Owner's representative, and then only after acceptable temporary utility services have been provided.
- E. While it is believed that the test borings accurately indicate subsurface conditions for boring locations on the date taken, the Owner and Engineer assume no responsibility for actual conditions which may be encountered in execution of Contract. Should Contractor rely, for any purpose, upon accuracy or completeness of said borings, or log thereof, he does so at his own risk.
- F. Certifications, material testing, and soil testing as outlined elsewhere in these Specifications shall be performed by an independent testing firm approved by the State or State's Representative. The testing firm shall coordinate and perform all testing with the General Contractor and his suppliers. Certification and test reports shall be submitted to the Project Manager for approval. Costs associated with testing shall be borne by the General Contractor and included in the Contractor's lump sum price bid.
- G. The Contractor shall be allowed to work 5 days a week from 7:00 a.m. to 6:00 p.m.

#### **1J.16 SCHEDULES**

The Contractor shall coordinate his work schedule with the Owner at all times. The Contractor shall not perform any work at the site without representatives of the Owner and Engineer present unless he has previously obtained the permission of both.

#### **1J.17 TRAFFIC**

Local traffic at the site must be maintained as necessary in accordance with plans which must be approved at the pre-construction meeting.

**1J.18 COMPLETION DATE**

Construction of the North Jetty shall be completed within 160 calendar days after receipt of the State of Delaware Purchase Order.

**1J.19 GUARANTEE**

The Contractor shall guarantee the work of its employees, suppliers and subcontractors for one year from time of final payment, and the Contractor shall, at his expense, remedy any defects of which the Contractor is given written notice, in a manner acceptable to the Owner.

**1J.20 INSPECTION**

Inspection of the supplies, material and/or work will be performed by the Department and/or its authorized representative. The Department reserves the right to reject or stop any or all portions of the work which fail to meet these specifications.

**1J.21 INVOICES**

All billing shall be to the Department of Natural Resources and Environmental Control Division of Watershed Stewardship, 89 Kings Highway, Dover, DE 19901 and marked Contract No. NAT-201311 / NJETTY-REHAB; Attention: Charles E. Williams, II.

**1J.22 BASIS OF PAYMENT**

Payment of this contract shall be at the accepted contractual bid price. There will be monthly progress payments allowed based on percentage complete. Request for payments must be submitted by the 25<sup>th</sup> of each month. As referenced in 29 DELC 6962 (c) (5) (a): “Retainage shall be withheld from each monthly request for payment. The amount withheld shall be ten (10) percent of each request for payment. Upon completion of ninety (90) percent of the project the retainage shall be reduced to five (5) percent. Upon completion of the final punch list and acceptance of the project the remaining retainage shall be released.”

**1J.23 ENGINEER AND/OR ARCHITECT**

Andrews Miller and Associates  
A Division of Davis, Bowen & Friedel, Inc.  
106 North Washington Street  
Easton, Maryland 21601

**SECTION 2**  
**TECHNICAL SPECIFICATIONS**

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## DIVISION 35 – WATERWAY AND MARINE CONSTRUCTION

### SECTION 35 31 26.40 - STONE JETTY

#### Part 1 – General

##### 1.1 Scope:

- 1.1.1 The Contractor shall furnish all labor, materials and equipment necessary to construct the stone jetty as shown on the Drawings, as described in these Specifications and as directed by Delaware Department of Natural Resources and Environmental Control (DNREC) or their Representative.
- 1.1.2 The Contractor shall adhere to the terms of the various permits issued to this project. This shall include permits from the U.S. Army Corps of Engineers, DNREC and any other applicable permits.
- 1.1.3 The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations applicable to work. If the Contractor observes that the Specifications and/or Drawings are at variance therewith, he will give DNREC prompt written notice thereof. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to DNREC, he will bear all costs arising therefrom.
- 1.1.4 **Related Documents:** Section 1- General Provisions of the Contract; ASTM Standards in Building Codes, latest edition; the Geotechnical Engineers Report in Appendix 2; and all applicable supplements and addenda pertaining thereto apply to this section.

#### Part 2 – Products

##### 2.1 Materials:

- 2.1.1 Geotextile: The geotextile shall be a porous, plastic sheet of woven filament yarn. The plastic yarn shall consist of a long-chain synthetic polymer composed of at least 85 percent by weight of propylene, ethylene, ester, amide or vinylidene-chloride, and shall contain stabilizers and/or inhibitors added to the base plastic if necessary to make the filaments resistant to deterioration due to ultra-violet and heat exposure.

<u>PROPERTY</u>	<u>TEST METHOD</u>	<u>CRITERIA</u>
AOS	ASTM D-4751	70 U.S. Standard Sieve Size
% Open Area	COE CWO-02215-86	5% or more
Tensile Strength	ASTM D-4632	250 Lb. All Principal Directions
Burst Strength	ASTM D-3786	450 psi
Puncture Strength	ASTM D-4833	120 lb.
Abrasion Resistance	ASTM D-4157/D-4158	60 lb.
Seam Breaking Strength	ASTM D-1683	225 lb.
Clogging resistance		$\frac{AOS (mm)}{0.149 (mm)} \geq 1$ or Gradient Ratio $\leq 3.0$
Water Permeability Coefficient	ASTM D-4491	0.01 cm/sec (Lateral Permeability)
Ultra-Violet Stabilization	ASTM D-4355	90% retained strength

- 2.1.1.1 **Seams:** Seams of fabric shall be sewn with thread meeting or exceeding specifications given for plastic yarn and shall be bonded by cementing or calendering. Seams shall be tested in accordance with method ASTM

D-1683. The seam strength shall meet the strength specified herein but shall not be less than 90% of the tensile strength of the imaged fabric in any principal direction.

- 2.1.1.2 **Temporary Securing Pins:** Securing pins shall be 3/16 inch in diameter, of steel, pointed on one end and fabricated such that the held retains a steel washer of 1.5" diameter or more. Pins shall be no less than 18" in length
- 2.1.1.3 **Acceptance of Fabric:** All plastic filter fabric to be used shall be tested for compliance with the above specifications. The Contactor shall submit in duplicate a certificate or affidavit signed by a legally authorized person from the company manufacturing the fabric. The certificates shall state that chemical, physical and manufacturing requirements are met as specified herein. In addition, evidence of a service record may be required by DNREC providing successful performance in projects of similar scope.
- 2.1.2 **Geogrids:** for placement for the jetty shall be equal to Tensar TX160 TriAx geogrid. The Contractor shall provide to DNREC a certification stating the name of the manufacturer, product name, style number, and other pertinent information to fully describe the geosynthetic if a geogrid other than that referenced is used. The Certification shall be attested to by a person having the legal authority to bind the manufacturer.
- 2.1.3 **Steel Pile:** shall be seamless or electrically welded pipe conforming to the latest edition of ASTM A252- Grade 2 or 3. Piles shall be 12" minimum diameter, Schedule 40 steel. The pile supplier shall furnish four copies of certified mill test reports covering chemical and physical tests conducted on the steel for each heat number of metal included in the shipment.
  - 2.1.3.1 **Steel Pipe Cutting Shoe:** Cast steel open ended inside pile cutting shoe with ledge to transfer forces from shoe to pile in compression rather than shear on welds. Equal to model 0-14001 inside flanged cutting shoe as manufactured by Associated Pile and Fitting Corporation, Box 1048, Clifton, New Jersey 07014.
  - 2.1.3.2 **Galvanizing:** Steel pipe guide piles shall be hot-dip galvanized in accordance with ASTM A-123. The zinc coating shall be applied to the inside and outside of the pipe, 2.0 ounces of zinc per square foot of hardware surface.
- 2.1.4 **Weather Guards:** Black cone shaped plastic pile caps shall be used on steel pile tops. The pile cap shall be molded from 3/16 inch thick, ultra-violet resistant, low density polyethylene. Caps shall be securely anchored to piles with epoxy cement.
- 2.1.5 **Stone:** All stone for the protection work shall be durable quarried stone as approved by DNREC. The stone shall be hard and angular, free from laminations, weak cleavages, and undesirable weathering, and of such character that it will not disintegrate from the action of air, salt water, freezing and thawing, and in handling and placing. Sedimentary stone will generally be unacceptable. Individual stones shall be approximately rectangular in cross section and free from thin slabby pieces having a maximum dimension more than three and one half times the least dimension. All stone shall be supplied from the same quarry. The armor stone shall have a minimum unit weight of 160 lbs. per cubic foot.
  - 2.1.5.1 **Stone Size:** Stone sizes for armor stone, chinking/ core stone and chocking stone shall meet the following requirements.

2.1.5.1.1 Armor Stone sizes shall be such that a minimum of 90% of the individual stones shall weight from 4500 lbs. to 7500 lbs. Not more than 10% of the individual stones shall weight more than 7500 lbs. A minimum of 50% of the armor stones (by volume) shall weigh more than 6000 lbs. No armor stones shall be less than 4500 lbs.

2.1.5.1.2 Chinking and Core Stone sizes shall weigh not less than 100 lbs. nor more than 300 lbs. each.

2.1.5.1.3. Chocking Stone shall consist of graded stone ranging between 1 ½ inches and 3 inches in sizes and shall be in accordance with AASHTO M 43 Course Aggregate size number Two.

2.1.5.2. **Field Samples:** The Contractor shall supply samples of stone to be displayed at the site with appropriate individual weights marked as follows: 4500 lbs., 6000 lbs., and 7500 lbs. These samples of stone shall be from the same quarry and of the same type of stone as that to be supplied for the job and shall be delivered to the site in advance of the time when placing the stone protection is expected to begin. Final approval of stone for the protection work will be based upon these samples.

2.1.6 **Certification:** The quarry shall submit to DNREC a certificate indicating the following:

2.1.6.1 Stone Classification

2.1.6.2 Weight per cubic foot

2.1.6.3 That sizes stipulated in the specifications are being supplied to the site and source of stone shall be indicated.

2.1.6.4 Stone quality will meet all project specifications, including undesirable weathering and disintegration.

### **Part 3 - Execution**

#### **3.1 Jetty Construction Method:**

3.1.1 **General:** The Contractor shall submit his proposed means of access, method of construction (to include the sequence of stone placement), methods of placement, and equipment to be used during each construction phase to DNREC for approval within thirty (30) calendar days before commencing work. The Contractor's construction procedures shall account for the variations of the tidal cycle as necessary to allow for all equipment and material access. Material barges (if used) shall be lightened as necessary to gain access. The Contractor shall provide all equipment necessary to provide offshore staging areas as required. Any access on public roads used by the Contractor shall be maintained in a satisfactory condition until completion of the project and accepted by DNREC. Maintenance shall include immediate repairs to any defects and/or damage and shall be repeated as often as necessary to keep the road intact. Any area of the access road that is damaged shall be reworked, regraded, and replaced as necessary to provide access for the general public, property owners, or other parties specified by DNREC.

The Contractor shall include in the proposed method of construction submittal evidence that operators can demonstrate proper placement of armor stone, particularly of the size specified. The stone shall be placed to form, as nearly as practicable, a cross-section of uniform height, width, and slopes as shown on the contract drawings, satisfying the tolerances presented herein. Care shall be taken to place the stone of the various classifications so they will make a compact mass having no large voids between them. Stone extending beyond the specified placement tolerances shall be removed and replaced at a location such that the specified lines and grades will be satisfied. Approval of this submittal by DNREC will not relieve the Contractor of completing a structure constructed to the grades, tolerances, and conditions specified herein. If, in the opinion of DNREC, the Contractor is not achieving the specified requirements from his placement operations as submitted, any and all adjustments in the Contractor's operations shall be made as deemed necessary as directed by DNREC or their Representative at no additional cost to DNREC.

3.1.2 **Concrete Filled Bag Removal:** Only the upper level of concrete filled bags shall be removed. The remaining bags comprising the existing jetty shall be left in place and protected against damage. The bags removed shall be repositioned along the northerly side of the completed rehabilitated structure between Sta. 1+50 to Sta. 3+00 and buried under three (3') feet minimum depth of sand.

3.1.3 **Foundation Preparation:** Prior to the placement of geotextile in any area of work, all debris shall be cleared from the area by the Contractor as directed by DNREC and disposed of off-site in an approved manner. Excavation of foundation materials at specified locations along the perimeter of the jetty's alignment shall be performed to the required depth, as shown on the contract drawings. The Contractor shall schedule his operations so that the length of time newly graded areas are left exposed to wave action is minimized. Immediately prior to placement of geotextile, geogrid, and chocking stone, the foundation slopes shall be fine graded to a tolerance of plus or minus three-tenths (0.3) of a foot from a smooth surface as measured by an approved template. The Contractor shall not prepare more subgrade than can be covered with stone by the end of each working day. Temporary protection for the end of the exposed subgrade shall be provided at the end of each working day.

3.1.4 **Foundation Conditions:** The Contractor should review the logs of foundation exploration contained in these specifications. It should be expected that some settlement and displacement of the foundation (mud-waving) may occur during construction and should be taken into account in determining the total volume of stone required. It has been estimated by the geotechnical engineer that up to eight inches (8") of settlement or displacement may occur requiring an additional amount of stone to be placed. No additional payment will be made for such additional stone required due to settlement or displacement.

3.1.5 **Chocking Stone:** Immediately prior to placement of the geotextile and geogrid, the surface gaps between the concrete filled bags remaining shall be filled with chocking stone as needed to prevent bulging of and/or damage to the geotextile.

Further, upon completion of the armor and chinking stone operation, the surface spaces at or near grade on the crest of the jetty shall be further chocked with stone, extending along the slope at least 5½ below the structure's crest elevation.

3.1.6 **Filter Cloth:** The strips of filter cloth shall be spread parallel to the major axis of the structure on the prepared foundation as shown on the Drawings. The cloth shall be loosely laid (not stretched) with no more than one overlap parallel to the major axis of the structure. The overlap shall be a minimum of 5 feet. Strips of cloth shall be spread in a manner such that the strip totally in contact with the soil shall be the upper strip. Overlaps perpendicular

to the major axis of the structure shall be staggered a minimum of 5 feet. Rolls of as great a length as it is economical for the Contractor to handle shall be used whenever possible in order to minimize the number of overlaps perpendicular to the major axis of the structure. Overlaps at or around existing structures shall also be a minimum of 5 feet.

Adequate precaution shall be taken to prevent damage of the filter cloth from placement of overlying materials. Stone weighing more than 100 pounds should not be dropped from a height greater than 5 feet onto the cloth. Stones weighing more than 500 pounds should not be dropped from a height greater than 2 feet. Any filter cloth damaged or displaced before or during placement of overlying layers shall be replaced or repaired to the satisfaction of the Owners at the Contractor's expense.

- 3.1.7 **Temporary Securing Pins:** The filter cloth may be temporarily pinned in place with securing pins to prevent slippage during construction. The pins shall be retained until sufficient armor stones are set to hold the filter cloth. The securing pins shall then be removed as additional armor stones are placed to relieve high tensile stress which may cause damage to the filter cloth. Alternate anchoring may be used subject to the approval of DNREC.
- 3.1.8 **Geogrid:** The geogrid shall be laid smooth without wrinkles or folds and spread parallel to the major axis of the jetty. Adjacent geogrid rolls shall be overlapped in accordance with the manufacturer's recommendations. If placement of the backfill material causes damage to the geogrid, the damaged area shall be repaired immediately. Cover the damaged area with a geogrid patch which extends an amount equal to the required overlap beyond the damaged area. The placement procedure shall be modified to eliminate further damage from taking place.
- 3.1.9 **Core Stone:** After the geotextile and armor toe stone has been placed, the Contractor shall place core stone to the lines and grades indicated on the drawings. Core stone in place shall be a reasonably well graded mass with minimum practicable void space. Placing the material by dumping or by other such methods which tend to segregate particle sizes will not be permitted. Compaction of the core stone shall be accomplished by the controlled use of the hauling and spreading equipment or by other acceptable means approved by DNREC. A tolerance of plus three (3") inches measured perpendicular to the exterior surface of the core stone will be permitted except that the extreme of such tolerance shall not be continuous over an area greater than one hundred (100) square feet. No minus tolerances will be permitted.
- 3.1.10 **Armor Stone:** After the geotextile and geogrid is placed on top of the completed sections of core stones (at the rehabilitated jetty section), armor stone shall be placed directly on the geotextile and geogrid as indicated on the Contract Drawings. Armor stone shall be placed in a timely manner to assure maximum interlocking. Stones shall be keyed and fitted in place, maximizing contact on all sides to result in minimal void space between adjacent stones. Armor stone shall be carefully placed to ensure proper positioning and contact with adjacent stones. Armor stones shall be individually placed with rock grab, orange peel grab, grapple, crane or similar approved equipment capable of manipulating and placing stones. A backhoe may be used if approved by DNREC. Stones shall not be dropped or tipped into position, but shall be placed piece by piece into the structure to achieve a minimum "three-point support" and be stable to the lines and grades shown on the Drawings. "Three-point support" requires contact with at least three separate adjacent stones, not to include underlying stones. Individual stones shall be carefully sorted, chosen, and placed (according to their dimensions) to meet the required grades and tolerances. Placement shall be controlled to avoid clustered placement of weights in the lower portion of the permitted range. The top of the finished armor stone layer shall be reasonably smooth with no abrupt changes or discontinuities between the exposed surfaces of

adjacent stones. For the outer layer of armor stone, a tolerance of plus six (6") inches or minus three (3") inches measured perpendicular to the exterior surface of the stonework from the lines and grades shown on Drawings shall be permitted except that either extreme of such tolerance shall not be continuous for an area greater than 100 square feet. The intention is that the rehabilitated and extended jetty will be built to the required elevations, slopes, grades and appearance. Placed material not meeting these limits shall be removed and replaced as directed by DNREC. Upon approval of DNREC, spaces between stones which are large enough to receive chinking stone (100 lb. to 300 lb.) shall be filled. Then, upon approval by DNREC, the jetty shall be further chocked with chocking stone (No. 2 stone) as specified on the drawings.

3.1.11 **Sample Section:** At the start of construction, the Contractor shall construct a full sample section of jetty rehabilitation, approximately fifty (50') feet in length, at a location agreed on in the field by DNREC and the Contractor. This sample section must be approved by DNREC prior to the start of any additional stone construction, and shall serve as the standard for further stone work.

3.1.12 **Maintenance:** The Contractor shall be responsible for care and maintenance of work until final acceptance by DNREC. Damage to the work due to any cause prior to acceptance shall be repaired at the Contractor's expense.

### 3.2 **Steel Pile with Warning Sign**

3.2.1 All piles shall be driven by gravity, vibratory or air/diesel hammer as approved by DNREC or DNREC's representative. Any hammer which does not perform satisfactory on piles being driven, regardless of prior approval, shall be replaced by a hammer acceptable to DNREC or DNREC's representative. Driving shall be continuous without intermission until the pile has been driven to the required penetration.

3.2.2 During driving, the top of the piles shall be protected from damage by using a head or cap. The head or cap shall cover the entire surface of the top of the pile. Trimming the top of the pile to fit the cap shall be kept to a minimum. Damage to the top of the pile shall be restricted to the top 6 inches.

3.2.3 After driving, the length of the pile remaining above the elevation of cutoff shall not be more than 6 inches for damaged piles. The top of the piles shall be sawed to a true plane of elevation fixed by the Drawings. Cutoff of piles shall not take place without the approval of DNREC or DNREC's representative. If the pile tops are not damaged, full length driving will be required.

3.2.4 Piles which leak, or piles which are bent, crimped, buckled or otherwise unsatisfactory as herein specified, and which cannot be repaired, shall be removed and replaced by the Contractor at no additional cost to DNREC.

#### 3.2.5 **Filling of Steel Pipe Piles**

3.2.5.1 The Contractor shall inspect each pile visually immediately prior to filling to ascertain that the inside of the pile is free from any organic or highly compressible material or solid matter, and from greater than a 2 inch depth of water.

3.2.5.2 The Contractor shall place sand in the steel pile through a funnel having a neck not less than 2 feet long and diameter at least two inches smaller than the inside diameter of the pile. Provide a spacer at the neck to

permit escape of air during filling. Placing of sand shall be continuous and in a manner which will assure complete filling of pile. Sand shall not be placed through water unless approved by DNREC or DNREC's representative.

3.2.5.3 The Contractor may substitute concrete fill in lieu of sand fill provided there is no additional cost the DNREC and upon approval of DNREC or DNREC's representative.

3.2.6 The Warning Sing shall be attached to the pile as specified on the Drawings.

#### **Part 4 – Measurement and Payment**

##### **4.1 General**

4.1.1 No measurement for payment for these items of work will be made since their costs shall be included in the lump sum price bid.

- END OF SECTION -

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**SECTION 3**  
**BID QUOTATION REPLY**

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**SECTION 3A  
PROPOSAL FORM**

**DEPARTMENT OF NATURAL RESOURCES  
AND ENVIRONMENTAL CONTROL  
MURDERKILL RIVER  
North Jetty Rehabilitation/ Extension  
CONTRACT NO. NAT-201311 / NJETTY**

For Bids Due: April 16, 2015

To: Department of Natural Resources and Environmental Control  
Division of Watershed Stewardship  
89 Kings Highway  
Dover, Delaware 19901

**Name of Bidder:** \_\_\_\_\_

**Delaware Business License No.:** \_\_\_\_\_ **Taxpayer ID No.:** \_\_\_\_\_

**(Other License Nos.):** \_\_\_\_\_

**Phone Number:** ( ) \_\_\_\_\_ **Fax Number:** ( ) \_\_\_\_\_

The undersigned having read the specifications, examined the drawings and received, read and taken into account Addenda Nos., \_\_\_\_\_, hereby proposes to provide all necessary machinery, tools, labor to do all the work and to furnish all the materials necessary to perform and complete the said contract for the following quoted lump sum base bid for rehabilitation of the North Jetty located at the entrance leading into the Murderkill River by extending the length, raising the height and capping the existing concrete fill bags with armor stone.

**LUMP SUM BASE BID** \_\_\_\_\_

\_\_\_\_\_ Dollars (\$) \_\_\_\_\_  
(Written) (Figures)

**NOTE:** Price shall be written in both words and numbers. The State reserves the right to accept or reject any or all bids. The Base Bid shall be the controlling figure determining the value of the contract.

**The Base Bid is divided as follows:**

**BID ITEM 1 - Mobilization / Demobilization:** \_\_\_\_\_

\_\_\_\_\_ Dollars (\$) \_\_\_\_\_  
(Written) (Figures)

**BID ITEM 2 - Jetty Rehabilitation (Sta. 0+00 to Sta. 3+50):** \_\_\_\_\_

\_\_\_\_\_ Dollars (\$) \_\_\_\_\_  
(Written) (Figures)

**BID ITEM 3 - Jetty Extension (Sta. 3+50 to Sta. 4+20):** \_\_\_\_\_

\_\_\_\_\_ Dollars (\$) \_\_\_\_\_  
(Written) (Figures)

**BID ITEM 4 – Pile with Warning Sign:** \_\_\_\_\_

\_\_\_\_\_ Dollars (\$) \_\_\_\_\_  
(Written) (Figures)

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**SCHEDULED UNIT PRICES:**

The following unit prices, if accepted in the award of contract, shall be applied in computing the value of changes, additions, deletions and substitutions, which may be made in the work. Each unit price shall include all work, materials, and incidentals necessary to complete the items.

**NOTE:** Price shall be written in both words and numbers.

- 1. Armor Stone: \_\_\_\_\_  
 \_\_\_\_\_ (\$ \_\_\_\_\_) per TON  
 (Written) (Figures)
- 2. Core/ Chinking Stone: \_\_\_\_\_  
 \_\_\_\_\_ (\$ \_\_\_\_\_) per TON  
 (Written) (Figures)
- 3. Geotextile: \_\_\_\_\_  
 \_\_\_\_\_ (\$ \_\_\_\_\_) per SY  
 (Written) (Figures)
- 4. Geogrid: \_\_\_\_\_  
 \_\_\_\_\_ (\$ \_\_\_\_\_) per SY  
 (Written) (Figures)

If the undersigned is notified of the acceptance of this proposal, he agrees to execute a contract within twenty (20) days of the notification and to guarantee the completion of this work in \_\_\_\_\_ calendar days (not to exceed 160 calendar days) after the award of the contract.

By \_\_\_\_\_ Trading as \_\_\_\_\_  
(Individual's / General Partner's / Corporate Name)

Business Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

By \_\_\_\_\_  
(Authorized Signature)

Sworn to and subscribed before me on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Notary Public My commission expires \_\_\_\_\_

**ATTACHMENTS**

- Delaware Business License
- Sub-Contractor List
- Non-Collusion Statement
- Certification of Non-Segregated Facilities
- Equal Employment Opportunity Statement
- Bid Bond

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**MURDERKILL RIVER NORTH JETTY REHABILITATION/ EXTENSION**  
**CONTRACT NO. NAT-201311 / NJETTY-REHAB**

**SECTION 3B**

**BID FORM**

**SUBCONTRACTOR LIST**

In accordance with Title 29, Chapter 6962 (d) (10) b Delaware Code the following sub-contractor listing must accompany the bid submittal. The name and address of the sub-contractor must be listed for each category where the bidder intends to use a sub-contractor to perform that category of work. In order to provide full disclosure and acceptance of the bid by the *Owner*, it is required that bidders list themselves as being the sub-contractor for all categories where he/she is qualified and intends to perform such work.

<b>SUBCONTRACTOR CATEGORY</b>	<b>NAME, ADDRESS AND STATE OF DE BUSINESS LICENSE NUMBER</b>
-------------------------------	--

_____	Name: _____ Address: _____ Address: _____ St. of DE. Bus. Lic. #: _____
_____	Name: _____ Address: _____ Address: _____ St. of DE. Bus. Lic. #: _____
_____	Name: _____ Address: _____ Address: _____ St. of DE. Bus. Lic. #: _____
_____	Name: _____ Address: _____ Address: _____ St. of DE. Bus. Lic. #: _____

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED**

SWORN TO AND SUBSCRIBED BEFORE ME THIS \_\_\_\_ DAY OF \_\_\_\_\_, 2015.

\_\_\_\_\_  
NOTARY PUBLIC

My commission expires \_\_\_\_\_

CITY of \_\_\_\_\_; COUNTY of \_\_\_\_\_; STATE of \_\_\_\_\_.

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**MURDERKILL RIVER NORTH JETTY REHABILITATION/ EXTENSION**  
**CONTRACT NO. NAT-201311 / NJETTY-REHAB**

**SECTION 3-C**

**BID FORM**

**NON-COLLUSION STATEMENT**

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date to DNREC- Division of Watershed Stewardship.

It is agreed by the undersigned bidder that the signed delivery of this bid represents the bidder's acceptance of the terms and conditions of this invitation to the bid including all specifications and special provisions.

NAME OF BIDDER \_\_\_\_\_

SIGINATURE OF AUTHORIZED REPRESENTATIVE \_\_\_\_\_

TITLE \_\_\_\_\_

ADDRESS OF BIDDER \_\_\_\_\_

PHONE NUMBER \_\_\_\_\_

**PURCHASE ORDERS SHOULD BE SENT TO:**

COMPANY NAME \_\_\_\_\_

ATTENTION OF: \_\_\_\_\_

ADDRESS \_\_\_\_\_

E-MAIL: \_\_\_\_\_

PHONE NUMBER \_\_\_\_\_

FEDERAL I.D. NUMBER \_\_\_\_\_

STATE OF DELAWARE \_\_\_\_\_

LICENSE NUMBER \_\_\_\_\_

**THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED SWORN TO AND SUBSCRIBED BEFORE ME THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2015.**

\_\_\_\_\_  
NOTARY PUBLIC

My commission expires \_\_\_\_\_

City of \_\_\_\_\_, County of \_\_\_\_\_, Date of \_\_\_\_\_

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**MURDERKILL RIVER NORTH JETTY REHABILITATION/ EXTENSION**  
**CONTRACT NO. NAT-201311 / NJETTY-REHAB**

**SECTION 3-D**

**CERTIFICATION OF NONSEGREGATED FACILITIES**

**NOTE:** Applicable to federally assisted construction contracts and related subcontracts exceeding \$10,000 which are not exempt from the Equal Opportunity clause.

The federally assisted construction contractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction contractor certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms work area, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color or national origin, because of habit, local custom or otherwise. The federally assisted construction contractor agrees that (except where he has obtained identical certifications from proposed contractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontractors exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause and that he will retain such certifications in his files.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**NOTE:** The penalty for making false statement in offers is prescribed in 18 U.S.C. 1001.

**THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED**

SWORN TO AND SUBSCRIBED BEFORE ME THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2015.

\_\_\_\_\_  
NOTARY PUBLIC

My commission expires \_\_\_\_\_

City of \_\_\_\_\_, County of \_\_\_\_\_, State of \_\_\_\_\_

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**SECTION 3E**

**STATE OF DELAWARE**  
**DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL**

**CONTRACT NO. NAT-201311 / NJETTY-REHAB**

**EQUALITY OF EMPLOYMENT OPPORTUNITY STATEMENT**

2) § 6962 (b7) Equality of Employment opportunity on public works.

a) As a condition to the awarding of any contract for public works financed in whole or in part by state appropriation all state contracting agencies shall include in every contract hereinafter entered into the following provisions:

“During the performance of this contract, the Contractor agrees as follows:

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed color, sex or national origin. Such action shall include, but not limited to, the following: Employment, upgrading, demotion or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous notices to be approved by the contracting agency setting forth this nondiscrimination clause.

(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex or national origin.

b) The term “contract for public works” means construction, reconstruction, demolition, alteration and repair work and maintenance work paid for in whole or in part out of the funds of a public body except work performed under a vocational rehabilitation program. The manufacturing or furnishing of materials, articles, supplies or equipment is not a public work within the meaning of this subsection unless conducted in connection with and at the site of the public work.

c) The Secretary of the Department of Labor shall be responsible for the administration of this section and shall adopt such rules and regulations and issue such orders as he deems necessary to achieve the purposes thereof, provided that no requirement established hereby shall be in conflict with § 6904 of this title. (29 Del. C. 1953, § 6921; 58 Del. Laws, C. 370, §1)

It is agreed by the undersigned bidder that the signed delivery of this bid represents the bidder’s acceptance of the terms and conditions of the invitation to bid including all specifications and special provisions.

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NAME OF BIDDER \_\_\_\_\_

SIGNATURE OF AUTHORIZED REPRESENTATIVE \_\_\_\_\_

TITLE \_\_\_\_\_

ADDRESS OF BIDDER \_\_\_\_\_

PHONE NUMBER \_\_\_\_\_

**PURCHASE ORDERS SHOULD BE SENT TO:**

COMPANY NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CONTACT \_\_\_\_\_

E-MAIL \_\_\_\_\_

PHONE NUMBER \_\_\_\_\_

FEDERAL I.D. NUMBER \_\_\_\_\_

STATE OF DELAWARE LICENSE NUMBER

\_\_\_\_\_

**THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.**

SWORN TO AND SUBSCRIBED BEFORE ME THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2015

NOTARY PUBLIC \_\_\_\_\_ My commission expires \_\_\_\_\_

City of \_\_\_\_\_

County of \_\_\_\_\_

State of \_\_\_\_\_

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**SECTION 3F**

**DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL**

**PURCHASING SECTION**

**NO BID REPLY FORM**

Contract No. \_\_\_\_\_ Bid Title \_\_\_\_\_

To assist us in obtaining good competition on our Request for Bid, we ask that each firm that has received an invitation, but does not wish to bid, state their reason. This information will not preclude participation in future invitations to bid.

Unfortunately, we must offer a “no Bid” at this time because:

\_\_\_\_\_ 1. We do not wish to participate in the bid process.

\_\_\_\_\_ 2. We do not wish to bid under the terms and conditions of the Request for Bid document. Our objections are:

\_\_\_\_\_ 3. We do not feel we can be competitive.

\_\_\_\_\_  
Firm Name

\_\_\_\_\_  
Signature

\_\_\_\_\_ We wish to remain on the Bidder’s List.

\_\_\_\_\_ We wish to be deleted from the Bidder’s List.

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**SECTION 3G**

**DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL**

**10% BID BOND TO ACCOMPANY PROPOSAL**

**(NOT NECESSARY IF CERTIFIED CHECK IS USED)**

KNOW ALL MEN BY THESE PRESENTS That \_\_\_\_\_ of \_\_\_\_\_ of the County of \_\_\_\_\_ and State of \_\_\_\_\_ as surety, legally authorized to do business in the State of Delaware, are held and firmly bound unto the State of Delaware in the sum of \_\_\_\_\_ dollars or \_\_\_\_ percent (not to exceed \_\_\_\_\_dollars) of amount bid on **Contract No. NAT-201311 / NJETTY-REHAB** to be paid to said State of Delaware for the use and benefit of Department of Natural resources and Environmental Control (hereinafter referred to as Agency) of said State, for which payment well and truly to be made, we do bind ourselves, our and each of our heirs, executors, administrators and successors, jointly and severally for and in the whole, firmly by these presents.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH That if the above bounden principal \_\_\_\_\_ who has submitted to said Agency of the State of Delaware, a certain proposal to enter into a certain contract to be known as **Contract No. NAT-201311 / NJETTY-REHAB** for the furnishing a certain product and/or services within the said State of Delaware shall be awarded said **Contract No. NAT-201311 / NJETTY-REHAB** and furnish therewith such surety bond as may be required by the terms of said contract and approved by said Agency, said contract and said bond to be entered into within twenty days after the date of official notice of the award thereof in accordance with the terms of said proposal, then this obligation to be void or else to be and remain in full force and virtue.

Sealed with \_\_\_\_\_ seal and dated this \_\_\_\_\_ day of \_\_\_\_\_ in the year of our Lord \_\_\_\_\_.

SEALED AND DELIVERED IN THE

Presence of: \_\_\_\_\_ (Seal)  
Name of Bidder (Principal)

Witness \_\_\_\_\_ By \_\_\_\_\_ (Seal)

Corporate Seal \_\_\_\_\_  
Title \_\_\_\_\_ (Seal)  
By \_\_\_\_\_ Name of Surety \_\_\_\_\_ (Seal)  
Title \_\_\_\_\_

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**THESE SECTIONS  
TO BE COMPLETED  
BY SUCCESSFUL BIDDER  
AFTER NOTICE OF AWARD**

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**SECTION 3H**  
**PERFORMANCE BOND**  
**DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL**

**BOND TO ACCOMPANY CONTRACT NO. NAT-201311 / NJETTY-REHAB**

KNOW ALL MEN BY THESE PRESENTS THAT: \_\_\_\_\_ of \_\_\_\_\_ in the County of \_\_\_\_\_ and the State of \_\_\_\_\_ as surety, legally authorized to do business in the State of Delaware, are held and firmly bound unto the State of Delaware in the sum of \_\_\_\_\_ dollars (\$ \_\_\_\_\_ ) or \_\_\_\_\_ percent (not to exceed \_\_\_\_\_ dollars) of amount bid on **Contract No. NAT-201311 / NJETTY-REHAB** to be paid to the said State of Delaware for the use and benefit of the Department of Natural Resources and Environmental Control for which payment well and truly to be made, we do bind ourselves, our and each and every of our heirs, executors, administrators, successors and assigns, jointly and severally for and in the whole firmly by these presents.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH that if the said above bounded principal \_\_\_\_\_ who has been awarded by the Department of Natural Resources and Environmental Control, a certain contract designated by the parties thereto as **Contract No. NAT-201311 / NJETTY-REHAB**, and dated the \_\_\_\_\_ day of \_\_\_\_\_ in the year of our Lord Two thousand and fifteen \_\_\_\_\_ (2015) for completion of a certain project within the said State of Delaware, shall well and truly provide and furnish all materials, appliances and tools and perform all the work and labor required under and pursuant to the terms and conditions of said **Contract No. NAT-201311 / NJETTY-REHAB**, and of the proposal, plans and specifications contained therein, and shall also indemnify and keep harmless the said State of Delaware and said Department of Natural Resources and Environmental Control, from all costs, damages and expenses growing out of or by reason of the work not in accordance with reasonable and customary engineering practices prevailing at the time under said **Contract No. NAT-201311 / NJETTY-REHAB**, above mentioned and shall well and truly pay all and every person furnishing material or performing labor in and about the said Project, all and every sum or sums of money due him, them or any of them, for all such labor and materials for which the contractor is liable; then this obligation shall be void or else to be and remain in full force and virtue.

SIGNED, SEALED AND DELIVERED IN  
THE PRESENCE OF

Corporate Seal

\_\_\_\_\_

\_\_\_\_\_

BY \_\_\_\_\_

\_\_\_\_\_  
Title

THESE PAGES MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.  
SWORN TO AND SUBSCRIBED BEFORE ME THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2015.

\_\_\_\_\_

My commission expires \_\_\_\_\_

NOTARY PUBLIC

City of \_\_\_\_\_

County of \_\_\_\_\_

State of \_\_\_\_\_

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**SECTION 3I  
PAYMENT BOND  
DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL**

**BOND TO ACCOMPANY CONTRACT NO. NAT-201311 / NJETTY-REHAB**

Bond Number: \_\_\_\_\_

KNOW ALL PERSONS BY THESE PRESENTS, that we \_\_\_\_\_, as principal (**Principal**), and \_\_\_\_\_, a \_\_\_\_\_ Corporation, legally authorized to do business in the State of Delaware, as surety ("**Surety**"), are held and firmly bound unto the \_\_\_\_\_ ("**Owner**") (**insert State agency name**), in the amount of \_\_\_\_\_ (\$\_\_\_\_\_), to be paid to **Owner**, for which payment well and truly to be made, we do bind ourselves, our and each and every of our heirs, executors, administrations, successors and assigns, jointly and severally, for and in the whole firmly by these presents.

Sealed with our seals and dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH, that if **Principal**, who has been awarded by **Owner** that certain contract known as **Contract No. NAT-201311 / NJETTY-REHAB** dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ (the "Contract"), which Contract is incorporated herein by reference, shall well and truly pay all and every person furnishing materials or performing labor or service in and about the performance of the work under the Contract, all and every sums of money due him, her, them or any of them, for all such materials, labor and service for which **Principal** is liable, shall make good and reimburse **Owner** sufficient funds to pay such costs in the completion of the Contract as **Owner** may sustain by reason of any failure or default on the part of **Principal** and shall also indemnify and save harmless **Owner** from all costs, damages and expenses arising out of or by reason of the performance of the Contract and for as long as provided by the Contract; then this obligation shall be void, otherwise to be and remain in full force and effect.

**Surety**, for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of **Surety** and its bond shall be in no way impaired or affected by an

extension of time, modification, omission, addition or change in or to the Contract or the work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer thereof or of any work to be performed or any monies due or to become due thereunder; and **Surety** hereby waives notice of any and all such extensions, modifications, omissions, additions, changes, payments, waivers, things done and omitted to be done by and in relation to assignees, subcontractors, and other transferees shall have the same effect as to **Surety** as though done or omitted to be done by or in relation to **Principal**.

**Surety** hereby stipulates and agrees that no modifications, omission or additions in or to the terms of the Contract shall in any way whatsoever affect the obligation of **Surety** and its bond.

Any proceeding, legal or equitable, under this Bond may be brought in any court of competent jurisdiction in the State of Delaware. Notices to **Surety** or Contractor may be mailed or delivered to them at their respective addresses shown below.

IN WITNESS WHEREOF, **Principal** and **Surety** have hereunto set their hand and seals, and such of them as are corporations have caused their corporate seal to be hereto affixed and these presents to be signed by their duly authorized officers, the day and year first above written.

PRINCIPAL

Name: \_\_\_\_\_

Witness or Attest: Address: \_\_\_\_\_

\_\_\_\_\_  
Name:

(Corporate Seal)

By: \_\_\_\_\_(SEAL)

Name:

Title:

SURETY

Name: \_\_\_\_\_

Witness or Attest: Address: \_\_\_\_\_

\_\_\_\_\_  
Name:

(Corporate Seal)

By: \_\_\_\_\_(SEAL)

Name:

Title:

**SECTION 3 J**

**DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL CONTROL**

**89 KINGS HIGHWAY**

**DOVER DE 19901**

**CONTRACT DOCUMENT**

FOR

**MURDERKILL RIVER NORTH JETTY REHABILITATION/ EXTENSION  
CONTRACT NO. NAT-201311 / NJETTY-REHAB**

THIS AGREEMENT, made and executed this \_\_\_\_\_ day of \_\_\_\_\_, 2015, by and between \_\_\_\_\_ (Hereinafter designated as Contractor) party of the first part, and the Department of Natural Resources and Environmental Control, a Department created under the laws of the State of Delaware (hereinafter designated as Department) party of the second part.

WITNESSETH that the Contractor, in consideration of the covenants and agreements herein contained and made by the Department, agrees to the following:

ARTICLE ONE. The Contractor shall will provide and furnish all the material, supplies, machinery, implements, appliances, tools and labor required to complete this contract in Kent County, State of Delaware, as shown and specified in the specifications, proposals, drawings or plans as indicated in the project manual issued for the Department, which specifications, proposals, drawings or plans entitled **MURDERKILL RIVER NORTH JETTY REHABILITATION/ EXTENSION CONTRACT NO. NAT-201311 / NJETTY-REHAB** is hereby incorporated by reference as part of this contract. This contract will be binding on both parties upon receipt by the Contractor of an approved State of Delaware Purchase Order. The Contractor must prosecute the work in such order as to complete this contract within 160 calendar days after the receipt of the approved State of Delaware Purchase Order.

***CONTRACT DOCUMENT (CONTINUED)***

IN WITNESS WHEREOF, the said parties have duly executed this agreement in triplicate the day and year first above written.

IN WITNESS WHEREOF, the parties below have hereunto set their hands on the \_\_\_\_\_ day of \_\_\_\_\_, 2015.

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Witness

By: \_\_\_\_\_  
Title

State of \_\_\_\_\_  
County of \_\_\_\_\_

Sworn and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 2015.

\_\_\_\_\_  
Notary Public

My commission expires \_\_\_\_\_

IN WITNESS WHEREOF, the parties below have hereunto set their hands on the \_\_\_\_\_ day of \_\_\_\_\_, 2015.

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Project Manager  
Division of Watershed Stewardship

State of \_\_\_\_\_  
County of \_\_\_\_\_

Sworn and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 2015.

\_\_\_\_\_  
Notary Public

My commission expires \_\_\_\_\_

***CONTRACT DOCUMENT (CONTINUED)***

IN WITNESS WHEREOF, the parties below have hereunto set their hands on the \_\_\_\_\_ day of \_\_\_\_\_, 2015.

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Director, Division of  
Watershed Stewardship

State of \_\_\_\_\_  
County of \_\_\_\_\_

Sworn and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 2015.

\_\_\_\_\_  
Notary Public

My commission expires \_\_\_\_\_

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Secretary, Department of  
Natural Resources &  
Environmental Control

State of \_\_\_\_\_  
County of \_\_\_\_\_

Sworn and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 2015.

\_\_\_\_\_  
Notary Public

My commission expires \_\_\_\_\_

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**APPENDIX 1**  
**PAYROLL REPORT SAMPLE**





DATE \_\_\_\_\_

I, \_\_\_\_\_ (Name of signatory party) \_\_\_\_\_ (Title)

do hereby state:

1. That I pay or supervise the payment of persons employed by

\_\_\_\_\_, \_\_\_\_\_ on the \_\_\_\_\_

(Contractor or Subcontractor)

(public project)

that during the payroll period commencing on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_ and ending on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

\_\_\_\_\_ all persons employed on said project

have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of the contractor or subcontractor from the full weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in the prevailing wage regulations of the State of Delaware.

2. That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work performed.

3. That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a state apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, and that the worksite ratio of apprentices to mechanics does not exceed the ratio permitted by the prevailing wage regulations of the State of Delaware.

**An employer who fails to submit sworn payroll information to the Department of Labor weekly shall be subject to fines of \$1,000.00 and \$5,000. for each violation.**

List only those fringe benefits:

For which the employer has paid; and  
Which have been used to offset the full prevailing wage rate.

(See Delaware Prevailing Wage Regulations for explanation of how hourly value of benefits is to be computed.)

HOURLY COST OF BENEFITS	
(List in same order shown on front of record)	
Employee	
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

I hereby certify that the foregoing information is true and correct to the best of my knowledge and belief. I realize that making a false statement under oath is a crime in State of Delaware

\_\_\_\_\_  
Signature

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

SWORN TO AND SUBSCRIBED BEFORE ME, A NOTARY PUBLIC,

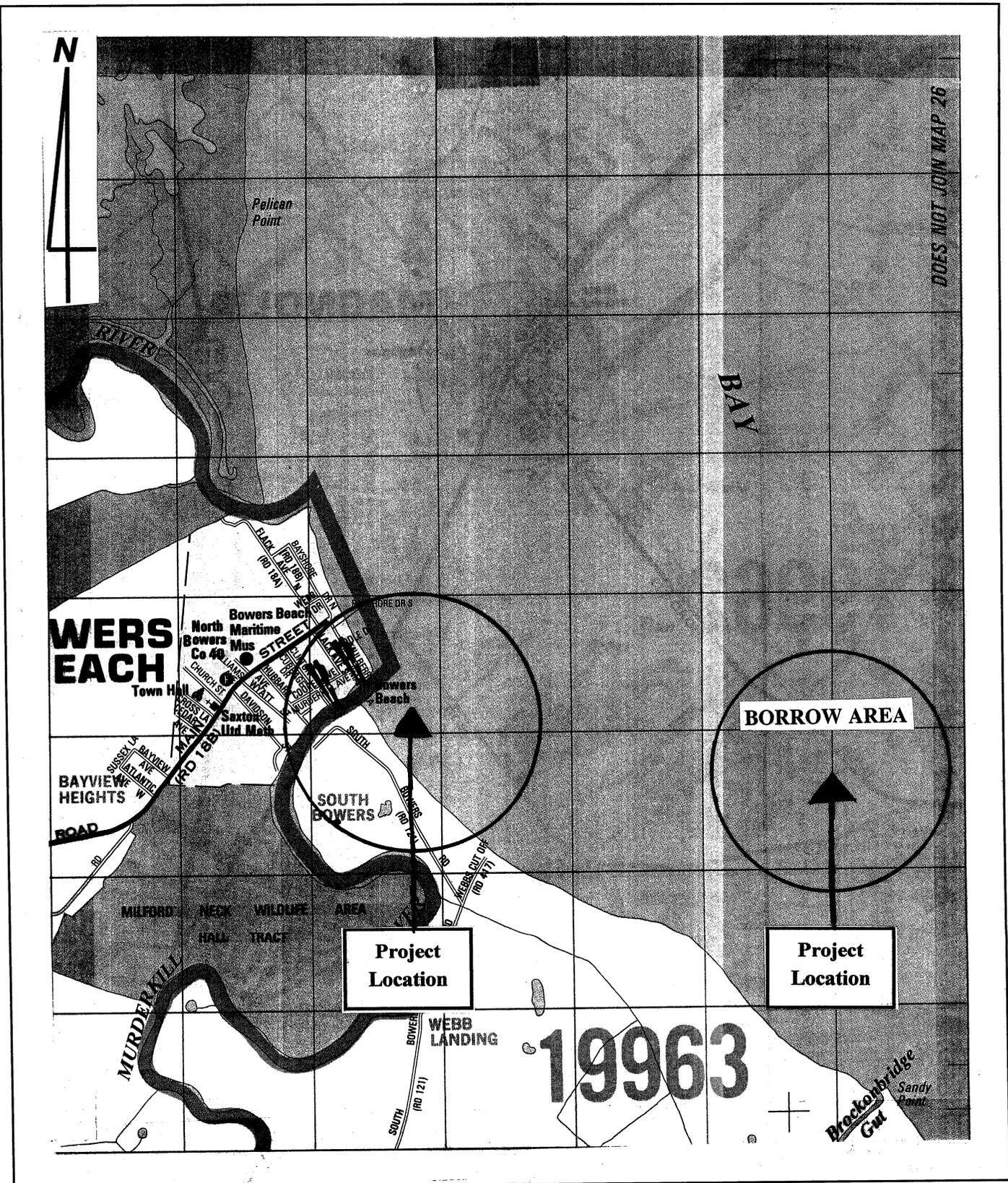
THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, A.D. 20\_\_\_\_\_

\_\_\_\_\_  
Notary Public

**APPENDIX 2**

**GEOTECHNICAL REPORT  
(EXCERPTS PERTAINING TO NORTH JETTY ONLY)**

**DATED AUGUST 20, 2013**



**JOHN D. HYNES & ASSOCIATES, INC.**

32185 Beaver Run Drive • Salisbury, Maryland 21804  
 410-546-6462 / Fax: 410-548-5346

Date: August 2, 2013

Scale: 1"= 2000'

Drawn: ADC Map

Project Location Map  
 Murderkill River Entrance Channel Dredging and Jetty Improvements  
 Kent County, Delaware

DWG. No.

JDH-10/13/123-1-A



**JOHN D. HYNES & ASSOCIATES, INC.**

32185 Beaver Run Drive • Salisbury, Maryland 21804  
410-546-6462 / Fax: 410-548-5346

**Date: August 1, 2013**

**Scale: Unknown**

**Drawn: Google Earth**

Boring Location Plan: Jetty and Beach Borings  
Murderkill River Entrance Channel Dredging and Jetty Improvements  
Kent County, Delaware

**DWG. No.**

**JDH-10/13/123-1-B-1**



**HYNES  
&  
ASSOCIATES**

# LOG OF BORING JB-1

(Page 1 of 1)

Andrews, Miller & Associates  
106 North Washington Street, Suite 103  
Easton, Maryland 21601

Date Completed: : July 23, 2013  
Logged By: : J. Redding  
Drilled By: : M. Hynes  
Drilling Method: : HSA (Mobile B-47 HD)  
Total Depth: : 45.5 feet

DNREC Murderkill River

Project No.: JDH-10/13/123-1

Depth in Feet	Ground Elev. 7.1	DESCRIPTION	GRAPHIC	USCS	Sample No.	Blows per 6 inches	Recovery (inches)	Remarks
0	7.1	Light brown, wet, very loose, fine to coarse SAND, with trace silt		SP	1	1-1-1	6	Scale 1" ~ 7.5 feet
2	5.1	Brown, saturated, very loose, fine to coarse SAND, with some silt		SM	2	1-1-1	6	Groundwater was encountered at 1 to 3 feet during drilling operations.
4	3.1	Brown, saturated, very loose, fine to coarse SAND, with some silt		SM	3	5-1-1	7	Note: Ground elevation at boring locations was estimated from survey ground shots on AMA Jetty Rehabilitation Plan Drawing C-4 dated June 2013.
6	1.1	Brown, saturated, very loose, fine to coarse SAND, with some silt, little fine to medium gravel		SM	4	1-1-1	7	Boring was drilled on shore adjacent to the north side of Jetty.
8	-0.9	Gray, saturated, very loose, silty, fine to coarse SAND, with trace organic silt, trace fine gravel		SM	5	2-1-4	9	
10	-2.9	Light gray, saturated, clayey, fine to medium SAND, with trace silt		SC	6	1-1-1	18	
12	-4.9			SC	7	2-2-3	16	
14	-6.9			SC	8	1-1-1	15	
16	-8.9			SC	9	3-5-5	10	
18	-10.9	Light brown, saturated, clayey, fine SAND, with trace silt		SC	10	3-5-6	11	
20	-12.9			SC	11	4-6-7	12	
22	-14.9			SC				
24	-16.9			SC				
26	-18.9			SC				
28	-20.9	Light brown, saturated, medium dense, fine SAND, with some silt, trace clay		SM				
30	-22.9			SM				
32	-24.9			SM				
34	-26.9			SM				
36	-28.9			SM				
38	-30.9			SM				
40	-32.9			SM				
42	-34.9			SM				
44	-36.9			SM				
46	-38.9	Boring was terminated at 45.5 feet.						
48	-40.9							
50								

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**HYNES  
&  
ASSOCIATES**

# LOG OF BORING JB-2

(Page 1 of 1)

Andrews, Miller & Associates  
106 North Washington Street, Suite 103  
Easton, Maryland 21601

Date Completed: : July 23, 2013  
Logged By: : J. Redding  
Drilled By: : M. Hynes  
Drilling Method: : HSA (Mobile B-47 HD)  
Total Depth: : 45.5 feet

DNREC Murderkill River

Project No.: JDH-10/13/123-1

Depth in Feet	Ground Elev. 5.7	DESCRIPTION	GRAPHIC	USCS	Sample No.	Blows per 6 inches	Recovery (inches)	Remarks
0	5.7	Light brown, wet, very loose, fine to coarse SAND, with little silt, trace clay		SM	1	1-1-1	2	Scale 1" ~ 7.5 feet
2	3.7	Brown, saturated, very loose, fine to coarse SAND, with some silt, trace fine to medium gravel		SM	2	1-1-1	8	Groundwater was encountered at 1 foot during drilling operations.
4	1.7				3	1-1-1	9	Note: Ground elevation at boring locations was estimated from survey ground shots on AMA Jetty Rehabilitation Plan Drawing C-4 dated June 2013.
6	-0.3	Dark gray, saturated, very loose, clayey, fine to medium SAND, with little organic silt		SC/OL	4	1-1-2	8	Boring was drilled on shoe adjacent to the north side of Jetty.
8	-2.3	Gray, saturated, very loose, fine to medium SAND, with some silt, trace clay		SM	5	3-5-5	17	
10	-4.3	Gray-brown, saturated, loose, fine SAND, with some silt, little clay		SM	6	1-1-1	18	
12	-6.3	Gray and brown, saturated, very loose, clayey, fine SAND, with trace silt		SC	7	2-2-2	16	
14	-8.3	Orange-brown, saturated, very loose, fine SAND, with little clay, little silt		SC/SM	8	1-3-3		
16	-10.3	Gray and brown, saturated, loose, fine SAND, with some silt, trace to little clay		SM	9	3-3-4		
18	-12.3	Light brown, saturated, loose, fine to medium SAND, with some silt, trace clay		SM	10	4-5-5	17	
20	-14.3	Brown and gray, saturated, loose, fine to medium SAND, with some silt, little clay		SC/SM	11	5-6-7	16	
22	-16.3	Brown, saturated, medium dense, fine SAND, with some clay, little silt		SC				
24	-18.3	Boring was terminated at 45.5 feet.						
26	-20.3							
28	-22.3							
30	-24.3							
32	-26.3							
34	-28.3							
36	-30.3							
38	-32.3							
40	-34.3							
42	-36.3							
44	-38.3							
46	-40.3							
48	-42.3							
50								

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**HYNES  
&  
ASSOCIATES**

# LOG OF BORING JB-3

(Page 1 of 1)

Andrews, Miller & Associates  
106 North Washington Street, Suite 103  
Easton, Maryland 21601

Date Completed: : July 26, 2013  
Logged By: : J. Redding  
Drilled By: : M. Hynes  
Drilling Method: : HSA (Mobile B-47 HD)  
Total Depth: : 40.5 feet

DNREC Murderkill River

Project No.: JDH-10/13/123-1

Depth in Feet	Ground Elev. 3.9	DESCRIPTION	GRAPHIC	USCS	Sample No.	Blows per 6 inches	Remarks
0	3.9	Gray, saturated, loose, fine to coarse SAND, with some clay, trace silt		SC	1	2-3-3	Scale 1" ~ 7.5 feet  The boring was drilled in 6 feet of water.  Note: Ground elevation at boring locations was estimated from survey ground shots on AMA Jetty Rehabilitation Plan Drawing C-4 dated June 2013.
2	1.9						
4	-1	Gray-brown, saturated, medium dense, fine to medium SAND, with little clay, little silt, trace fine gravel		SC	2	9-5-9	
6	-2.1						
8	-4.1	Light brown, saturated, medium dense, fine to medium SAND, with little silt, little clay		SM	3	12-12-14	
10	-6.1						
12	-8.1	Orange-brown, saturated, loose to medium dense, fine to medium SAND, with little clay, little silt			4	4-3-4	
14	-10.1			SC	5	10-11-15	
16	-12.1						
18	-14.1						
20	-16.1						
22	-18.1	Orange-brown, saturated, medium dense, fine SAND, with some clay, trace silt		SC	6	4-10-19	
24	-20.1						
26	-22.1						
28	-24.1	Orange-brown, saturated, dense, fine SAND, with some silt, trace clay		SM	7	15-15-16	
30	-26.1						
32	-28.1						
34	-30.1				8	3-4-10	
36	-32.1	Brown, saturated, stiff, clayey SILT, with some fine sand		ML			
38	-34.1	Dark gray, wet, very stiff, fat organic SILT, with trace fine sand		OH	9	4-8-9	
40	-36.1	Boring was terminated at 40.5 feet.					
42	-38.1						
44	-40.1						
46	-42.1						
48	-44.1						
50							

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**HYNES  
&  
ASSOCIATES**

# LOG OF BORING JB-4

(Page 1 of 1)

Andrews, Miller & Associates  
106 North Washington Street, Suite 103  
Easton, Maryland 21601

DNREC Murderkill River

Project No.: JDH-10/13/123-1

Date Completed: : July 26, 2013  
 Logged By: : J. Redding  
 Drilled By: : M. Hynes  
 Drilling Method: : HSA (Mobile B-47 HD)  
 Total Depth: : 40.5 feet

Depth in Feet	Ground Elev. 3.3	DESCRIPTION	GRAPHIC	USCS	Sample No.	Blows per 6 inches	Remarks
0	3.3	Brown, saturated, very loose, fine to coarse SAND, with some silt, trace clay		SM	1	3-2-2	Scale 1" ~ 7.5 feet  The boring was drilled in 6 feet of water.  Note: Ground elevation at boring locations was estimated from survey ground shots on AMA Jetty Rehabilitation Plan Drawing C-4 dated June 2013.
2	1.3	Dark gray-gray, saturated, fine to medium SAND, with some organic silt, trace clay		SM/OL			
4	-0.7	Gray, saturated, medium dense, fine to medium SAND, with some silt, trace clay		SM	2	7-8-8	
6	-2.7						
8	-4.7	Brown and gray, saturated, medium dense, fine to coarse SAND, with little silt, little organic silt, trace fine to medium gravel (mottled)		SM/OL	3	10-10-13	
10	-6.7						
12	-8.7	Brown and gray, saturated, loose to medium dense, clayey fine SAND, with trace silt		SC	4	3-3-4	
14	-10.7				5	9-9-12	
16	-12.7						
18	-14.7						
20	-16.7						
22	-18.7	Orange-brown, saturated, medium dense, fine SAND, with little silt, little clay		SM/SC	6	8-9-14	
24	-20.7				7	12-11-19	
26	-22.7						
28	-24.7						
30	-26.7						
32	-28.7	Dark gray, saturated, medium dense, fine SAND, with some organic silt		SM/OL	8	4-4-9	
34	-30.7						
36	-32.7						
38	-34.7	Dark gray, wet, stiff, fat organic SILT		OL	9	6-5-10	
40	-36.7	Boring was terminated at 40.5 feet.					
42	-38.7						
44	-40.7						
46	-42.7						
48	-44.7						
50							

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# Important Information About Your Geotechnical Engineering Report

*Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.*

*The following information is provided to help you manage your risks.*

## **Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects**

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. *No one except you* should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one—not even you*—should apply the report for any purpose or project except the one originally contemplated.

## **Read the full report**

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

## **A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors**

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, *do not rely on a geotechnical engineering report* that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when

it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,

- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

## **Subsurface Conditions Can Change**

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

## **Most Geotechnical Findings Are Professional Opinions**

Site exploration identifies subsurface conditions *only* at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an *opinion* about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

## **A Report's Recommendations Are *Not* Final**

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

## **A Geotechnical Engineering Report Is Subject To Misinterpretation**

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

## **Do Not Redraw the Engineer's Logs**

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

## **Give Contractors a Complete Report and Guidance**

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the

report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time to perform additional study.* Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

## **Read Responsibility Provisions Closely**

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce such risks, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations", many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

## **Geoenvironmental Concerns Are Not Covered**

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

## **Rely on Your Geotechnical Engineer for Additional Assistance**

Membership in ASFE exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your ASFE-member geotechnical engineer for more information.

# ASFE

8811 Colesville Road Suite G106 Silver Spring, MD 20910

Telephone: 301-565-2733 Facsimile: 301-589-2017

email: [info@asfe.org](mailto:info@asfe.org) [www.asfe.org](http://www.asfe.org)

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**APPENDIX 3**

**PREVAILING WAGE RATE DETERMINATION**



STATE OF DELAWARE  
DEPARTMENT OF LABOR  
DIVISION OF INDUSTRIAL AFFAIRS  
OFFICE OF LABOR LAW ENFORCEMENT  
PHONE: (302) 451-3423

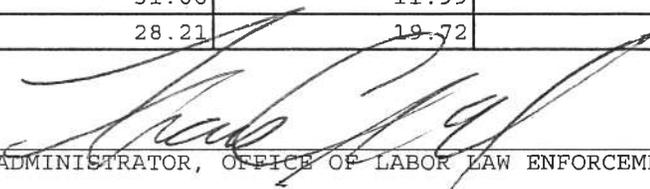
Mailing Address:  
225 CORPORATE BOULEVARD  
SUITE 104  
NEWARK, DE 19702

Located at:  
225 CORPORATE BOULEVARD  
SUITE 104  
NEWARK, DE 19702

PREVAILING WAGES FOR HEAVY CONSTRUCTION EFFECTIVE MARCH 15, 2013

CLASSIFICATION	NEW CASTLE	KENT	SUSSEX
ASBESTOS WORKERS	21.14	18.60	40.43
BOILERMAKERS	69.82	30.73	56.37
BRICKLAYERS	44.98	22.19	23.83
CARPENTERS	50.06	50.06	39.82
CEMENT FINISHERS	23.15	23.30	17.35
ELECTRICAL LINE WORKERS	34.86	26.30	25.89
ELECTRICIANS	60.60	60.60	60.60
GLAZIERS	19.54	16.96	11.48
INSULATORS	51.48	51.48	51.48
IRON WORKERS	58.70	25.54	55.78
LABORERS	38.30	38.30	38.30
MILLWRIGHTS	62.18	62.18	48.75
PAINTERS	58.07	58.07	58.07
PILEDRIVERS	67.87	37.64	29.30
PLASTERERS	18.40	15.97	10.80
PLUMBERS/PIPEFITTERS/STEAMFITTERS	72.03	21.62	17.12
POWER EQUIPMENT OPERATORS	57.06	23.65	57.06
SHEET METAL WORKERS	29.40	18.23	17.13
SPRINKLER FITTERS	31.68	11.99	9.93
TRUCK DRIVERS	28.21	19.72	19.27

CERTIFIED: 9/24/13

BY: 

ADMINISTRATOR, OFFICE OF LABOR LAW ENFORCEMENT

**NOTE:** THESE RATES ARE PROMULGATED AND ENFORCED PURSUANT TO THE PREVAILING WAGE REGULATIONS ADOPTED BY THE DEPARTMENT OF LABOR ON APRIL 3, 1992.

CLASSIFICATIONS OF WORKERS ARE DETERMINED BY THE DEPARTMENT OF LABOR. FOR ASSISTANCE IN CLASSIFYING WORKERS, OR FOR A COPY OF THE REGULATIONS OR CLASSIFICATIONS, PHONE (302) 451-3423.

NON-REGISTERED APPRENTICES MUST BE PAID THE MECHANIC'S RATE.

**PROJECT:** Murdkill River Entrance Channel Hydraulic Dredging Project, Kent County



**APPENDIX 4**  
**DNREC SUBAQUEOUS LANDS PERMIT (SP-297/13)**  
**AND**  
**WATER QUALITY CERTIFICATION (WQ-322/13)**





**DEPARTMENT OF NATURAL RESOURCES  
AND  
ENVIRONMENTAL CONTROL**

## **NOTICE OF AUTHORIZATION**

**Permit/Lease No. and Description: SP-297/13, WQ-322/13 FOR THE FOLLOWING ACTIVITIES:**

- To hydraulically dredge the Murderkill River entrance channel to a depth of 8 feet below mean lower low water removing 45,000 cubic yards of material from a 60 foot by 5,839 foot section;
- To hydraulically pump 34,000 cubic yards to South Bowers Beach for beach nourishment;
- To pump 11,000 cubic yards to a previously authorized overboard disposal site;
- To hydraulically dredge and pump 109,000 cubic yards of fill from an off-shore borrow area to North and South Bowers Beach for beach nourishment;
- To plant 35,730 square feet of beach grass at North and South Bowers Beach;
- To rehabilitate a 58 foot wide by 470 foot long jetty with approximately 300 linear feet channelward of the mean high water line on the northern mouth of the Murderkill River; and
- To install a steel pile with a warning sign at the end of the jetty.

**In the Murderkill River and Delaware Bay at Bowers Beach, Kent County, DE**

**Issued to: DNREC Division of Watershed Stewardship**

**Location of Work: Same as above**

**Date of Construction Expiration: 11/26/2023**





WETLANDS & SUBAQUEOUS  
LANDS SECTION

STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES &  
ENVIRONMENTAL CONTROL  
DIVISION OF WATER

TELEPHONE (302) 739-9943  
FACSIMILE (302) 739-6304

NOV 26 2013

89 KINGS HIGHWAY  
DOVER, DELAWARE 19901

DNREC – Division of Watershed Stewardship  
C/O: Frank Piorko  
89 Kings Highway  
Dover, DE 19901

Re: Subaqueous Lands Permit SP-297/13  
Rd: Water Quality Certification: WQ-322/13

Dear Mr. Piorko

Enclosed is the Subaqueous Lands Permit and Water Quality Certification granted by the State of Delaware. Please read carefully all Special and General Permit Conditions. The Permittee is responsible to ensure that all conditions are strictly adhered to.

Please be advised that the Contractor is required to submit the Contractors Completion Report within ten (10) days from completion of construction of the above referenced permit.

If you have any questions, please feel free to contact this office at 302-739-9943.

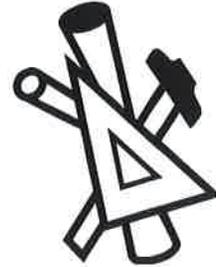
Sincerely,

Virgil R. Holmes  
Section Manager  
Wetlands & Subaqueous Lands Section

*Delaware's good nature depends on you!*



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES &  
ENVIRONMENTAL CONTROL  
DIVISION OF WATER  
89 KINGS HIGHWAY  
DOVER, DELAWARE 19901  
SUBAQUEOUS LANDS LEASE  
CONTRACTOR'S COMPLETION REPORT  
POST-CONSTRUCTION



Subaqueous Lands Permit No.: SP-297/13      Scientist: Tyler Brown  
Water Quality Permit No.: WQ-322/13  
Name: DNREC – Division of Watershed Stewardship

**Project Description:**

- To hydraulically dredge the Murderkill River entrance channel to a depth of 8 feet below mean lower low water removing 45,000 cubic yards of material from a 60 foot by 5,839 foot section;
- To hydraulically pump 34,000 cubic yards to South Bowers Beach for beach nourishment;
- To pump 11,000 cubic yards to a previously authorized overboard disposal site;
- To hydraulically dredge and pump 109,000 cubic yards of fill from an off-shore borrow area to North and South Bowers Beach for beach nourishment;
- To plant 35,730 square feet of beach grass at North and South Bowers Beach;
- To rehabilitate a 58 foot wide by 470 foot long jetty with approximately 300 linear feet channelward of the mean high water line on the northern mouth of the Murderkill River; and
- To install a steel pile with a warning sign at the end of the jetty.

*I hereby certify that I have constructed the project authorized by the above-referenced Permit/Lease in accordance with the approved plans for the project.*

\_\_\_\_\_  
**Printed Name of Contractor**

\_\_\_\_\_  
**Name of Company**

\_\_\_\_\_  
**Contractor's Signature**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Daytime Telephone Number**

Upon completion of construction, this form shall be completed, signed by the contractor, and mailed to the Wetlands and Subaqueous Lands Section at:

**DNREC  
Wetlands and Subaqueous Lands Section  
89 Kings Highway  
Dover, Delaware 19901**

Or faxed to the Wetlands and Subaqueous Lands Section at: 302/739-6304

*This form must be received by the Department within ten days of the date that construction is completed. Once the form has been received, the Department will call the contractor's telephone number listed above to confirm receipt.*

**Compliance inspection date \_\_\_\_\_ Built in accordance with plans  Yes  No Scientist 0**



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES &  
ENVIRONMENTAL CONTROL  
DIVISION OF WATER  
89 KINGS HIGHWAY  
DOVER, DELAWARE 19901

WETLANDS & SUBAQUEOUS  
LANDS SECTION

TELEPHONE (302) 739-9943  
FACSIMILE (302) 739-6304

Subaqueous Lands Permit: SP-297/13  
Water Quality Certification: WQ-322/13  
Associated Permits: MD- 191/02  
WQ-191/02  
Date of Issuance: 11/26/2013  
Expiration Date: 11/26/2023  
Tax Parcel No's.: 5-00-11517-01-1400-00001

**SUBAQUEOUS LANDS PERMIT AND WATER QUALITY CERTIFICATION GRANTED TO  
DNREC DIVISION OF WATERSHED STEWARDSHIP  
FOR THE FOLLOWING ACTIVITIES:**

- To hydraulically dredge the Murderkill River entrance channel to a depth of 8 feet below mean lower low water removing 45,000 cubic yards of material from a 60 foot by 5,839 foot section;
- To hydraulically pump 34,000 cubic yards to South Bowers Beach for beach nourishment;
- To pump 11,000 cubic yards to a previously authorized overboard disposal site;
- To hydraulically dredge and pump 109,000 cubic yards of fill from an off-shore borrow area to North and South Bowers Beach for beach nourishment;
- To plant 35,730 square feet of beach grass at North and South Bowers Beach;
- To rehabilitate a 58 foot wide by 470 foot long jetty with approximately 300 linear feet channelward of the mean high water line on the northern mouth of the Murderkill River; and
- To install a steel pile with a warning sign at the end of the jetty.

**In the Murderkill River and Delaware Bay at Bowers Beach, Kent County, DE**

DNREC – Division of Watershed Stewardship  
C/O: Frank Piorko  
89 Kings Highway  
Dover, DE 19901

Pursuant to the provisions of 7 Del. C. 7205, the Department's Regulations Governing the Use of Subaqueous Lands, 7 Del. C. 6604, the Department's Wetlands Regulations, 7 Del. C., Section 6003, the Department's Regulations Governing the Control of Water Pollution and Section 401 of the Clean Water Act, permission is hereby granted on this 26<sup>th</sup> day of November A.D. 2013 to perform the above referenced project in accordance with the approved plans for this Permit/Certification (18 Sheets), as approved on November 6, 2013; and application dated September 11, 2013, and received by this Division on September 17, 2013.

*Delaware's good nature depends on you!*

WHEREAS, pursuant to the provisions of 7 Del. C. 7203, and 7 Del. C. 6604, the Secretary of the Department of Natural Resources and Environmental Control through his duly authorized representative finds that it is not contrary to the public interest if this project is approved subject to the terms and conditions herein set forth.

WHEREAS, in accordance with Section 401 of the Clean Water Act, 33 U.S.C. Section 1341 and 7 Del. C., Chapter 60, the State of Delaware, by and through the Department of Natural Resources and Environmental Control, certifies that the permitted activity will be conducted in a manner which will not violate the applicable water quality standards of the State of Delaware, subject to the terms and conditions of this approval.

This Permit/Certification is issued subject to the following conditions:

**SPECIAL CONDITIONS**

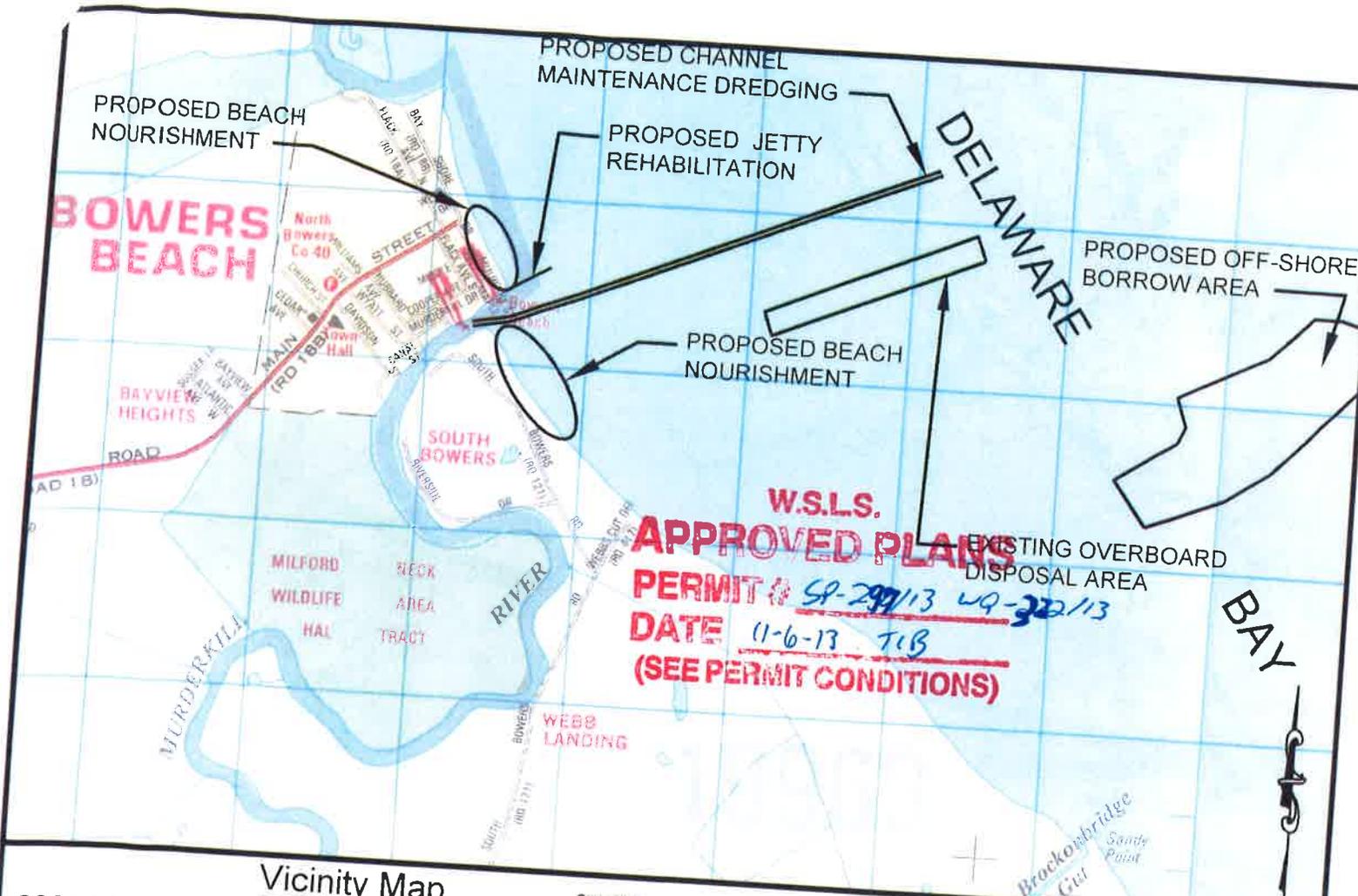
1. The pipeline shall be placed in the Murderkill River and the Delaware Bay in a manner such that it does not impede navigation or cause hazardous conditions.
2. All pipelines shall be kept in good conditions at all times and any leaks or breaks shall be promptly and properly repaired.
3. The dredged materials shall be hydraulically removed and pumped to North and South Bowers Beach and to a previously authorized overboard disposal site.
4. All dredging and filling is to be conducted in a manner consistent with sound conservation and water pollution control practices.
5. This Permit/Certification shall be valid for a ten (10) year period only authorizing the maintenance dredging of up to 45,000 cubic yards of material during each dredging event, up to 143,000 cubic yards of fill for beach nourishment during each event, and the planting of dune grass below the mean high water line. The rehabilitation of the jetty and the installation of a warning sign in subaqueous lands are permitted for one working event.
6. All beach nourishment and dredging activities at both North Bowers Beach and South Bowers Beach authorized herein shall be consistent with the recommendations contained in the Department's 10-year bay beach management plan dated March 2010.
7. Dredging and beach nourishment occurring after the completion of the first work event shall require further assessment from reviewing agencies since restrictions may change annually.
8. The post dredging water depth shall not exceed 8 feet at mean lower low water. A post-dredging bathymetric survey of the site, showing depths relative to mean lower low water shall be submitted to this office within 60 days of the completion of the dredging.
9. This Permit/Certification authorizes the containment of the dredged material within the off-shore disposal area or to North and South Bowers Beach for nourishment only. Any further handling requires prior notification to the Department. Additional authorization may be required at that time depending upon the proposed use.

10. The permittee shall notify the Department of Natural Resources and Environmental Control within ten (10) days of completion of the work authorized by this Permit/Certification by completing and submitting the enclosed Contractor's Post Construction Completion Report form.
11. The authorized activity in subaqueous lands shall be for the explicit purpose of maintaining navigable water depths, beach nourishment, and jetty rehabilitation. Any other use without prior written approval shall constitute reason for this Permit/Certification being revoked.
12. Dredged material shall be disposed at the open water site located east of South Bowers, as described in the permit application. This activity shall be conducted in a manner which minimizes turbidity increases in the water.
13. Dredging shall be conducted in a manner so as to minimize turbidity in the water column.
14. The work authorized herein shall be completed in accordance with the terms and conditions of the Department of the Army Permit that is currently pending.
15. The dredging and beach nourishment shall be scheduled so as to minimize the impact to spawning horseshoe crabs and their larvae. Dredging and beach nourishment shall not occur during the period between April 15 and September 15 of any year within the authorized construction window.
16. The dredging shall be scheduled so as to minimize the impact to anadromous species. The dredging of the river channel in the Murderkill shall not occur from March 15<sup>th</sup> to June 30<sup>th</sup> of any year within the authorized construction window.
17. The dredging shall be scheduled so as to minimize the impact to sandbar and sand tiger sharks. Dredging shall no occur during the period between June 1 and August 31 of any year within the authorized construction window.

#### **GENERAL CONDITIONS**

1. The permittee and contractor shall at all times comply with all applicable laws and regulations of the Department of Natural Resources and Environmental Control.
2. The activities authorized herein shall be undertaken in accordance with the permit conditions, the final stamped and approved plans, and with the information provided in the permit application.
3. A copy of this Permit/Certification and the stamped approved plans shall be available on-site during all phases of construction activity.
4. The conditions contained herein shall be incorporated into any and all construction contracts associated with the construction authorized herein. The permittee and contractor are responsible to ensure that the workers executing the activities authorized by this Permit/Certification have full knowledge of, and abide by, the terms and conditions of this Permit/Certification.
5. The permittee shall protect and save the State of Delaware harmless from any loss, cost or damage resulting from the activities authorized herein.

6. The issuance of this Permit/Certification does not constitute approval for any activities that may be required by any other local, state or federal government agency.
7. The issuance of this Permit/Certification does not imply approval of any other part, phase, or portion of any overall project the permittee may be contemplating.
8. This Permit/Certification authorizes only the activities described herein. Modifications to the project may require a supplemental approval from this office prior to the initiation of construction. A determination of the need for a supplemental approval will be made by this office pursuant to the permittee submitting written notification and revised plans indicating project changes. Failure to contact the Department prior to executing changes to the project shall constitute reason for this Permit/Certification being revoked.
9. Representatives of the Department of Natural Resources and Environmental Control shall be allowed to access the property to inspect all work during any phase of the construction and may conduct pre and post-construction inspections, collect any samples or conduct any tests that are deemed necessary.
10. The activities authorized herein shall be conducted so as not to violate the State of Delaware's Surface Water Quality Standards, as amended June 11, 2011.
11. All construction materials, waste or debris associated with this activity shall be properly disposed of and contained at all times to prevent its entry into waters or wetlands. Construction materials shall not be stockpiled in subaqueous lands or wetlands.
12. Disturbance of subaqueous lands or wetlands adjacent to the authorized structures or activities is prohibited. Disturbance of subaqueous lands or wetlands in the path of construction activity shall be minimized. Any temporarily impacted subaqueous lands or wetlands shall be returned to pre-disturbance elevations and conditions.
13. The permittee shall notify the Wetlands and Subaqueous Lands Section prior to the commencement of the work authorized by this Permit/Certification.
14. The permittee and contractor shall employ measures during construction to prevent spills of fuels, lubricants or other hazardous substances. In the event of a spill, the permittee and contractor shall make every effort to stop the leak and contain the spill, and shall immediately contact the Hazardous Spill Response Team (HAZMAT) at 1-800-662-8802 and this office at (302) 739-9943. The permittee and contractor are responsible to comply with all directives to contain and clean up the spilled material(s) as stipulated by the HAZMAT team, and to restore the site as may be required by this office.
15. None of the activities authorized herein shall occur after the construction expiration date identified on Page 1 of this Permit/Certification. The permittee may file one construction expiration date extension request of up to one (1) year if necessary to complete the authorized work. Such requests must be received by the Department at least thirty (30) days prior to the construction expiration date.
16. The permittee shall maintain all authorized structures and activities in a good and safe condition.



**Vicinity Map**

Copyright ADC The Map People  
Permitted Use No. 20911192

SCALE : 1" = 2000'



**SCOPE OF WORK**

**Dredging:** 60' wide x 5839' long (1.16 ac)  
Depth to -8' MLLW  
max from MLLW = 5450'  
max from MHW = 5660'  
quantity: 45,000 cy total  
(±11k cy overburden, ±34k cy beach quality)  
10 year maintenance dredging

**Beach Nourishment:**  
**South Bowers:** 220' wide x 1715' long (8.86ac)  
max from MLLW = 110' (1.07ac)  
max from MHW = 220' (7.42ac)  
quantity: 85,000 cy total  
(±34k cy from channel dredge)  
(±51k cy from off-shore borrow)  
Dune Planting: 1.24ac total  
(23,560 sf channelward MHW)

**North Bowers:** 240' wide x 1165' long (6.29ac)  
max from MLLW = 30' (0.07ac)  
max from MHW = 240' (4.92ac)  
quantity: 57,210 cy total  
(±0 cy from channel dredge)  
(±58k cy from off-shore borrow)  
Dune Planting: 0.82ac total  
(12,170 sf channelward MHW)

**Jetty Rehabilitation:** ±58' wide x 470' long (0.63ac)  
Steel Pile w/ warning sign: 1 each  
max from MLLW = 110' (0.20ac)  
max from MHW = 300' (0.48ac)  
armor stone quantity: 3840 cy  
#2 stone quantity: 1300 cy  
new bottom disturbance: 2555sy

**Offshore Borrow Area:** 82.4 ac  
Quantity available: 1,722,346 cy total  
(±793k cy overburden; ±930k cy beach quality)  
10 year borrow dredging for future beach nourishments

**INDEX OF DRAWINGS**

- 1 - - - - - Cover
- 2 - - - - - Adjacent Property Owners
- 3 - - - - - Key Plan
- 4 THRU 6 - - Dredging Site Plan
- 7 - - - - - Jetty Site Plan
- 8 THRU 11 - - South Bowers Beach Nourishment Site Plan
- 12 THRU 14 - North Bowers Beach Nourishment Site Plan
- 15 - - - - - Borrow Area Site Plan
- 16 - - - - - Overboard Disposal Area Site Plan
- 17 THRU 18 - Sections



**NOTES:**

1. PUBLISHED MEAN TIDAL RANGE IS 5.10 FEET.
2. SOUNDINGS ARE IN FEET AND REFER TO MLLW.
3. PROPERTY LINES SHOWN WERE TAKEN FROM THE KENT COUNTY TAX MAPS AND ARE APPROXIMATE ONLY.
4. LIMITS OF WETLAND WERE TAKEN FROM DNREC WETLAND MAP 16-015
5. THE LOCATION OF THE PROPOSED OFF-SHORE BORROW AREA WAS DETERMINED BY DNREC PERSONNEL. IT IS ESTIMATED THAT APPROXIMATELY 930K CY OF BEACH QUALITY SAND MATERIAL IS AVAILABLE FOR THE CURRENTLY PROPOSED AND FUTURE BEACH NOURISHMENT PROJECTS.
6. THESE DRAWINGS ARE FOR OUTLINE PURPOSES ONLY. DESIGN DRAWINGS WILL BE PROVIDED SEPARATELY.

SHEET 1 OF 18  
**Proposed Maintenance  
Dredging, Beach  
Nourishment, Jetty  
Rehabilitation**

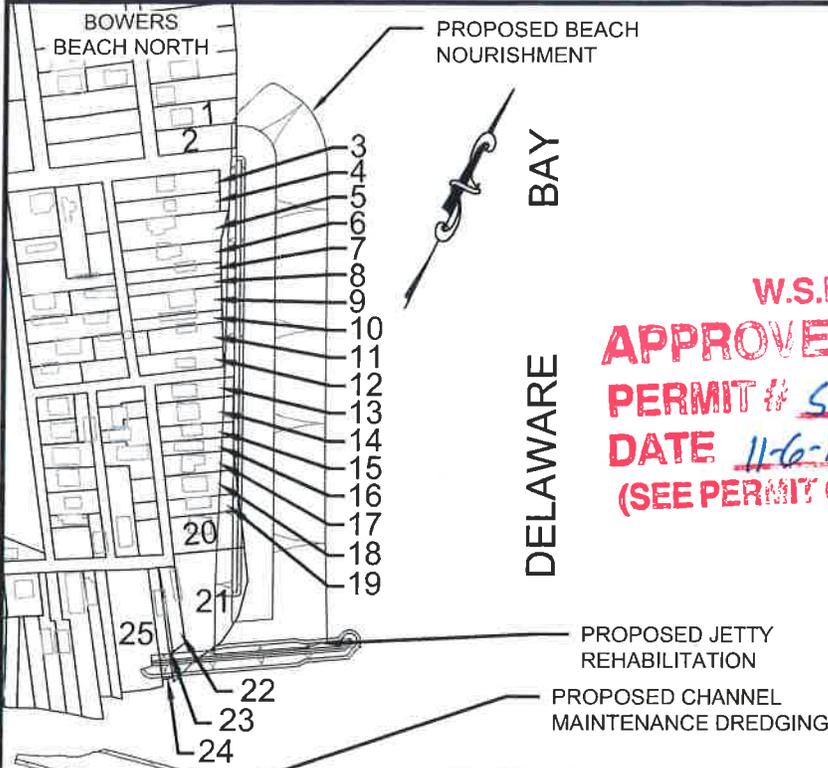
IN: DELAWARE BAY  
AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013

**Andrews, Miller & Associates**  
A Division of:  
**DAVIS, BOWEN & FRIEDEL, INC.**  
ARCHITECTS ENGINEERS SURVEYORS  
EASTON, MARYLAND (410) 770-4744  
SALISBURY, MARYLAND (410) 543-9001  
MILFORD, DELAWARE (302) 424-1441

# Proposed Maintenance Dredging, Beach Nourishment, Jetty Rehabilitation

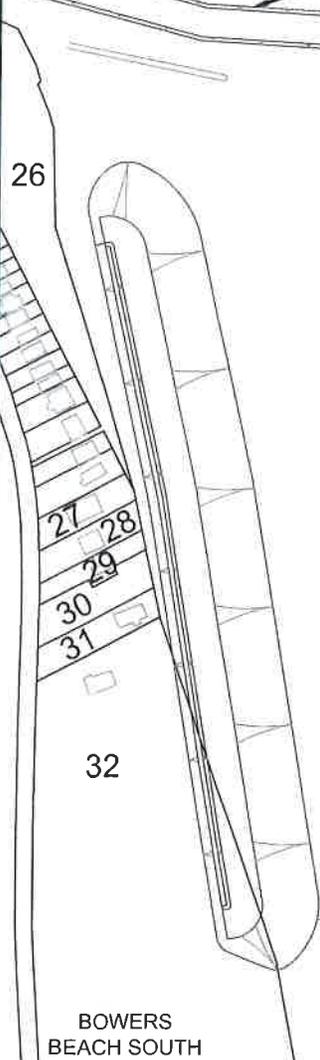
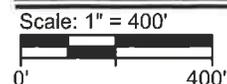
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AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013

**W.S.L.S.**  
**APPROVED PLANS**  
**PERMIT #** SP-2013 WQ322/13  
**DATE** 11-6-13 TCB  
**(SEE PERMIT CONDITIONS)**



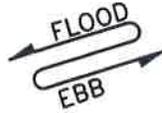
ID #	PROPERTY ADDRESS				OWNER INFORMATION					
	ADDRESS	CITY	STATE	ZIP	NAME	ADDRESS	CITY	STATE	ZIP	
1	18 BAYSHORE DR	FREDERICA	DE	19946	MARIE A. NEIMAN	64 SUNSET DRIVE	BOYERTOWN	PA	19512	
2	BAYSHORE DR	FREDERICA	DE	19946	MARIE A. NEIMAN	64 SUNSET DRIVE	BOYERTOWN	PA	19512	
3	BAYSHORE DR	FREDERICA	DE	19946	JOSEPHINE V. P. COULBOURNE	505 EAGLE NEST DR	CAMDEN-WYOMING	DE	19934	
4	BAYSHORE DR	FREDERICA	DE	19946	JOSEPHINE V. P. COULBOURNE	505 EAGLE NEST DR	CAMDEN-WYOMING	DE	19934	
5	21 BAYSHORE DR	FREDERICA	DE	19946	MARVIN D. EHLEN	2302 RIDDLE AVE APT B105	WILMINGTON	DE	19806	
6	33 BAYSHORE DR	FREDERICA	DE	19946	KEVIN M. O'NEILL	18808 FALLING STAR ROAD	GERMANTOWN	MD	20874	
7	FLACK AVE	DOVER	DE	19901	HARRIET E. MAMMARELLI	2329 SKEETER NECK RD	FREDERICA	DE	19946	
8	43 BAYSHORE DR	FREDERICA	DE	19946	HARRIET MAMMARELLI	2329 SKEETER NECK RD.	FREDERICA	DE	19946	
9	49 BAYSHORE DR	FREDERICA	DE	19946	LEE KERN	792 BRANCH ROAD	HARLEYSVILLE	PA	19438	
10	55 BAYSHORE DR	FREDERICA	DE	19946	WILLIAM K. PHILLIS	2236 THERESA AVENUE	MORTON	PA	19070	
11	78 FLACK AVE	FREDERICA	DE	19946	ELIZABETH ANNE STEPANIK	777 TREE LANE	W CHESTER	PA	19380	
12	60 MULBERRY DR	FREDERICA	DE	19946	WAYNE C.R.JARRELL	19 N KINGS CROFT DR	BEAR	DE	19701	
13	60 MULBERRY DR	FREDERICA	DE	19946	RANDALL R. FRECH	309 WALNUT ST	SPRING CITY	PA	19475	
14	58 MULBERRY DR	FREDERICA	DE	19946	RONALD N. HUNSICKER	58 MULBERRY DR DRIVE	FREDERICA	DE	19946	
15	MULBERRY DR	FREDERICA	DE	19946	LINDA F. SHELLY	924 DARBY LANE	LANCASTER	PA	17601	
16	36 MULBERRY DR	FREDERICA	DE	19946	HOWARD C. HOUSEKNECHT	152 RICK RD	BOYERTOWN	PA	19512	
17	28 MULBERRY DR	FREDERICA	DE	19946	STEVEN R. NICHOLAS	3022 ARTESIAN LANE	N.FORT MYERS	FL	33917	
18	22 MULBERRY DR	FREDERICA	DE	19946	ROBERT J. MCDEVITT SR.	22 MULBERRY DR DRIVE	FREDERICA	DE	19946	
19	12 MULBERRY DR	FREDERICA	DE	19946	RICHARD M. FAWBER	37 NAOMI AVE	LANDISVILLE	PA	17538	
20	MULBERRY DR	FREDERICA	DE	19946	RALPH O. ORENDORF	521 TERRAPIN LANE	NEWARK	DE	19711	
21	COOPER AVE	MAGNOLIA	DE	19962	RALPH O. ORENDORF	521 TERRAPIN LANE	NEWARK	DE	19711	
22	212 COOPER AVE	FREDERICA	DE	19946	WILLIAM R. AURAND	906 PERRY ROAD	LITITZ	PA	17543	
23	202 COOPER AVE	FREDERICA	DE	19946	WILLIAM R. AURAND	906 PERRY ROAD	LITITZ	PA	17543	
24	202 COOPER AVE	FREDERICA	DE	19946	WILLIAM R. AURAND	906 PERRY ROAD	LITITZ	PA	17543	
25	COOPER AVE	FREDERICA	DE	19946	TERRY L. HAWK	393 BAY AVENUE	MILFORD	DE	19963	
26	BOWERS RD	MILFORD	DE	19963	STATE OF DELAWARE	89 KINGS HWY	DOVER	DE	19901	
27	4196 BOWERS RD	MILFORD	DE	19963	DAVID A. LECHNER	9404 BETHANY PL	MONTGOMERY VILLAGE	MD	20886	
28	4188 BOWERS RD	MILFORD	DE	19963	WILLIAM J. DIEDOARDO	1012 MARROWS RD	NEWARK	DE	19713	
29	4174 BOWERS RD	MILFORD	DE	19963	TROY C. ADAMS	119 BEACH PLUM DRIVE	MILFORD	DE	19963	
30	BOWERS RD	MILFORD	DE	19963	JANE L. LAUGHLIN	4152 S. BOWERS RD ROAD	MILFORD	DE	19963	
31	4152 BOWERS RD	MILFORD	DE	19963	JANE L. LAUGHLIN	4152 S. BOWERS RD ROAD	MILFORD	DE	19963	
32	4132 BOWERS RD	MILFORD	DE	19963	JAMES S.WEBB JR. C/O THOMAS E. WEBB	7343 BIG STONE BEACH RD	MILFORD	DE	19963	

## ADJACENT PROPERTY OWNERS



# Proposed Maintenance Dredging, Beach Nourishment, Jetty Rehabilitation

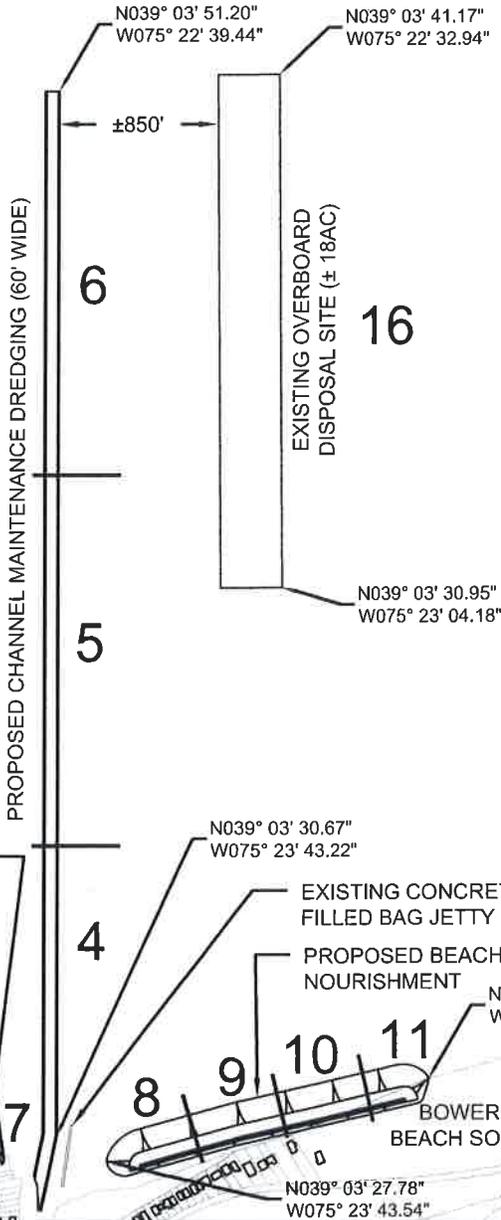
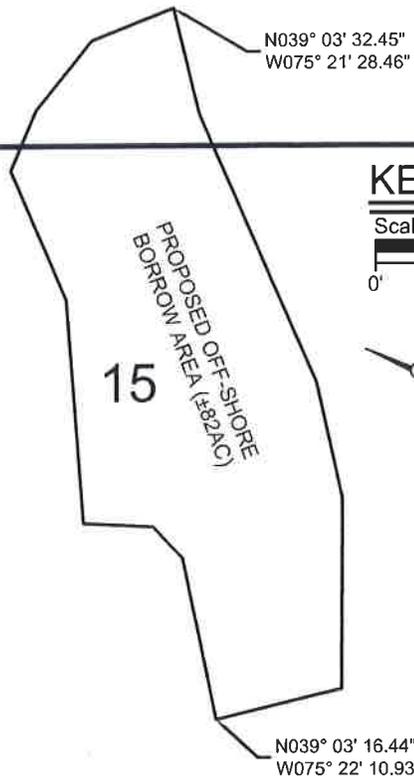
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AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013



DELAWARE BAY

## KEY PLAN

Scale: 1" = 1000'



PROPOSED JETTY REHABILITATION

PROPOSED BEACH NOURISHMENT

N039° 03' 35.21" W075° 23' 41.75"

N039° 03' 44.80" W075° 23' 50.15"

N039° 03' 27.78" W075° 23' 43.54"

N039° 03' 27.78" W075° 23' 43.54"

N039° 03' 27.78" W075° 23' 43.54"

N039° 03' 30.67" W075° 23' 43.22"

EXISTING CONCRETE FILLED BAG JETTY

PROPOSED BEACH NOURISHMENT

N039° 03' 14.20" W075° 23' 30.47"

BOWERS BEACH SOUTH

N039° 03' 27.78" W075° 23' 43.54"

**W.S.L.S. APPROVED PLANS**  
**PERMIT #** 50-2013 UQ-322/13  
**DATE** 11-6-13 TTB  
**(SEE PERMIT CONDITIONS)**

# Proposed Maintenance Dredging, Beach Nourishment, Jetty Rehabilitation

IN: DELAWARE BAY  
AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013

## DREDGING SITE PLAN



MATCHLINE - SEE SHEET 5



PROPOSED MAINTENANCE DREDGING TO -8' MLLW OF "FEDERAL CHANNEL". (BEACH QUALITY SAND BETWEEN STA. 0+00 TO STA. 37+00 TO BE USED FOR BEACH NOURISHMENT; UNSUITABLE MATERIAL BETWEEN STA. 39+00 TO STA. 58+39 TO BE DEPOSITED OVERBOARD AT DISPOSAL AREA. TRANSITION FROM BEACH QUALITY TO SILT STA. 37+00 TO 39+00.

60' WIDE

GRAB SAMPLES, TYP.

BAY



PROPOSED JETTY REHABILITATION SEE SHEET 7

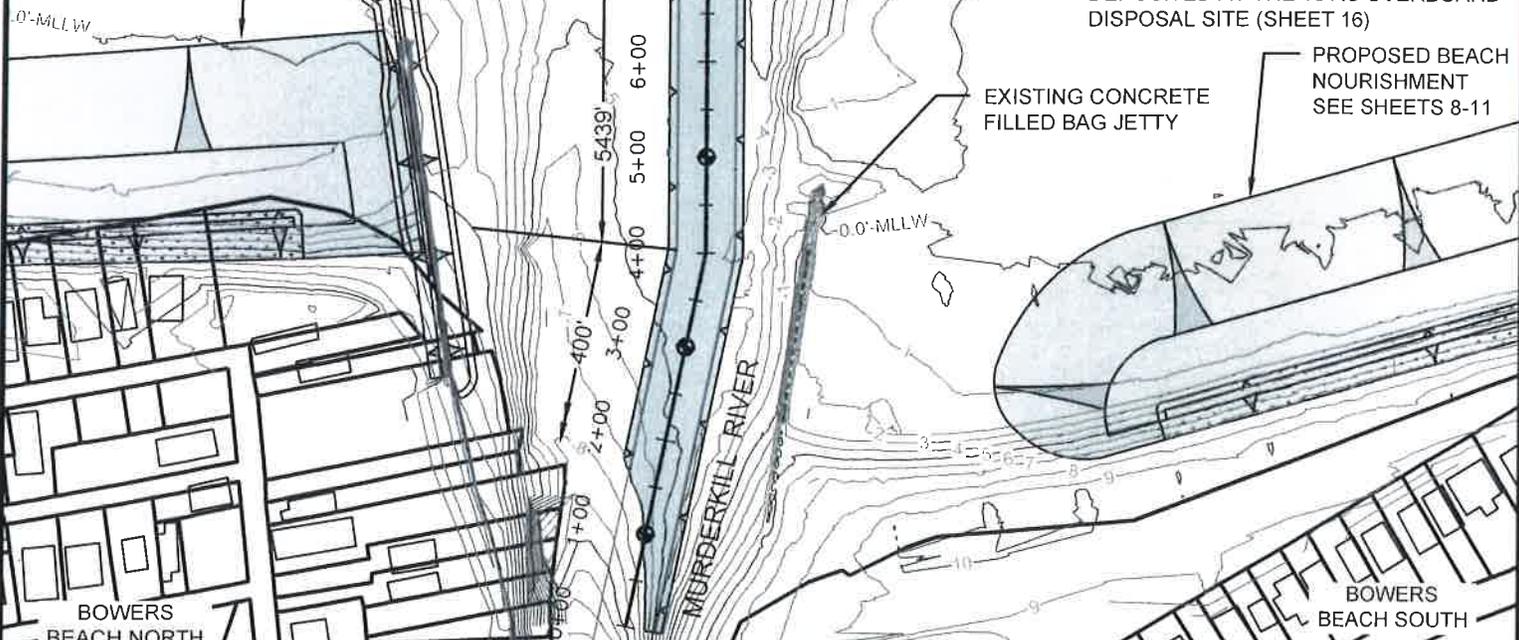
PROPOSED BEACH NOURISHMENT SEE SHEETS 12-14

**W.S.L.S. APPROVED PLANS**  
**PERMIT # CP-292/13 WQ-322/13**  
**DATE 11-6-13 TLB**  
**(SEE PERMIT CONDITIONS)**

NOTE: BEACH QUALITY SAND MATERIAL SHALL BE DREDGED FROM THE CHANNEL AND HYDRAULICALLY TRANSFERRED TO THE BEACH OF SOUTH BOWERS AND MACHINE GRADED PER "TYPICAL BEACH NOURISHMENT SECTION" ON SHEET 18. SEE SHEETS 8-11. SILTY MATERIAL UNSUITABLE FOR BEACH FILL SHALL BE HYDRAULICALLY DEPOSITED AT THE 18 AC OVERBOARD DISPOSAL SITE (SHEET 16)

EXISTING CONCRETE FILLED BAG JETTY

PROPOSED BEACH NOURISHMENT SEE SHEETS 8-11



BOWERS BEACH NORTH

BOWERS BEACH SOUTH

MATCHLINE - SEE SHEET 6

# DREDGING SITE PLAN

Scale: 1" = 200'  
0' 200'



PROPOSED MAINTENANCE DREDGING TO -8' MLLW OF "FEDERAL CHANNEL". (BEACH QUALITY SAND BETWEEN STA. 0+00 TO STA. 37+00 TO BE USED FOR BEACH NOURISHMENT; UNSUITABLE MATERIAL BETWEEN STA. 39+00 TO STA. 58+39 TO BE DEPOSITED OVERBOARD AT DISPOSAL AREA. TRANSITION FROM BEACH QUALITY TO SILT STA. 37+00 TO 39+00.

60' WIDE

±850' TO EXISTING OVERBOARD DISPOSAL SITE

BAY

GRAB SAMPLES, TYP.

DELAWARE



5439'

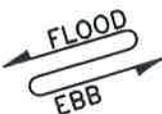
**W.S.L.S.  
APPROVED PLANS**  
PERMIT # SP-297/13 WQ-322/13  
DATE 11-6-13 TLB  
(SEE PERMIT CONDITIONS)

MATCHLINE - SEE SHEET 4

SHEET 5 OF 18

## Proposed Maintenance Dredging, Beach Nourishment, Jetty Rehabilitation

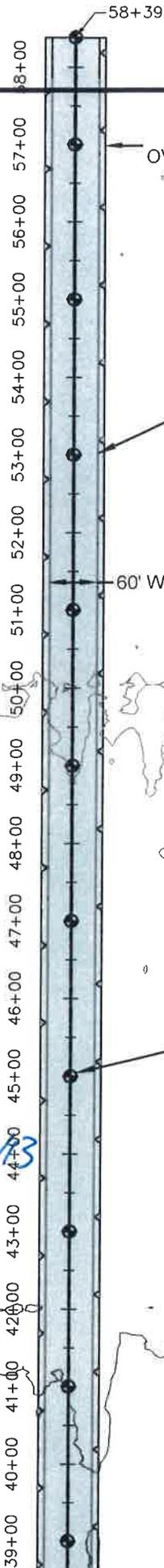
IN: DELAWARE BAY  
AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013



**DREDGING  
SITE PLAN**

Scale: 1" = 200'  
0' 200'

±850' TO EXISTING  
OVERBOARD DISPOSAL SITE



PROPOSED MAINTENANCE DREDGING TO -8' MLLW OF "FEDERAL CHANNEL". (BEACH QUALITY SAND BETWEEN STA. 0+00 TO STA. 37+00 TO BE USED FOR BEACH NOURISHMENT; UNSUITABLE MATERIAL BETWEEN STA. 39+00 TO STA. 58+39 TO BE DEPOSITED OVERBOARD AT DISPOSAL AREA. TRANSITION FROM BEACH QUALITY TO SILT STA. 37+00 TO 39+00.

DELAWARE BAY

GRAB SAMPLES, TYP.

**W.S.L.S.  
APPROVED PLANS**  
**PERMIT #** *SP-297/13 WA 322/13*  
**DATE** *11-6-13 TCB*  
**(SEE PERMIT CONDITIONS)**

RECEIVED  
 SEP 17 2013  
 By \_\_\_\_\_

SHEET 6 OF 18  
Proposed Maintenance  
 Dredging, Beach Nourishment,  
 Jetty Rehabilitation

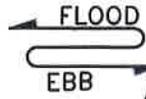
IN: DELAWARE BAY  
 AT: BOWERS BEACH / SOUTH BOWERS  
 KENT COUNTY, DELAWARE  
 APPL. BY: DNREC - DIVISION OF  
 WATERSHED STEWARDSHIP  
 DATE: AUGUST 2013

MATCHLINE - SEE SHEET 5

# DELAWARE BAY

# JETTY SITE PLAN

Scale: 1" = 50'



PROPOSED BEACH NOURISHMENT. SEE SHEETS 12-14

PROPOSED STEEL PILE WITH WARNING SIGN 300' MAX

PROPOSED JETTY REHABILITATION 300' MAX

EXISTING JETTY

**W.S.L.S. APPROVED PLANS**  
**PERMIT # SP-2013-03 LG-32213**  
**DATE 11-6-13 TCB**  
**(SEE PERMIT CONDITIONS)**

GRAB SAMPLE, TYP.

SEE SHEET 2 FOR PROPERTY OWNER INFORMATION, TYP.

MURDERKILL RIVER

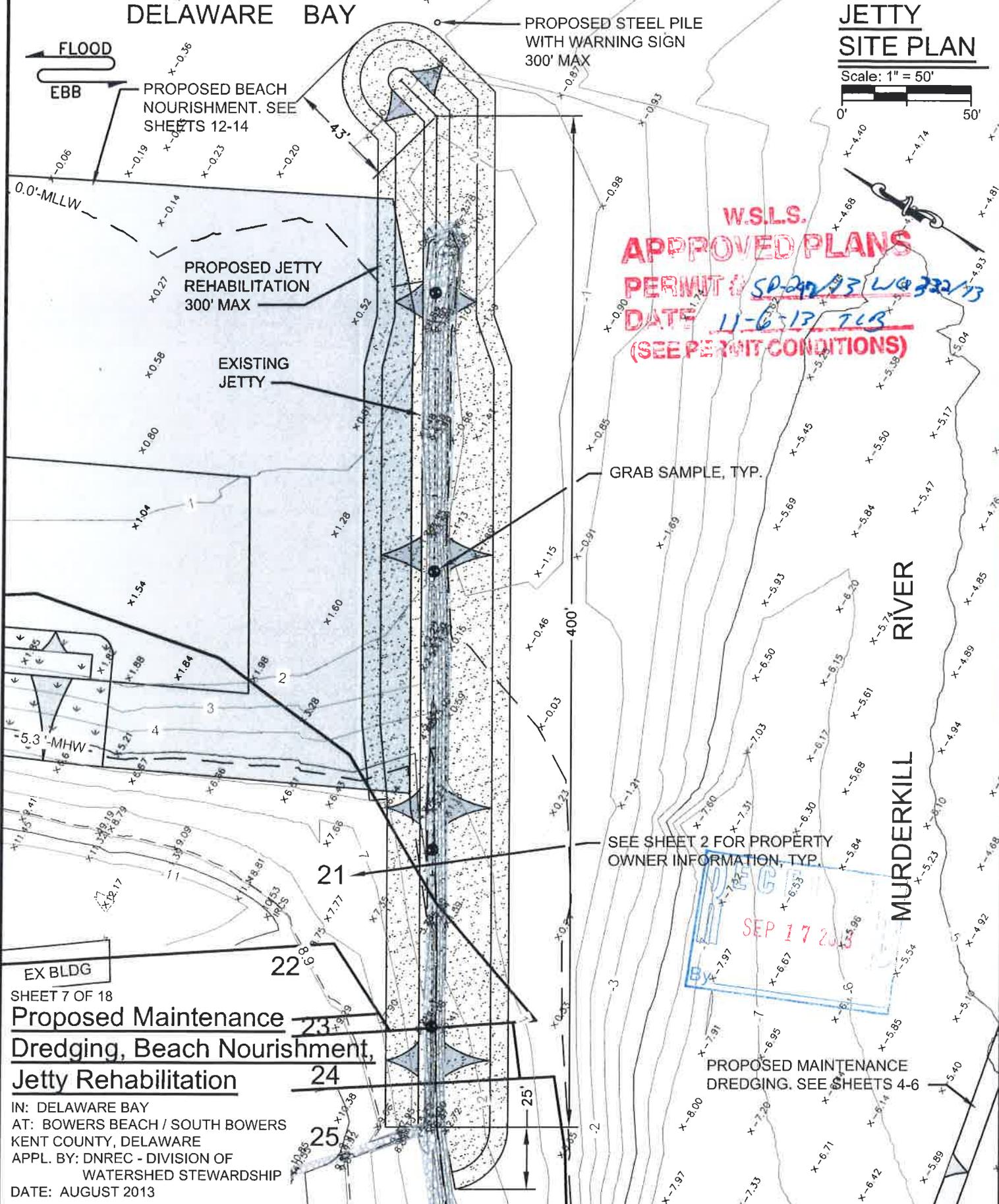
MURDERKILL RIVER

PROPOSED MAINTENANCE DREDGING. SEE SHEETS 4-6

EX BLDG  
SHEET 7 OF 18

## Proposed Maintenance Dredging, Beach Nourishment, Jetty Rehabilitation

IN: DELAWARE BAY  
AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013





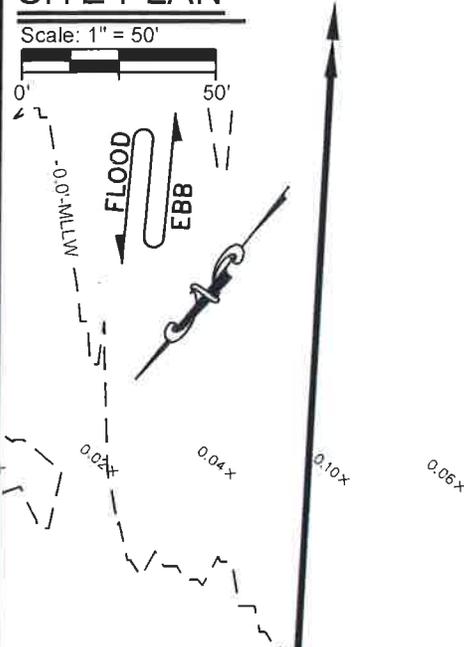
W.S.L.S.

APPROVED PLANS MATCHLINE - SEE SHEET 10

**SOUTH BOWERS  
BEACH NOURISHMENT  
SITE PLAN**

Scale: 1" = 50'

**PERMIT #** SP-2013/13 40-2013  
**DATE** 11-6-13 TLB  
**(SEE PERMIT CONDITIONS)**



SEE SHEET 2 FOR PROPERTY OWNER INFORMATION, TYP.

PROPOSED 'CAPE' AMERICAN BEACH GRASS

STA. 5+35

STA. 5+25±

END OF BASE BID

DELAWARE BAY

BENEFICIAL USE OF DREDGED MATERIAL FROM MURDERKILL RIVER DREDGING (±650 LF)

±150'

PROPOSED DUNE SYSTEM



PROPOSED BEACH NOURISHMENT MATERIAL OBTAINED FROM OFF-SHORE BORROW AREA

PROPERTY OF STATE OF DELAWARE

SHEET 9 OF 18

**Proposed Maintenance  
Dredging, Beach Nourishment,  
Jetty Rehabilitation**

IN: DELAWARE BAY  
AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013

MATCHLINE - SEE SHEET 8

W.S.L.S.  
**APPROVED PLANS**

PERMIT # 8-297/13 10-322/13

DATE 11-6-13 TLB MATCHLINE - SEE SHEET 11  
(SEE PERMIT CONDITIONS)

**SOUTH BOWERS  
BEACH NOURISHMENT  
SITE PLAN**

Scale: 1" = 50'



PROPOSED BEACH NOURISHMENT MATERIAL OBTAINED FROM OFF-SHORE BORROW AREA



DELAWARE BAY

BENEFICIAL USE OF DREDGED MATERIAL FROM MURDERKILL RIVER DREDGING (±650 LF)

STA. 8+75  
START OF BASE BID

SHEET 10 OF 18

**Proposed Maintenance  
Dredging, Beach Nourishment,  
Jetty Rehabilitation**

IN: DELAWARE BAY  
AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013

PROPOSED DUNE SYSTEM

PROPOSED 'CAPE' AMERICAN BEACH GRASS

PROPERTY OF STATE OF DELAWARE

PROPERTY OF JAMES S. WEBB JR.

SEE SHEET 2 FOR PROPERTY OWNER INFORMATION, TYP.



220' MAX

MATCHLINE - SEE SHEET 9

W.S.L.S.

APPROVED PLANS

PERMIT # ~~SP-299/13 W9-322/13~~

DATE ~~11-6-13~~ ~~FLB~~

(SEE PERMIT CONDITIONS)

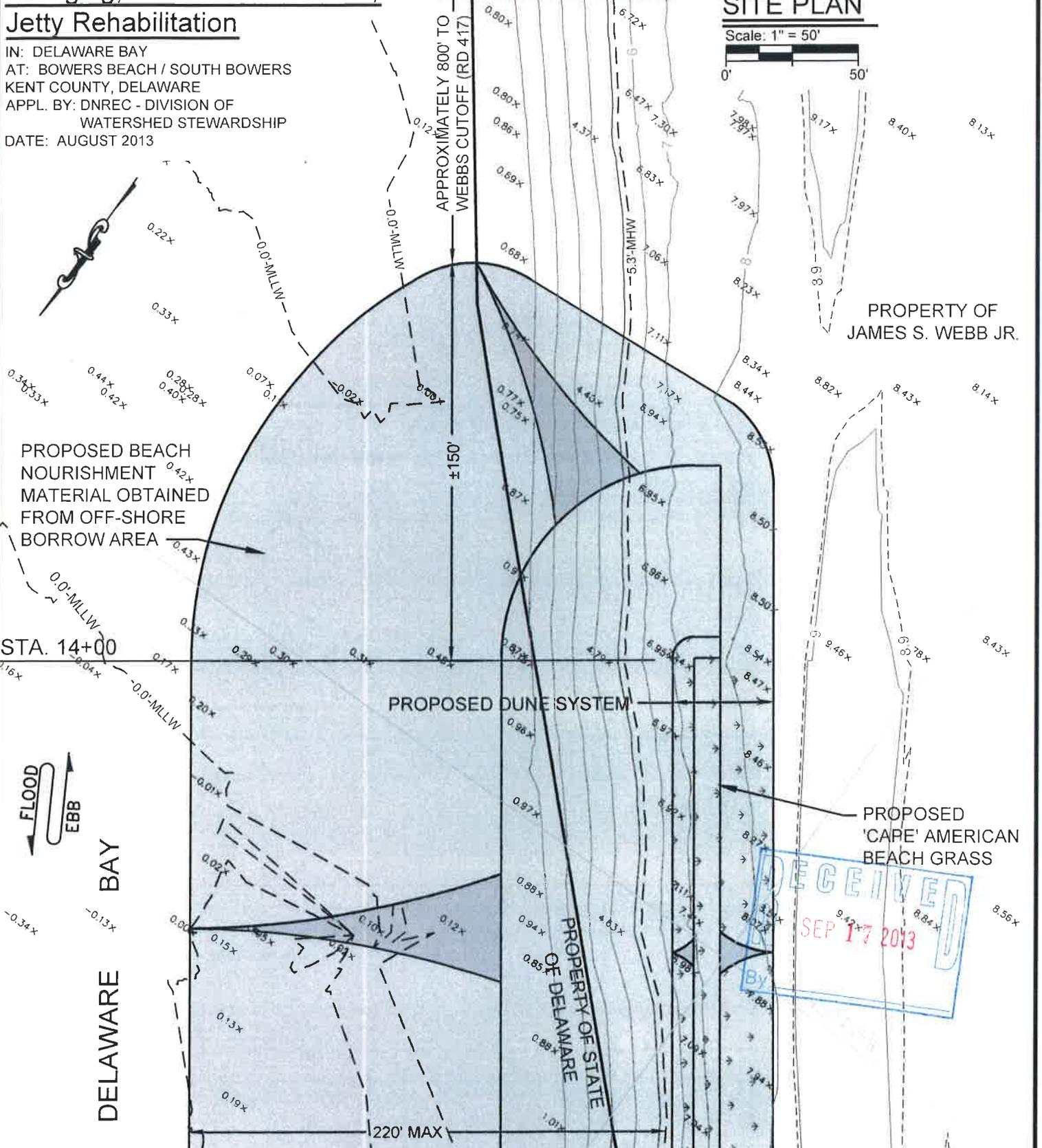
SHEET 11 OF 18

# Proposed Maintenance Dredging, Beach Nourishment, Jetty Rehabilitation

IN: DELAWARE BAY  
AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013

# SOUTH BOWERS BEACH NOURISHMENT SITE PLAN

Scale: 1" = 50'  
0' 50'

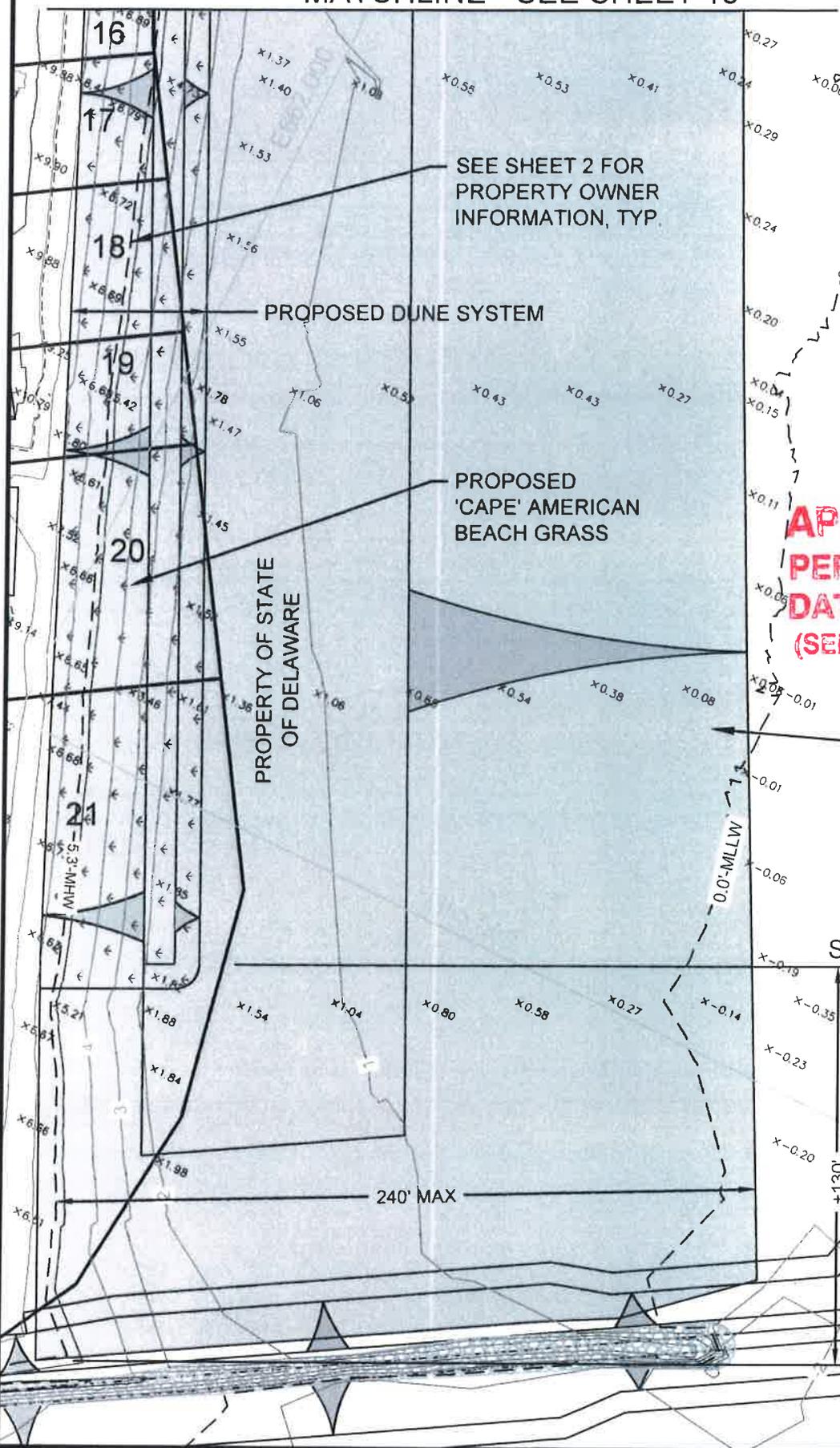
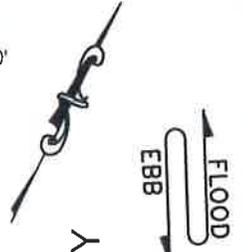


MATCHLINE - SEE SHEET 10

MATCHLINE - SEE SHEET 13

# NORTH BOWERS BEACH NOURISHMENT SITE PLAN

Scale: 1" = 50'



SEE SHEET 2 FOR PROPERTY OWNER INFORMATION, TYP.

PROPOSED DUNE SYSTEM

PROPOSED 'CAPE' AMERICAN BEACH GRASS

PROPERTY OF STATE OF DELAWARE

W.S.L.S. APPROVED PLANS

PERMIT # 8-297/13 LAD 32/13

DATE 7/6-13 TCB

(SEE PERMIT CONDITIONS)

PROPOSED BEACH NOURISHMENT FILL

STA. 0+00



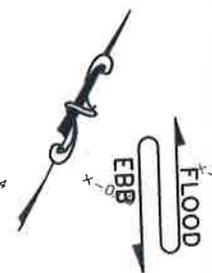
**Proposed Maintenance Dredging, Beach Nourishment, Jetty Rehabilitation**

IN: DELAWARE BAY  
AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF WATERSHED STEWARDSHIP  
DATE: AUGUST 2013

MATCHLINE - SEE SHEET 14

# NORTH BOWERS BEACH NOURISHMENT SITE PLAN

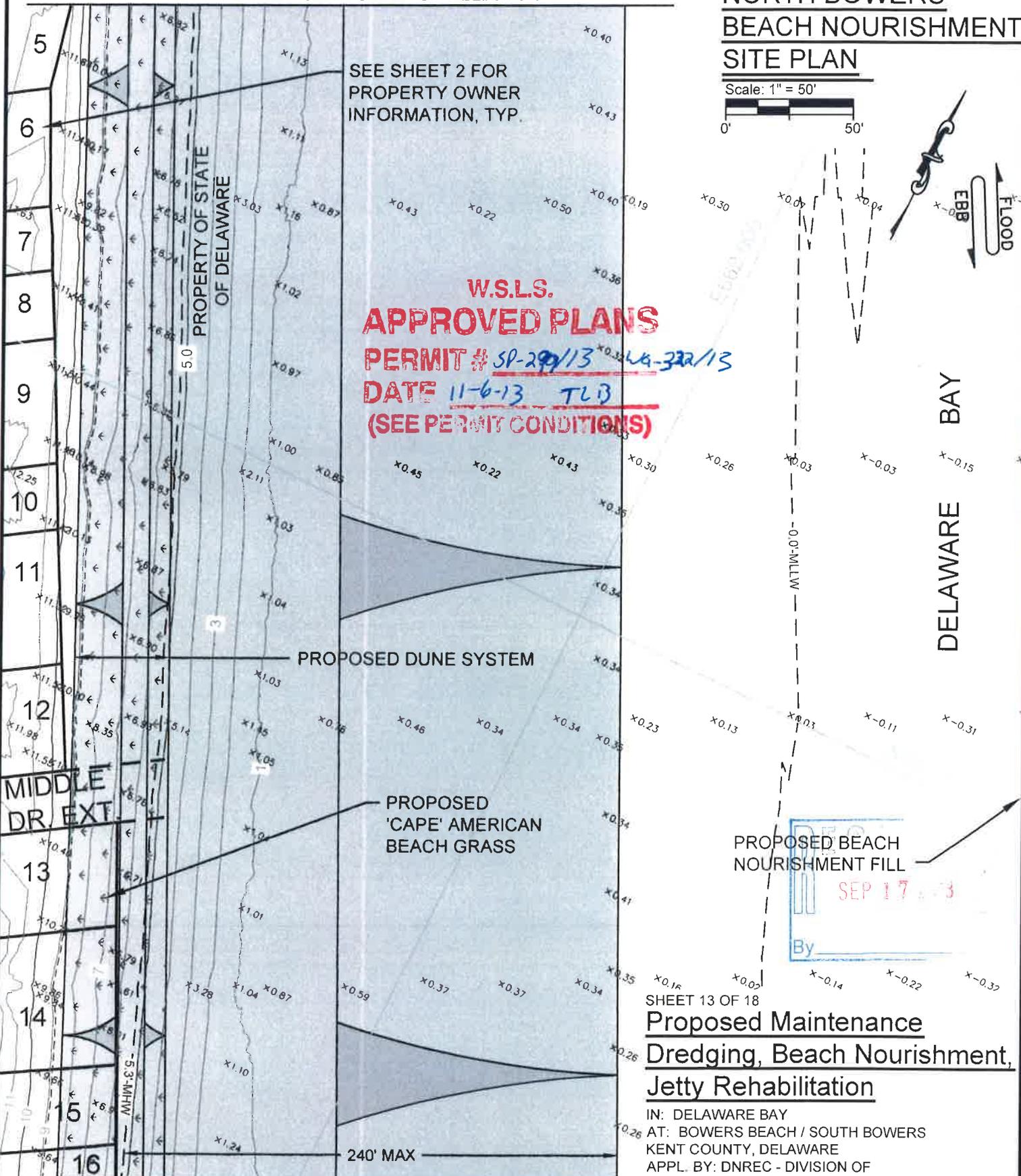
Scale: 1" = 50'



SEE SHEET 2 FOR PROPERTY OWNER INFORMATION, TYP.

PROPERTY OF STATE OF DELAWARE

**W.S.L.S.**  
**APPROVED PLANS**  
**PERMIT # SP-29/13 WA-322/13**  
**DATE 11-6-13 TLB**  
**(SEE PERMIT CONDITIONS)**



DELAWARE BAY

PROPOSED BEACH NOURISHMENT FILL

SEP 17 2013  
By \_\_\_\_\_

SHEET 13 OF 18

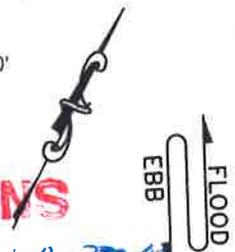
## Proposed Maintenance Dredging, Beach Nourishment, Jetty Rehabilitation

IN: DELAWARE BAY  
AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013

MATCHLINE - SEE SHEET 12

# NORTH BOWERS BEACH NOURISHMENT SITE PLAN

Scale: 1" = 50'  
0' 50'



**W.S.L.S.**  
**APPROVED PLANS**  
PERMIT # SP-209/13 W9-32/13  
DATE 11-6-13 TCB  
**(SEE PERMIT CONDITIONS)**

PROPERTY OF STATE  
OF DELAWARE

5.3-MHW

SEE SHEET 2 FOR PROPERTY  
OWNER INFORMATION, TYP.

PROPOSED BEACH  
NOURISHMENT FILL

PROPOSED DUNE SYSTEM

PROPOSED  
'CAPE' AMERICAN  
BEACH GRASS

MAIN STREET  
EXT.

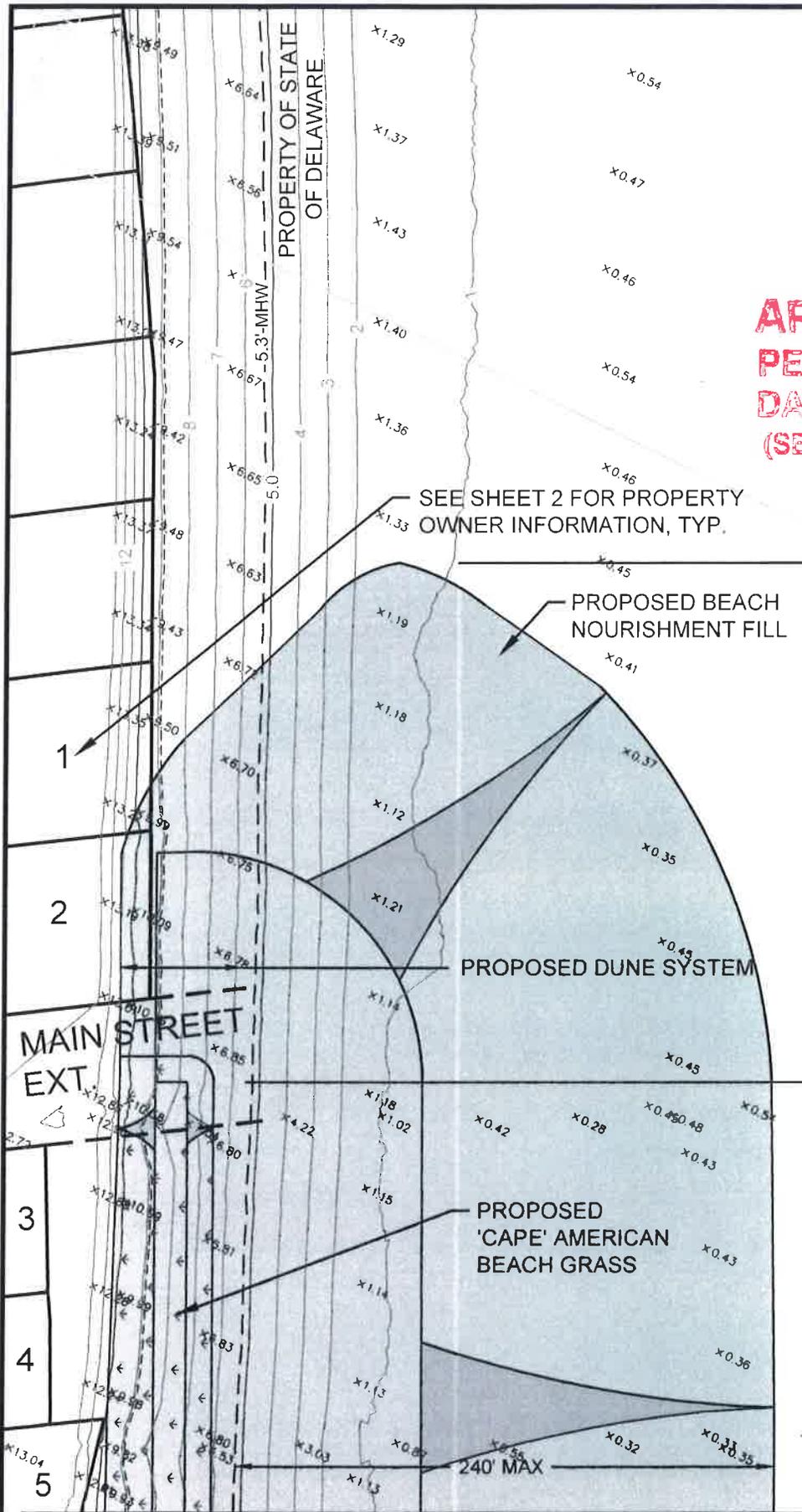
DELAWARE  
BAY



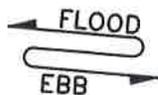
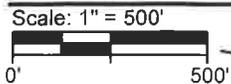
SHEET 14 OF 18  
**Proposed Maintenance  
Dredging, Beach Nourishment,  
Jetty Rehabilitation**

IN: DELAWARE BAY  
AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013

MATCHLINE - SEE SHEET 13



# BORROW AREA SITE PLAN



PROPOSED OFF-SHORE  
BORROW AREA - 82.4 AC

CHARTED  
OYSTER BAR

## NOTES:

1. THE PROPOSED 82.4 OFF-SHORE BORROW AREA WILL BE USED AS THE SUPPLEMENTAL SOURCE FOR SAND MATERIAL REQUIRED FOR BEACH NOURISHMENT OF THE BEACH AT SOUTH BOWERS AND THE PRIMARY SOURCE FOR NOURISHMENT OF NORTH BOWERS BEACH AS WELL AS FUTURE BEACH NOURISHMENT PROJECTS IN THE GENERAL AREA.
2. BENTHIC SURVEYS PERFORMED BY DNREC PERSONNEL DETERMINED THAT NO SHELLFISH ARE LOCATED WITHIN THE PROPOSED BORROW AREA AND WITHIN THE SURROUNDING VICINITY.
3. AN EXTENSIVE GEOTECHNICAL INVESTIGATION OF THE OFF-SHORE BORROW AREA WAS UNDERTAKEN IN JULY 2013. IT WAS DETERMINED THAT THE BORROW AREA IS GENERALLY COVERED WITH APPROXIMATELY 793K CY OF FINE SAND, SILT AND CLAY MATERIAL UNSUITABLE FOR BEACH NOURISHMENT. UNSUITABLE MATERIAL (APPROXIMATELY 793K CY) SHALL BE HYDRAULICALLY DEPOSITED AT THE EXISTING ±15 AC OVERBOARD DISPOSAL SITE (SHEET 16)

**W.S.L.S.**  
**APPROVED PLANS**  
**PERMIT #** SP-29713 WQ-2013  
**DATE** 11-6-13 TCB  
**(SEE PERMIT CONDITIONS)**

LEGEND	
SYMBOL	DESCRIPTION
◆ T-11	BORING
◆ V-13	VIBRACORE

SHEET 15 OF 18  
**Proposed Maintenance  
Dredging, Beach  
Nourishment, Jetty  
Rehabilitation**

IN: DELAWARE BAY  
AT: BOWERS BEACH  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013

0.0' MLLW  
(2.98' NAVD '88)

## BORROW AREA DREDGE SECTION

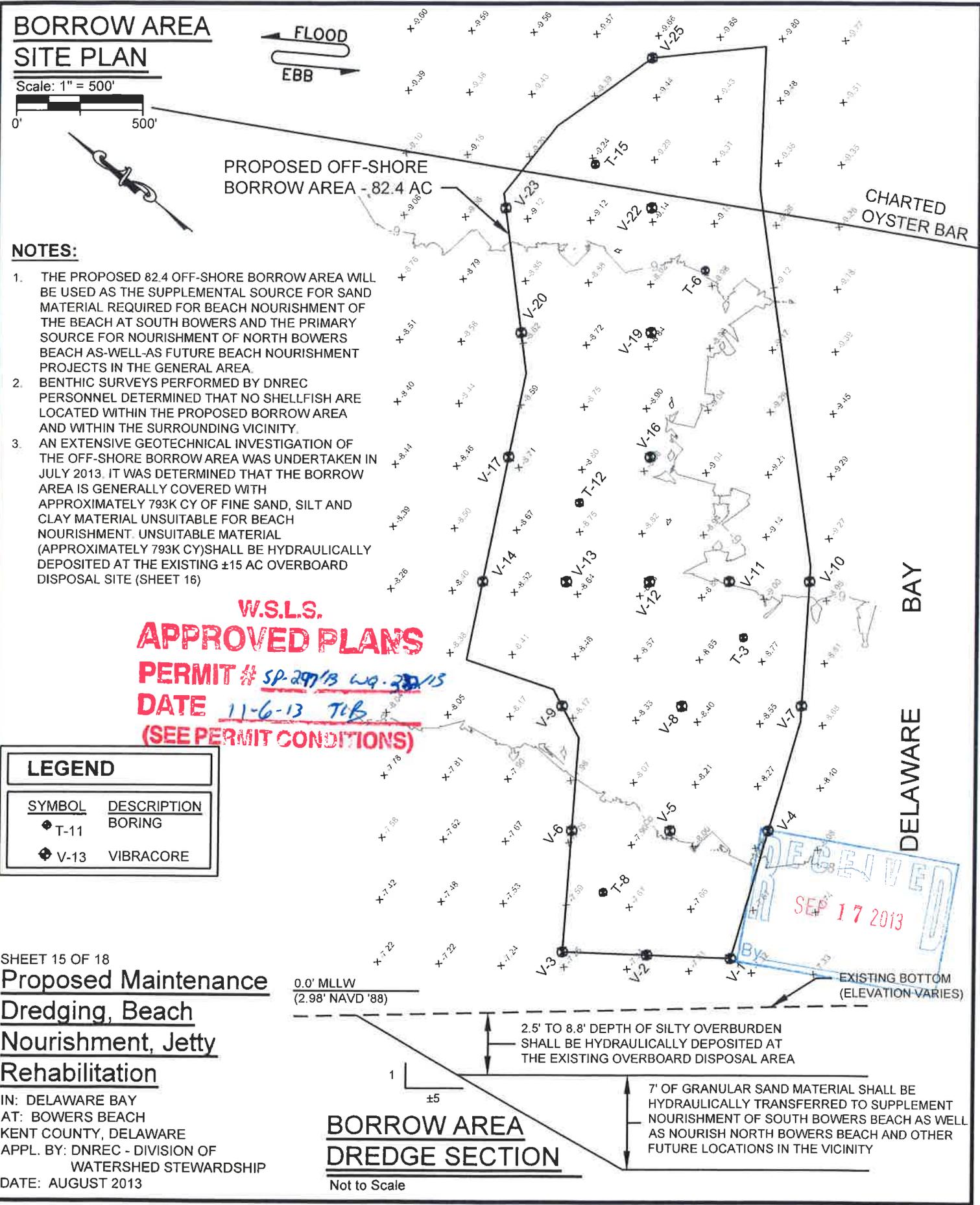
Not to Scale

2.5' TO 8.8' DEPTH OF SILTY OVERBURDEN  
SHALL BE HYDRAULICALLY DEPOSITED AT  
THE EXISTING OVERBOARD DISPOSAL AREA

7' OF GRANULAR SAND MATERIAL SHALL BE  
HYDRAULICALLY TRANSFERRED TO SUPPLEMENT  
NOURISHMENT OF SOUTH BOWERS BEACH AS WELL  
AS NOURISH NORTH BOWERS BEACH AND OTHER  
FUTURE LOCATIONS IN THE VICINITY



DELAWARE BAY



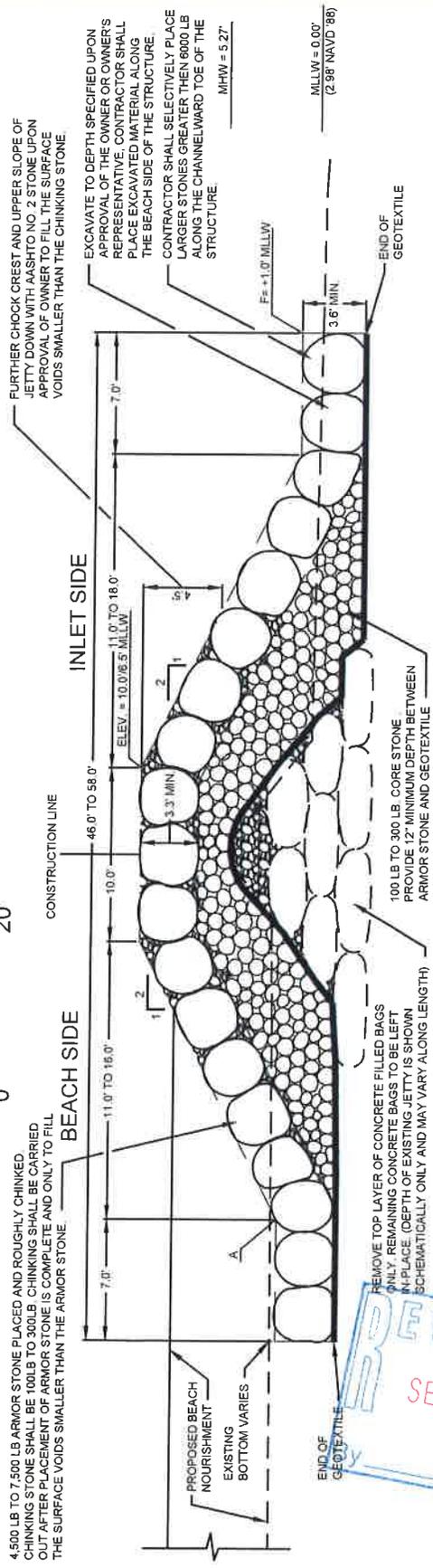


**APPROVED PLANS**  
**PERMIT # SP-29713 WA 3/2013**  
**DATE 11-6-13 TCS**  
**(SEE PERMIT CONDITIONS)**



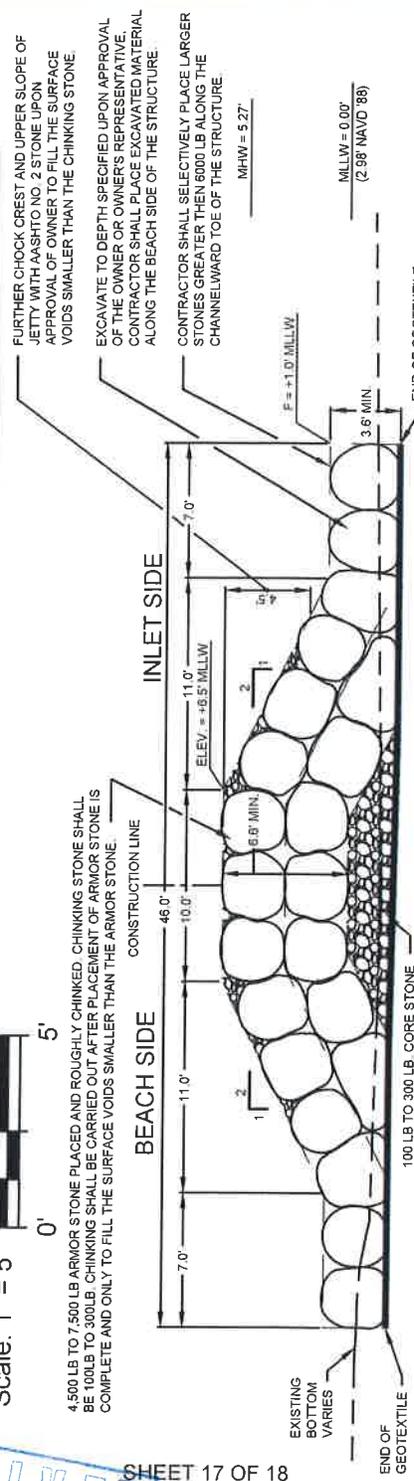
**TYPICAL JETTY REHABILITATION PROFILE**

Scale: 1" = 20'



**TYPICAL JETTY REHABILITATION SECTION STA. 0+00 TO 3+50**

Scale: 1" = 5'



**TYPICAL JETTY REHABILITATION SECTION STA. 3+50 TO 4+20**

Scale: 1" = 5'

**RECEIVED**  
 SEP 17 2013

SHEET 17 OF 18  
**Proposed**  
**Maintenance**  
**Dredging, Beach**  
**Nourishment, Jetty**  
**Rehabilitation**

IN: DELAWARE BAY  
 AT: BOWERS BEACH / SOUTH BOWERS  
 KENT COUNTY, DELAWARE  
 APPL. BY: DNREC - DIVISION OF  
 WATERSHED STEWARDSHIP  
 DATE: AUGUST 2013

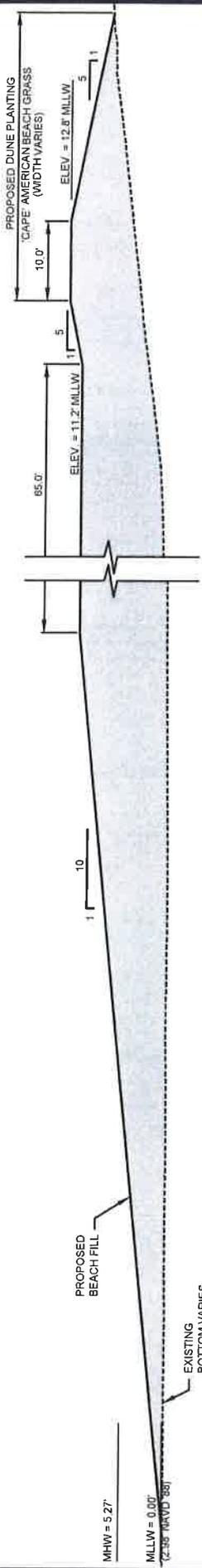
W.S.L.S.

APPROVED PLANS

PERMIT # SP-2997/13 U2 3/22/13

DATE 11-6-13 725

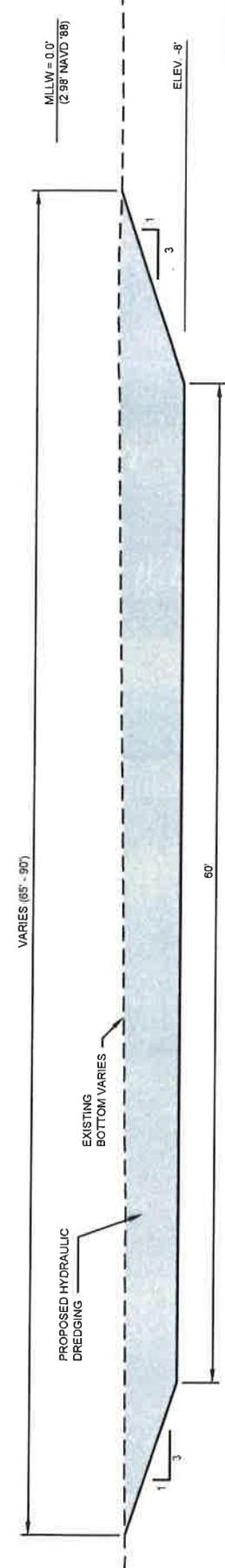
(SEE PERMIT CONDITIONS)



### TYPICAL BEACH NOURISHMENT SECTION

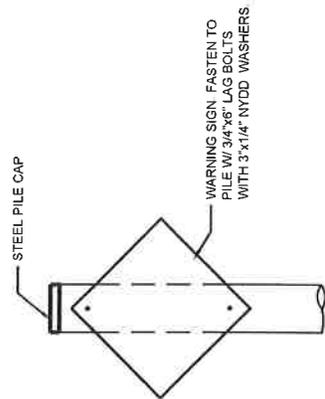
Scale: 1" = 20'

MHW = 5.27'



### TYPICAL CHANNEL MAINTENANCE DREDGING SECTION

Scale: 1" = 5'



### TYPICAL STEEL PILE W/ WARNING SIGN

NOT TO SCALE



SHEET 18 OF 18

Proposed  
Maintenance  
Dredging, Beach  
Nourishment, Jetty  
Rehabilitation

IN: DELAWARE BAY  
AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013

**APPENDIX 5**

**USACE PERMIT (CENAP-OP-R-2013-1033-23)**





REPLY TO  
ATTENTION OF

## DEPARTMENT OF THE ARMY

PHILADELPHIA DISTRICT CORPS OF ENGINEERS  
WANAMAKER BUILDING, 100 PENN SQUARE EAST  
PHILADELPHIA, PENNSYLVANIA 19107-3390

FEB 11 2015

Regulatory Branch  
Application Section I

SUBJECT: CENAP-OP-R-2013-1033-23 (IP Modification)  
Project Name: Murderkill River Entrance Jetty KE  
Location: Lat.39.05841/Long.-75.39676  
DDNREC: FC 2014.0001 and WQ-322/13

Gary O. Williams  
Andrews, Miller and Associates, Incorporated  
106 North Washington Street  
Post Office Box 1065  
Easton, Maryland 21601-3128

Dear Mr. Williams:

Reference is made to Department of the Army Permit CENAP-OP-R-2013-1033-23, dated December 6, 2013, authorizing the Delaware Division of Watershed Stewardship to: conduct hydraulic maintenance dredging of the authorized federal navigation channel at the mouth of the Murderkill River; conduct beach nourishment activities on the shoreline of South Bowers Beach; and widen, lengthen and raise the elevation of the north Murderkill River entrance jetty in Kent County, Delaware.

In accordance with your request dated December 18, 2014, the enclosed plans E-1R and E-12R are approved to supersede the previously approved plans E-1 and E-12. The revised plans provide for a one foot increase in the top elevation of the authorized north Murderkill jetty to elevation 11.0' MLLW, thereby widening its footprint by a 4' to 62' maximum.

All other conditions to which this permit was made subject remain in full force and effect. This authorization does not affect your responsibility to obtain any other Federal, State or local approvals required by law for this project before beginning work.

If you should have any questions regarding this matter, please contact John Brundage, 1203 College Park Drive, Suite 103, Dover, Delaware 19904, telephone: 302-736-9763.

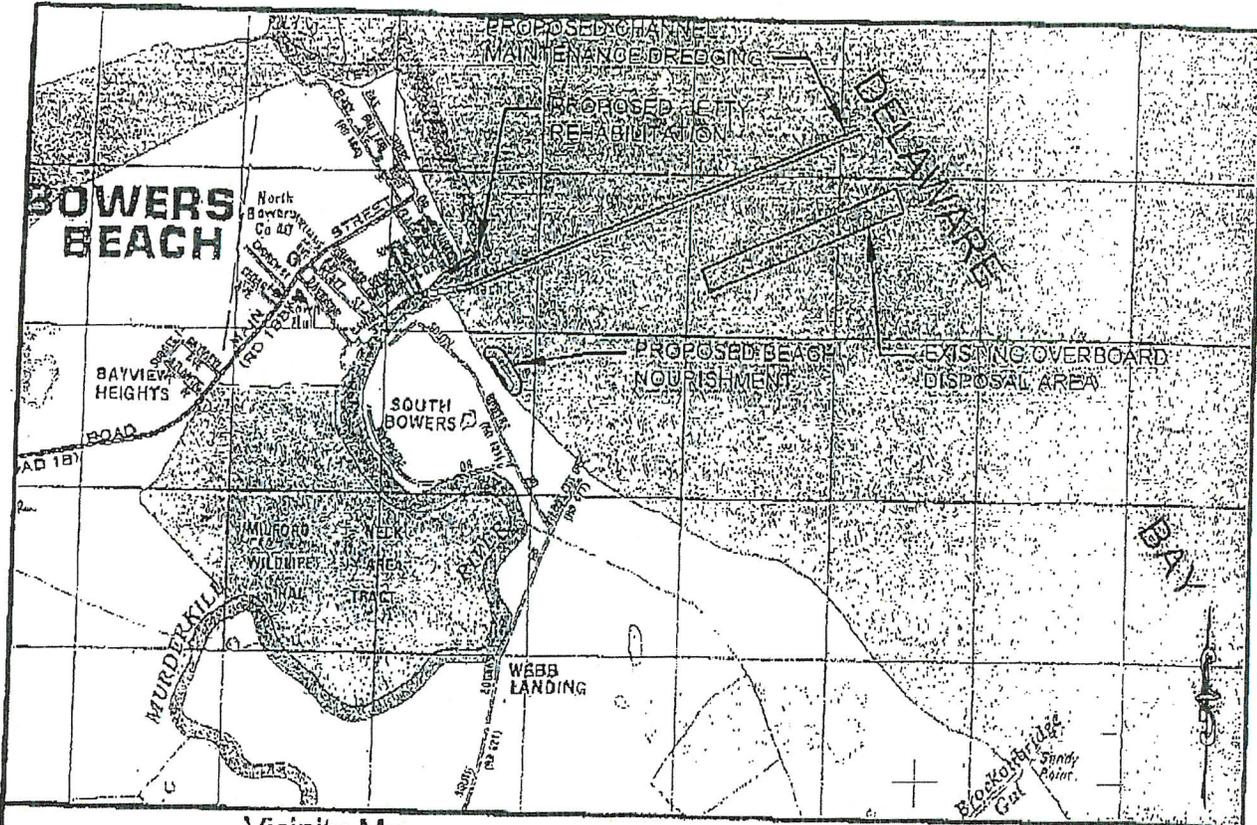
Sincerely,

A handwritten signature in black ink, appearing to read "Frank J. Cianfrani".

Frank J. Cianfrani  
Chief, Regulatory Branch

Enclosures





Vicinity Map

Copyright ADC The Map People  
Permitted Use No. 20911192

SCALE: 1" = 2000'



**SCOPE OF WORK**

**Dredging:** 80' wide x 5839' long (1.16 ac)  
 Depth to -8' MLLW  
 max from MLLW = 5450'  
 max from MHW = 6650'  
 quantity: 49,000 cy total  
 (±11% cy overburden; ±34% cy beach quality)  
 10 year maintenance dredging

**Beach Nourishment:**  
**South Bowers:** 220' wide x 695' long (3.12ac)  
 max from MLLW = 110' (0.26ac)  
 max from MHW = 220' (2.96ac)  
 quantity: ±84,000 cy  
 Dune Planting: 0.32ac total  
 (3,890 sf channelward MHW)

**Jetty Rehabilitation:** ±50' wide x 470' long (0.63ac)  
 Steel Pile w/ warning sign: 1 each  
 max from MLLW = 110' (0.20ac)  
 max from MHW = 300' (0.40ac)  
 armor stone quantity: 3340 cy  
 #2 stone quantity: 1300 cy  
 new bottom disturbance: 3553sq

**INDEX OF DRAWINGS**

- 1 - Cover
- 2 - Adjacent Property Owners
- 3 - Key Plan
- 4 THRU 6 - Dredging Site Plan
- 7 - Jetty Site Plan
- 8 THRU 9 - South Bowers Beach Nourishment Site Plan
- 10 - Overboard Disposal Area Site Plan
- 11 THRU 12 - Sections

**NOTES:**

- 1. PUBLISHED MEAN TIDAL RANGE IS 5.10 FEET.
- 2. SOUNDINGS ARE IN FEET AND REFER TO MLLW
- 3. PROPERTY LINES SHOWN WERE TAKEN FROM THE KENT COUNTY TAX MAPS AND ARE APPROXIMATE ONLY.
- 4. LIMITS OF WETLAND WERE TAKEN FROM DNREC WETLAND MAP 16-015
- 5. THESE DRAWINGS ARE FOR OUTLINE PURPOSES ONLY. DESIGN DRAWINGS WILL BE PROVIDED SEPARATELY.

SHEET 1 OF 12  
**Proposed Maintenance  
 Dredging, Beach  
 Nourishment, Jetty  
 Rehabilitation**

IN: DELAWARE BAY  
 AT: BOWERS BEACH / SOUTH BOWERS  
 KENT COUNTY, DELAWARE  
 APPL BY: DNREC - DIVISION OF  
 WATERSHED STEWARDSHIP  
 DATE: AUGUST 2013  
 REVISED: NOV. 2013

E-1



Andrews, Miller & Associates

ARCHITECTS ENGINEERS SURVEYORS

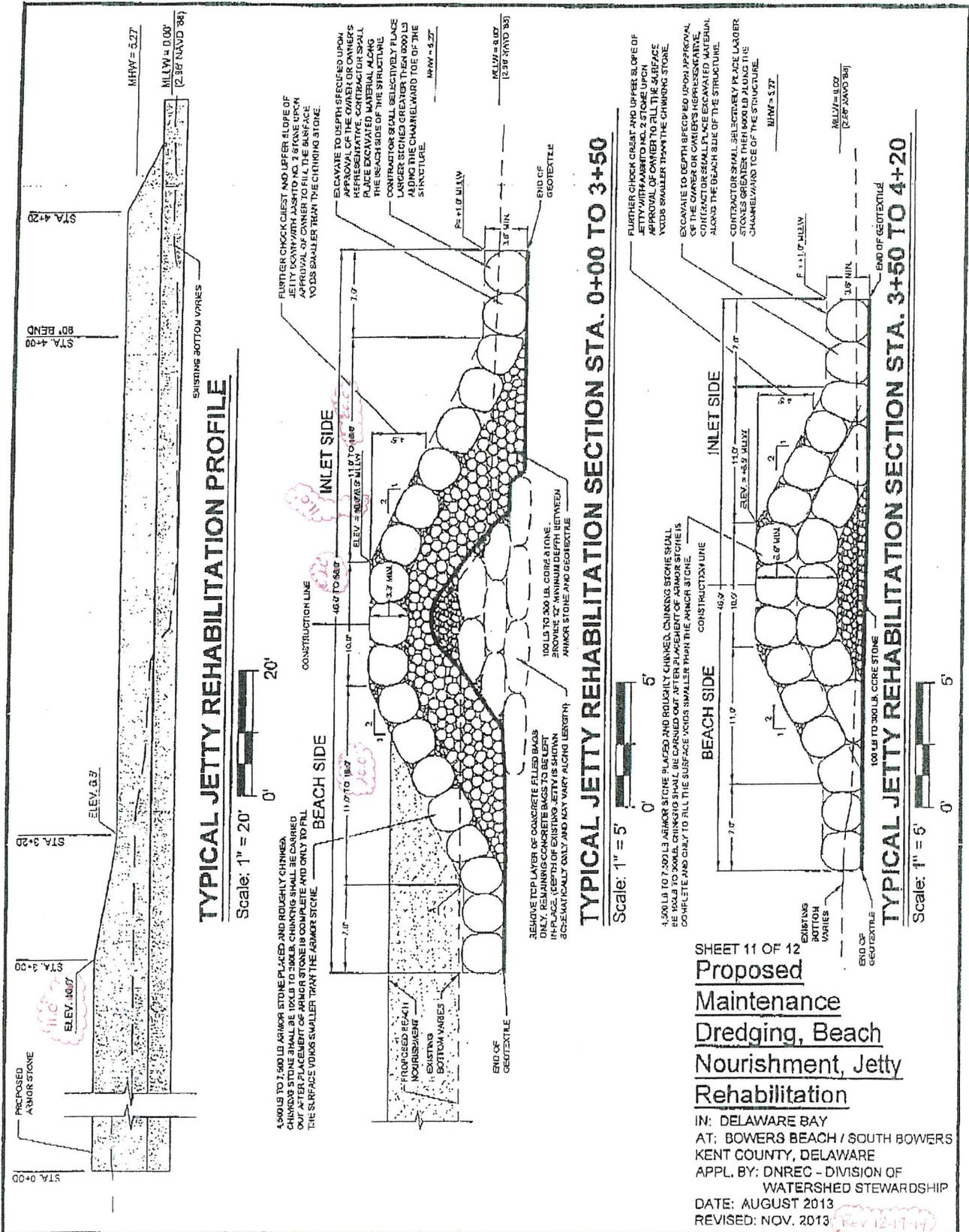


DAVIS,  
BOWEN &  
FRIEDEL, INC.

CUSTOM WETLAND AND TRAFFIC  
SURVEY WETLAND USE DISTRICT  
MILFORD, DELAWARE (977) 414141

2013-1033

SMS



TYPICAL JETTY REHABILITATION PROFILE

Scale: 1" = 20'

TYPICAL JETTY REHABILITATION SECTION STA. 0+00 TO 3+50

Scale: 1" = 5'

TYPICAL JETTY REHABILITATION SECTION STA. 3+50 TO 4+20

Scale: 1" = 5'

SHEET 11 OF 12

**Proposed  
Maintenance  
Dredging, Beach  
Nourishment, Jetty  
Rehabilitation**

IN: DELAWARE BAY  
AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013  
REVISED: NOV. 2013

SMS

E-12



This notice of authorization must be conspicuously displayed at the site of work.

United States Army Corps of Engineers

DEC 06 2013

Conduct hydraulic maintenance dredging

A permit to \_\_\_\_\_

at The mouth of the Murderkill River \_\_\_\_\_

has been issued to Charles E. William II on DEC 06 2013

Address of Permittee 89 King Highway, Dover, Delaware 19901 \_\_\_\_\_

Permit Number

CENAP-OP-R-2013-1033-23 Draft IP

Frank J. Cianfrani  
Chief, Regulatory Branch

**District Commander**

for: John C. Becking, P.E.  
Lieutenant Colonel, US Army  
District Commander



CERTIFIED MAIL RETURN RECEIPT REQUESTED

REPLY TO  
ATTENTION OF

## DEPARTMENT OF THE ARMY

PHILADELPHIA DISTRICT CORPS OF ENGINEERS  
WANAMAKER BUILDING, 100 PENN SQUARE EAST  
PHILADELPHIA, PENNSYLVANIA 19107-3390

DEC 06 2013

Regulatory Branch  
Applications Section ISUBJECT: CENAP-OP-R-2013-1033-23 (Final IP)  
DDNREC #: FC 2014.0001 and WQ-322/13  
Location: 39.05841 and -75.39676Charles E. Williams II  
Delaware Division of Watershed Stewardship  
89 Kings Highway  
Dover, Delaware 19901

Dear Mr. Williams:

Enclosed is a Department of the Army Permit (Enclosure 1) authorizing the Delaware Division of Watershed Stewardship to: conduct hydraulic maintenance dredging of the authorized federal navigation channel at the mouth of the Murderkill River; conduct beach nourishment activities on the shoreline of South Bowers Beach; and widen, lengthen and raise the elevation of the north Murderkill River entrance jetty. Also enclosed is a notice of authorization (ENG Form 4336-Enclosure 2) to be conspicuously displayed at the site of work.

Carefully review all the terms and conditions of the Department of the Army permit and understand them fully. Performing any work not specifically authorized by the permit or failing to comply with its conditions may subject you and/or your contractor to the enforcement provisions of our regulations. If a contractor performs the work for you, both you and the contractor are responsible for assuring the work is done in conformance with the conditions and limitations of this permit. Please be sure the person who will do the work has read and understands the conditions of the permit.

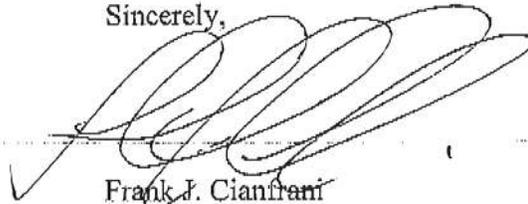
This office shall be notified of the commencement and completion of the permitted work. To assist you in meeting this requirement, enclosed with the Department of the Army Permit is a Notification/Certification of Work Commencement Form and a Notification/Certification of Work Completion/ Compliance Form (Enclosures 3 and 4) which must be signed and returned to this office. Additional information concerning this permit may be obtained by writing to John Brundage of my office at the above address or calling between the hours of 1:00 and 3:30 p.m. at 302-736-9763.

If any material changes in the location or plans of the permitted work are found necessary on account of unforeseen or altered conditions or otherwise, revised plans should be submitted

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promptly to this office in order that the revised plans, if found unobjectionable, may receive the approval required by law before operations on the permitted work are commenced.

Sincerely,

A handwritten signature in black ink, appearing to read 'Frank J. Cianfrani', written over a horizontal dashed line.

Frank J. Cianfrani  
Chief, Regulatory Branch

Enclosures

NOTIFICATION/CERTIFICATION OF WORK COMMENCEMENT FORM

Permit Number: CENAP-OP-R-2013-1033-23 (IP)  
 State Permit #: WQ-322/13 and FC 2014.0001  
 Name of Permittee: Delaware Division of Watershed Stewardship  
 Project Name: Murderkill River Dredging and Jetty Modification  
 Waterway: Murderkill River  
 County: Kent State: Delaware  
 Compensation/Mitigation Work Required: Yes  No

TO: U.S. Army Corps of Engineers, Philadelphia District  
 Wanamaker Building - 100 Penn Square East  
 Philadelphia, Pennsylvania 19107-3390  
 Attention: CENAP-OP-R

I have received authorization to: conduct hydraulic maintenance dredging of the authorized federal navigation channel at the mouth of the Murderkill River; conduct beach nourishment activities on the shoreline of South Bowers Beach; and widen, lengthen and raise the elevation of the north Murderkill River entrance jetty.

The work will be performed by:

Name of Person or Firm \_\_\_\_\_

Address: \_\_\_\_\_  
 \_\_\_\_\_

I hereby certify that I have reviewed the approved plans, have read the terms and conditions of the above referenced permit, and shall perform the authorized work in strict accordance with the permit document. The authorized work will begin on or about \_\_\_\_\_ and should be completed on or about \_\_\_\_\_.

Please note that the permitted activity is subject to compliance inspections by the Army Corps of Engineers. If you fail to return this notification form or fail to comply with the terms or conditions of the permit, you are subject to permit suspension, modification, revocation, and/or penalties.

\_\_\_\_\_  
 Permittee (Signature and Date)

\_\_\_\_\_  
 Telephone Number

\_\_\_\_\_  
 Contractor (Signature and Date)

\_\_\_\_\_  
 Telephone Number

NOTE: This form shall be completed/signed and returned to the Philadelphia District Office a minimum of 10 days prior to commencing work.

NOTIFICATION/CERTIFICATION OF WORK COMPLETION/COMPLIANCE FORM

Permit Number: 2013-1033-23 (IP)  
 Name of Permittee: Delaware Division of Watershed Stewardship  
 Name of Contractor:  
 Project Name: Murderkill River Dredging and Jetty Modification  
 County: Kent  
 State: Delaware  
 Waterway: Murderkill River

Within 10 days of completion of the activity authorized by this permit, please sign this certification and return it to the following address:

Department of the Army  
 U.S. Army Corps of Engineers, Philadelphia District  
 Wanamaker Building - 100 Penn Square East  
 Philadelphia, Pennsylvania 19107-3390  
 Attention: CENAP-OP-R

Please note that the permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to return this notification form or fail to perform work in compliance with the permit, you are subject to administrative, civil and/or criminal penalties. Further, the subject permit may be suspended or revoked.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the above noted permit.

The authorized work was commenced on \_\_\_\_\_.

The authorized work was completed on \_\_\_\_\_.

Dredging authorized: Yes  No  If yes, see *NOTE* below.

The volume of dredged material was \_\_\_\_\_ cubic yards.

The dredged material was placed at \_\_\_\_\_.

\_\_\_\_\_  
Signature of Contractor

\_\_\_\_\_  
Signature of Permittee

Address: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_  
Telephone Number: \_\_\_\_\_

\_\_\_\_\_  
Telephone Number: \_\_\_\_\_

**SPECIAL NOTE FOR MAINTENANCE DREDGING:**

*If the above referenced permit authorizes maintenance dredging, the permittee/contractor shall notify this office of the completion of the work by submitting this form for each dredging occurrence. This form may be reproduced for this purpose*

**DEPARTMENT OF THE ARMY PERMIT****PERMITTEE AND PERMIT NUMBER:**

PERMITTEE: Delaware Division of Watershed Stewardship  
CENAP-OP-R-2013-1033-23

**ISSUING OFFICE:**

Department of the Army  
U.S. Army Corps of Engineers, Philadelphia District  
Wanamaker Building - 100 Penn Square East  
Philadelphia, Pennsylvania 19107-3390

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

**PROJECT DESCRIPTION:** To conduct hydraulic maintenance dredging of the authorized federal navigation channel at the mouth of the Murderkill River; conduct beach nourishment activities on the shoreline of South Bowers Beach; and widen, lengthen and raise the elevation of the north Murderkill River entrance jetty. All work is to be completed in accordance with the attached plans E-1 through E-13.

**PROJECT LOCATION:** Delaware Bay at the Mouth of the Murderkill River, Bowers Beach and South Bowers, Kent County, Delaware.

**PERMIT CONDITIONS:****General Conditions:**

1. The time limit for completing the authorized work ends on December 31, 2017. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

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3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. All work performed in association with the above noted project shall be conducted in accordance with the project plans identified as E-1 through E-13. The project plans illustrate a proposal to conduct hydraulic maintenance dredging of the authorized federal navigation channel at the mouth of the Murderkill River; conduct beach nourishment activities on the shoreline of South Bowers Beach; and widen, lengthen and raise the elevation of the north Murderkill River entrance jetty. The stated purposes of the project are as follows:

Channel Dredging: Dredging of the federal navigation channel is necessary to provide adequate and safe boating access into the Murderkill River as well as to provide a beneficial use of the sandy dredged material by utilizing it to nourish the adjacent beach at South Bowers.

Beach Nourishment: Nourishment of the shoreline at South Bowers is necessary in order to widen the existing beach to provide storm protection and greater recreational opportunities.

Jetty Rehabilitation: Rehabilitation of the north jetty is needed in order to alleviate the on-going siltation of the Murderkill River entrance channel, thereby reducing the need for future dredging.

2. Any deviation in construction methodology or project design from that shown on the above noted drawings must be approved by this office, in writing, prior to performance of the work. All modifications to the above noted project plans shall be approved, in writing, by this office. No work shall be performed prior to written approval of this office.
3. This office shall be notified at least 10 days prior to the commencement of authorized work by completing and signing the attached *Notification/ Certification of Work Commencement Form*. This office shall also be notified within 10 days of the completion of the authorized work by completing and signing the attached *Notification/Certification of Work Completion/Compliance Form*. All notifications required by this condition shall be in writing

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and shall be transmitted to this office by registered mail. Oral notifications are not acceptable. Similar notification is required each time maintenance work is to be done under the terms of this Corps of Engineers permit.

4. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration. (This special condition is applicable to Corps of Engineers permits that provide authorization under Section 10 of the Rivers and Harbors Act of 1899.)

5. The Special Conditions imposed by the Delaware Department of Natural Resources and Environmental Control (DDNREC) on your DDNREC Section 401 WQC and/or DDNREC CZM concurrence shall also be conditions to this Department of the Army permit.

6. Representatives of the U.S. Army Corps of Engineers shall be permitted to inspect the project during its phase of construction, and to collect any samples, or to conduct any tests deemed necessary.

7. The permittee is responsible for ensuring that the contractor and/or workers executing the activity(s) authorized by this permit have knowledge of the terms and conditions of the authorization and that a copy of the permit document is at the project site throughout the period the work is underway.

8. All material to be used as fill for the jetty improvement portion of the project shall be obtained from an upland source. The fill material shall be free of oil and grease, debris, wood, general refuse, plaster, and other pollutants, and shall contain no broken asphalt.

9. In order to minimize impacts to essential fish habitat for sandbar sharks (*Carcharhinus obscurus*) and sand tiger sharks (*Odontaspis Taurus*), the authorized work in waters of the United States shall not occur between March 31 and September 15 of any year.

10. This permit authorizes maintenance dredging for a period of ten years to terminate on 31 December 2024 provided the dredging method, location, depth and disposal sites remain unchanged. The Corps of Engineers shall be notified before any subsequent maintenance dredging takes place.

11. This permit does not obviate the permittee from obtaining any State or local assent required by law for the activity authorized.

#### FURTHER INFORMATION:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

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X Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

X Section 404 of the Clean Water Act (33 U.S.C. 1344).

Section 103 of the Marine Protection, Research and Sanctuaries Act.

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Charles E. Williams, D      12/9/13  
(PERMITTEE)      Frank M. Riotta      (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

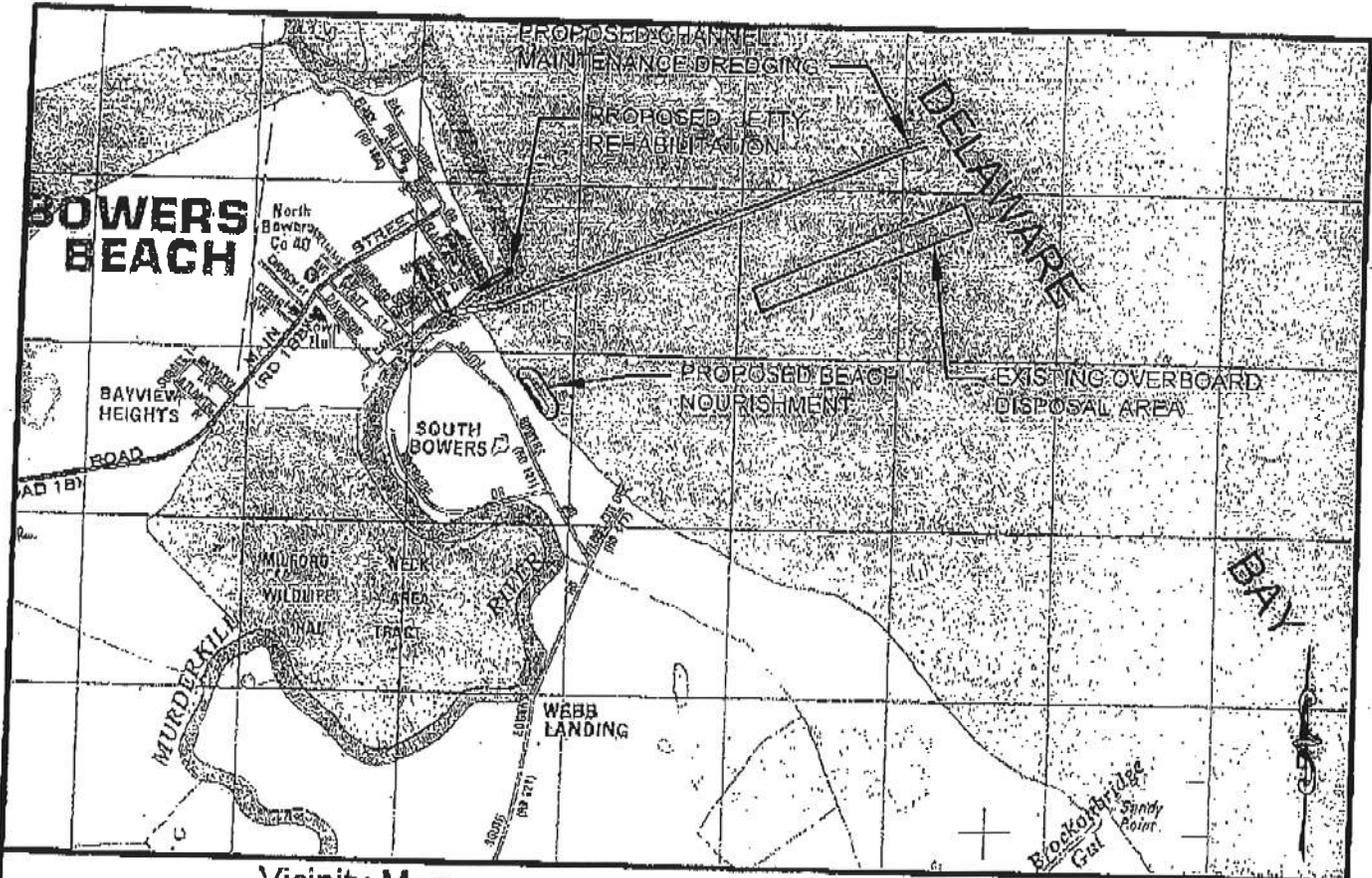
[Signature]      12/6/13  
(District Engineer)      (DATE)  
Frank J. Cianfrani, Chief, Regulatory Branch  
for: John C. Becking, P.E.  
Lieutenant Colonel, US Army  
District Commander

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When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

\_\_\_\_\_  
(TRANSFEEEE)

\_\_\_\_\_  
(DATE)



Vicinity Map

Copyright ADC The Map People  
Permitted Use No. 20911192

SCALE : 1" = 2000'



**SCOPE OF WORK**

**Dredging:** 80' wide x 5839' long (1.16 ac)  
 Depth to -8' MLLW  
 max from MLLW = 5450'  
 max from MHW = 6660'  
 quantity: 45,000 cy total  
 (±11k cy overburden; ±34k cy beach quality)  
 10 year maintenance dredging

**Beach Nourishment:**

**South Bowers:** 220' wide x 695' long (3.12ac)  
 max from MLLW = 110' (0.26ac)  
 max from MHW = 220' (2.96ac)  
 quantity: ±84,000 cy  
 Dune Planting: 0.32ac total  
 (9,890 sq ft channelward MHW)

**Jetty Rehabilitation:**

±59' wide x 470' long (0.68ac)  
 Steel Pile w/ warning sign: 1 each  
 max from MLLW = 110' (0.20ac)  
 max from MHW = 300' (0.48ac)  
 armor stone quantity: 3840 cy  
 #2 stone quantity: 1900 cy  
 new bottom disturbance: 2555sq

**INDEX OF DRAWINGS**

- 1 - Cover
- 2 - Adjacent Property Owners
- 3 - Key Plan
- 4 THRU 6 - Dredging Site Plan
- 7 - Jetty Site Plan
- 8 THRU 9 - South Bowers Beach Nourishment Site Plan
- 10 - Overboard Disposal Area Site Plan
- 11 THRU 12 - Sections

**NOTES:**

- 1. PUBLISHED MEAN TIDAL RANGE IS 6.10 FEET.
- 2. SOUNDINGS ARE IN FEET AND REFER TO MLLW.
- 3. PROPERTY LINES SHOWN WERE TAKEN FROM THE KENT COUNTY TAX MAPS AND ARE APPROXIMATE ONLY.
- 4. LIMITS OF WETLAND WERE TAKEN FROM DNREC WETLAND MAP 18-015
- 5. THESE DRAWINGS ARE FOR OUTLINE PURPOSES ONLY. DESIGN DRAWINGS WILL BE PROVIDED SEPARATELY.

SHEET 1 OF 12  
**Proposed Maintenance  
 Dredging, Beach  
 Nourishment, Jetty  
 Rehabilitation**

IN: DELAWARE BAY  
 AT: BOWERS BEACH / SOUTH BOWERS  
 KENT COUNTY, DELAWARE  
 APPL. BY: DNREC - DIVISION OF  
 WATERSHED STEWARDSHIP  
 DATE: AUGUST 2013  
 REVISED: NOV. 2013

E-1

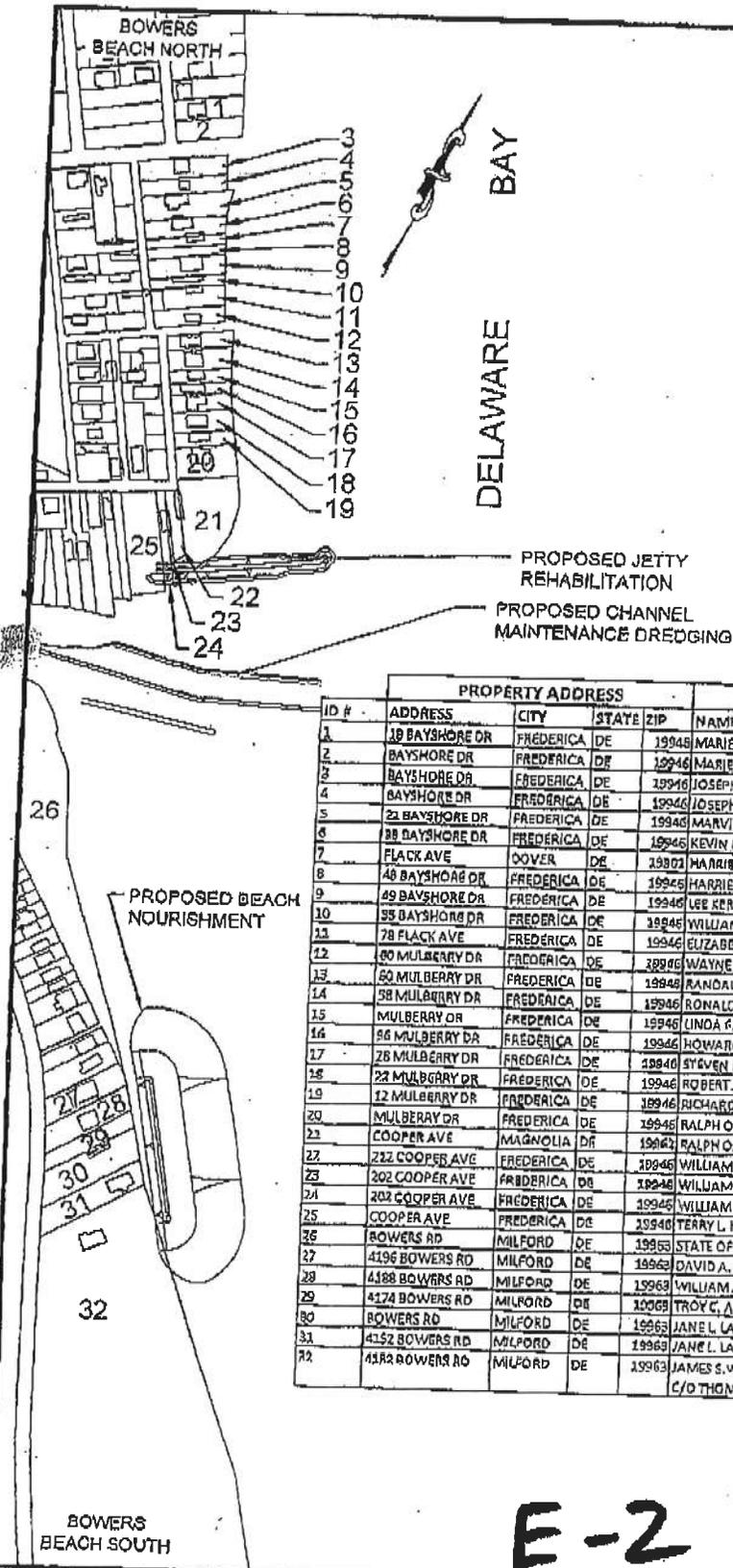


**Andrews, Miller & Associates**

A Division of  
**dbp** DAVIS, BOWEN & FRIEDL, INC.  
 ARCHITECTS ENGINEERS SURVEYORS  
 6401 W. HARTLAND (410) 770-4766  
 24 LEBURDY, HARBORLAND (410) 540-0001  
 141 FORD, OCEANVIEW (302) 424-4141

2013-1033

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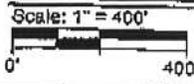
SHEET 2 OF 12  
**Proposed Maintenance  
 Dredging, Beach Nourishment,  
 Jetty Rehabilitation**

IN: DELAWARE BAY  
 AT: BOWERS BEACH / SOUTH BOWERS  
 KENT COUNTY, DELAWARE  
 APPL. BY: DNREC - DIVISION OF  
 WATERSHED STEWARDSHIP  
 DATE: AUGUST 2013  
 REVISED: NOV. 2013

ID #	PROPERTY ADDRESS				OWNER INFORMATION				
	ADDRESS	CITY	STATE	ZIP	NAME	ADDRESS	CITY	STATE	ZIP
1	18 BAYSHORE DR	FREDERICA	DE	19946	MARIE A. NEIMAN	64 SUNSET DRIVE	BOYERTOWN	PA	19812
2	BAYSHORE DR	FREDERICA	DE	19946	MARIE A. NEIMAN	64 SUNSET DRIVE	BOYERTOWN	PA	19812
3	BAYSHORE DR	FREDERICA	DE	19946	JOSEPHINE V. P. COULBOURNE	505 EAGLE NEST DR	CAMDEN-WYOMING	DE	19834
4	BAYSHORE DR	FREDERICA	DE	19946	JOSEPHINE V. P. COULBOURNE	505 EAGLE NEST DR	CAMDEN-WYOMING	DE	19834
5	22 BAYSHORE DR	FREDERICA	DE	19946	MARVIN D. EHLEN	1802 RIDOLS AVE APT 800E	WILMINGTON	DE	19806
6	28 BAYSHORE DR	FREDERICA	DE	19946	KEVIN M. O'NEILL	18808 FALLING STAR ROAD	GERMANTOWN	MD	20874
7	FLACK AVE	DOVER	DE	19802	MARRIET E. MAMMARELLI	2829 SKETTER NECK RD	FREDERICA	DE	19946
8	48 BAYSHORE DR	FREDERICA	DE	19946	HARRIET MAMMARELLI	2829 SKETTER NECK RD.	FREDERICA	DE	19946
9	49 BAYSHORE DR	FREDERICA	DE	19946	LEE KERN	782 BRANCH ROAD	HARTSVILLE	PA	19438
10	55 BAYSHORE DR	FREDERICA	DE	19946	WILLIAM K. PHILLIS	2236 THERESA AVENUE	MARTON	PA	19070
11	78 FLACK AVE	FREDERICA	DE	19946	ELIZABETH ANN STAPANIK	777 TREE LANE	WCHGSTER	PA	19390
12	80 MULBERRY DR	FREDERICA	DE	19946	WAYNE C. JARRELL	19 N KINGS CROFT DR	BEAR	DE	19701
13	80 MULBERRY DR	FREDERICA	DE	19946	RANDALL R. FRECH	809 WALNUT ST	SPRING CITY	PA	19428
14	58 MULBERRY DR	FREDERICA	DE	19946	RONALD N. HUNSICKER	58 MULBERRY DR DRIVE	FREDERICA	DE	19946
15	MULBERRY DR	FREDERICA	DE	19946	LINDA S. SHELLY	824 DARBY LANE	LANCASTER	PA	17601
16	56 MULBERRY DR	FREDERICA	DE	19946	HOWARD C. HOUSEKNECHT	192 RICK RD	BOYERTOWN	PA	19512
17	28 MULBERRY DR	FREDERICA	DE	19946	STEVEN R. NICHOLAS	3022 ARTESIAN LANE	N. FORT MYERS	FL	23917
18	22 MULBERRY DR	FREDERICA	DE	19946	ROBERT J. McDEVITY SR.	22 MULBERRY DR DRIVE	FREDERICA	DE	19946
19	12 MULBERRY DR	FREDERICA	DE	19946	RICHARD M. RAWBER	37 NAOMI AVE	LANDISVILLE	PA	17538
20	MULBERRY DR	FREDERICA	DE	19946	RALPH O. ORENDORF	322 TERRAPIN LANE	NEWARK	DE	19711
21	COOPER AVE	MAGNOLIA	DE	19962	RALPH O. ORENDORF	521 TERRAPIN LANE	NEWARK	DE	19711
22	212 COOPER AVE	FREDERICA	DE	19946	WILLIAM R. AURAND	906 PERRY ROAD	UTITZ	PA	17549
23	202 COOPER AVE	FREDERICA	DE	19946	WILLIAM R. AURAND	906 PERRY ROAD	UTITZ	PA	17549
24	202 COOPER AVE	FREDERICA	DE	19946	WILLIAM R. AURAND	906 PERRY ROAD	UTITZ	PA	17549
25	COOPER AVE	FREDERICA	DE	19946	TERRY L. HAWK	398 BAY AVENUE	MILFORD	DE	19963
26	BOWERS RD	MILFORD	DE	19963	STATE OF DELAWARE	89 KINGS HWY	DOVER	DE	19901
27	4196 BOWERS RD	MILFORD	DE	19963	DAVID A. UCHNER	804 BETHANY PL	MONTGOMERY VILLAGE	MD	20886
28	4188 BOWERS RD	MILFORD	DE	19963	WILLIAM J. D'EDUARDO	1012 MARROWS RD	NEWARK	DE	19713
29	4174 BOWERS RD	MILFORD	DE	19963	TROY C. ADAMS	119 BEACH PLUM DRIVE	MILFORD	DE	19963
30	BOWERS RD	MILFORD	DE	19963	JANE L. LAUGHLIN	4152 S. BOWERS RD ROAD	MILFORD	DE	19963
31	4152 BOWERS RD	MILFORD	DE	19963	JANE L. LAUGHLIN	4152 S. BOWERS RD ROAD	MILFORD	DE	19963
32	4142 BOWERS RD	MILFORD	DE	19963	JAMES S. WERR JR.	7343 BIG STONE BEACH RD	MILFORD	DE	19963
					C/O THOMAS E. WERR				

**E-2**

**ADJACENT  
 PROPERTY OWNERS**



2013-1033

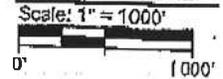
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SHEET 3 OF 12

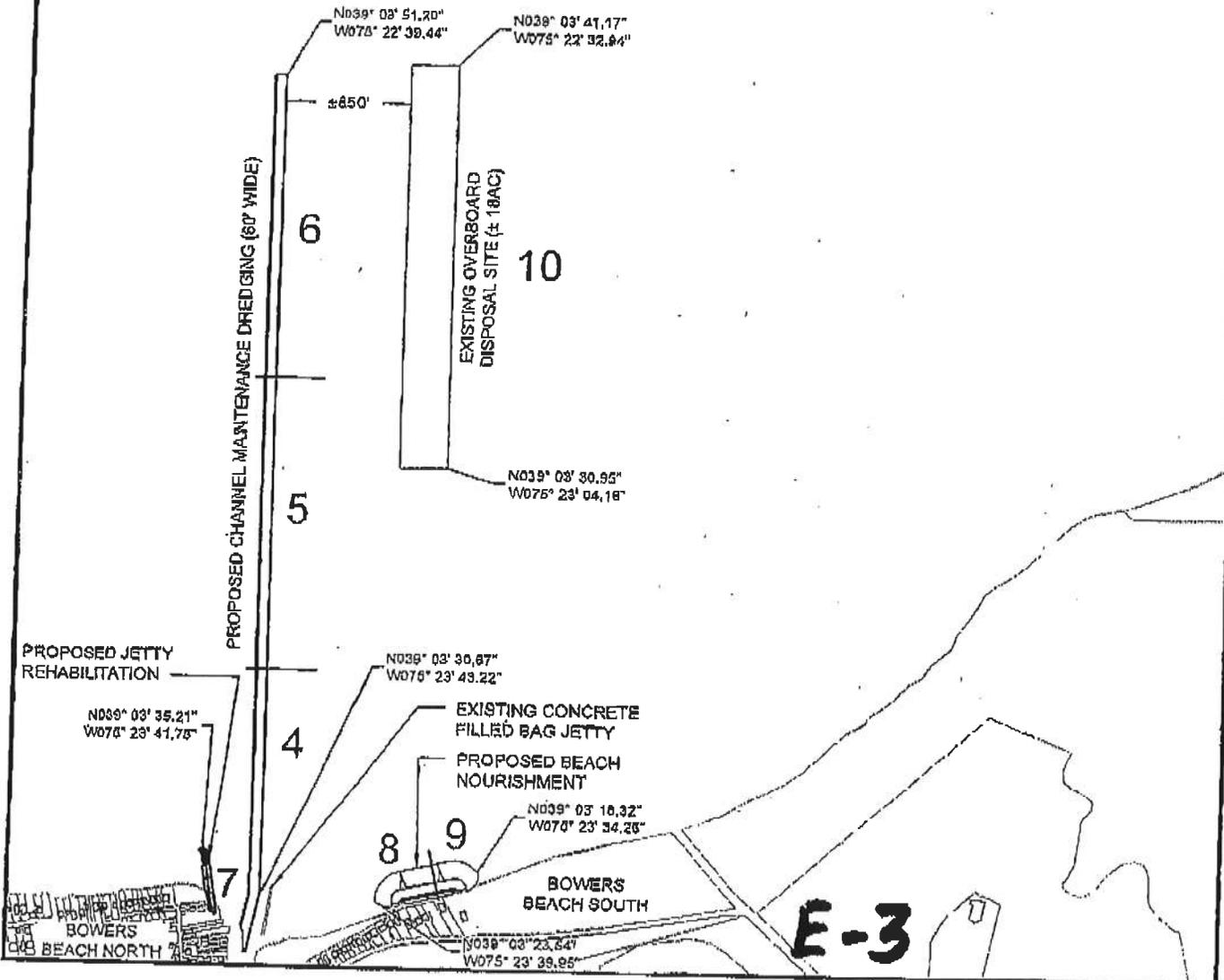
# Proposed Maintenance Dredging, Beach Nourishment, Jetty Rehabilitation

IN: DELAWARE BAY  
AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013  
REVISED: NOV. 2013

## KEY PLAN



DELAWARE BAY



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SHEET 4 OF 12

# Proposed Maintenance Dredging, Beach Nourishment, Jetty Rehabilitation

IN: DELAWARE BAY  
AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013  
REVISED: NOV. 2013

## DREDGING SITE PLAN

Scale: 1" = 200'



PROPOSED JETTY  
REHABILITATION  
SEE SHEET 7

MATCHLINE - SEE SHEET 5



PROPOSED MAINTENANCE DREDGING TO -8' MLLW OF "FEDERAL CHANNEL". (BEACH QUALITY SAND BETWEEN STA. 0+00 TO STA. 37+00 TO BE USED FOR BEACH NOURISHMENT; UNSUITABLE MATERIAL BETWEEN STA. 39+00 TO STA. 58+39 TO BE DEPOSITED OVERBOARD AT DISPOSAL AREA. TRANSITION FROM BEACH QUALITY TO SILT STA. 37+00 TO 39+00.

GRAB SAMPLES, TYP.

DELAWARE BAY

NOTE: BEACH QUALITY SAND MATERIAL SHALL BE DREDGED FROM THE CHANNEL AND HYDRAULICALLY TRANSFERRED TO THE BEACH OF SOUTH BOWERS AND MACHINE GRADED PER "TYPICAL BEACH NOURISHMENT SECTION" ON SHEET 12. SEE SHEETS 8-9. SILTY MATERIAL UNSUITABLE FOR BEACH FILL SHALL BE HYDRAULICALLY DEPOSITED AT THE 18 AC OVERBOARD DISPOSAL SITE (SHEET 10)

EXISTING CONCRETE  
FILLED BAG JETTY

PROPOSED BEACH  
NOURISHMENT  
SEE SHEETS 8-9

0.0'-MLLW

0.0'-MLLW

0.0'-MLLW

19+00 18+00 17+00 16+00 15+00 14+00 13+00 12+00 11+00 10+00 9+00 8+00 7+00 6+00 5+00 4+00 3+00 2+00 1+00

MISREBERTS RIVER

BOWERS BEACH NORTH

BOWERS BEACH SOUTH

E-4

2013-1033

SMS

MATCHLINE - SEE SHEET 6

### DREDGING SITE PLAN

Scale: 1" = 200'  
0' 200'



PROPOSED MAINTENANCE DREDGING TO -8' MLLW OF "FEDERAL CHANNEL". (BEACH QUALITY SAND BETWEEN STA. 0+00 TO STA. 37+00 TO BE USED FOR BEACH NOURISHMENT; UNSUITABLE MATERIAL BETWEEN STA. 39+00 TO STA. 58+39 TO BE DEPOSITED OVERBOARD AT DISPOSAL AREA. TRANSITION FROM BEACH QUALITY TO SILT STA. 37+00 TO 39+00.

80' WIDE

±850' TO EXISTING OVERBOARD DISPOSAL SITE

GRAB SAMPLES, TYP.

DELAWARE BAY

5439'

38+00  
37+00  
36+00  
35+00  
34+00  
33+00  
32+00  
31+00  
30+00  
29+00  
28+00  
27+00  
26+00  
25+00  
24+00  
23+00  
22+00  
21+00  
20+00

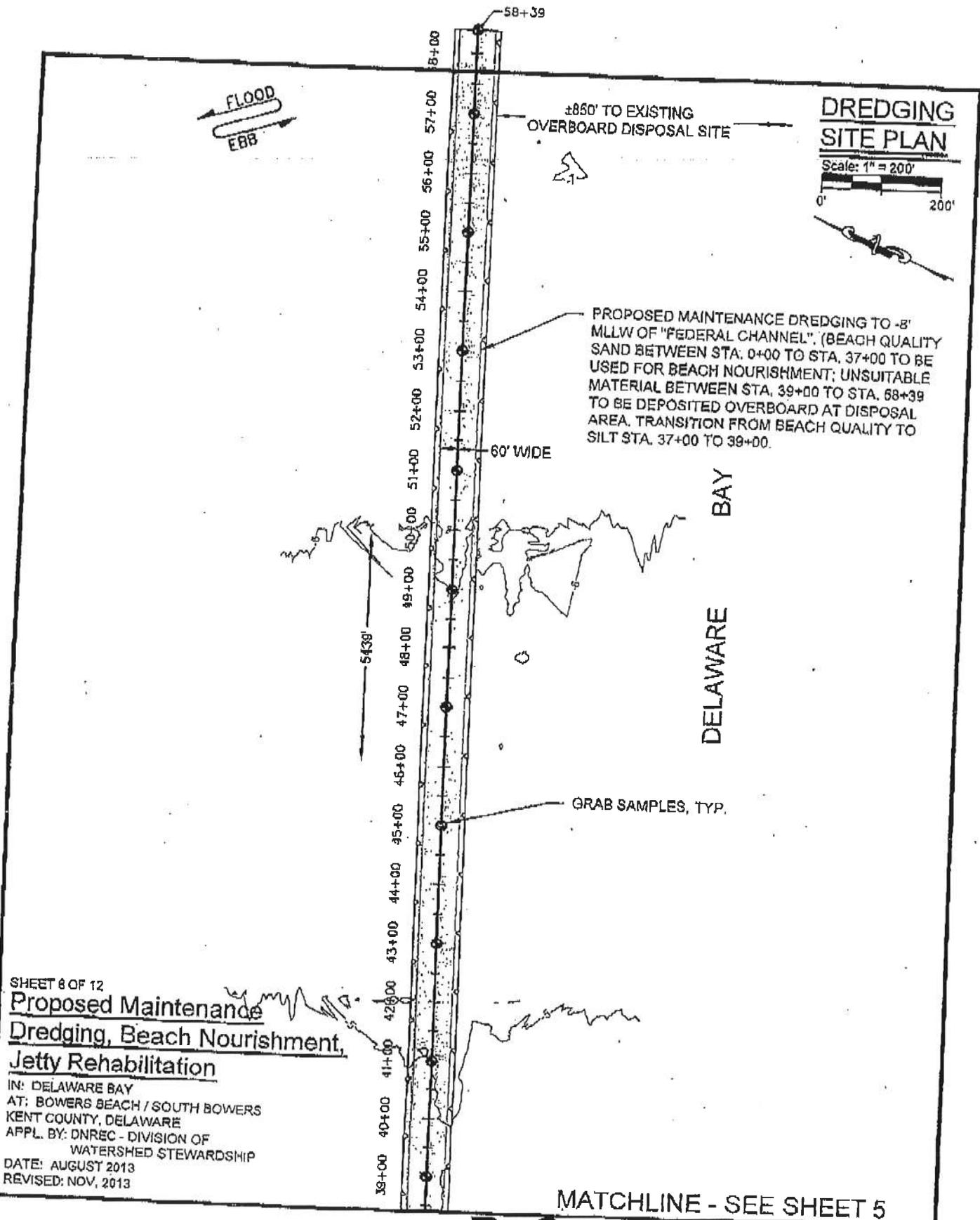
### SHEET 5 OF 12 Proposed Maintenance Dredging, Beach Nourishment, Jetty Rehabilitation

IN: DELAWARE BAY  
AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013  
REVISED: NOV. 2013

MATCHLINE - SEE SHEET 4

E-5

2013-1033



E-6

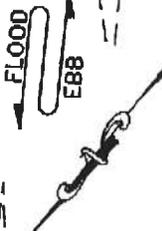
2013-1033





# SOUTH BOWERS BEACH NOURISHMENT SITE PLAN

Scale: 1" = 50'



MATCHLINE - SEE SHEET 9

SEE SHEET 2 FOR PROPERTY  
OWNER INFORMATION, TYP.

PROPOSED  
CAPE AMERICAN  
BEACH GRASS

220' MAX

STA. 5+35

STA. 5+25±  
END OF BASE BID

DELAWARE BAY  
BAY  
BENEFICIAL USE OF DREDGED  
MATERIAL FROM MURDERKILL  
RIVER DREDGING (±695 LF)

PROPOSED DUNE SYSTEM

PROPERTY OF STATE  
OF DELAWARE

SHEET 8 OF 12

## Proposed Maintenance Dredging, Beach Nourishment, Jetty Rehabilitation

IN: DELAWARE BAY  
AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013 REVISED: NOV. 2013

PROPOSED BEACH  
NOURISHMENT MATERIAL

E-9

# SOUTH BOWERS BEACH NOURISHMENT SITE PLAN

Scale: 1" = 50'

0' 50'



DELAWARE BAY

DELAWARE BAY

BENEFICIAL USE OF DREDGED MATERIAL FROM MURDERKILL RIVER DREDGING (±695 LF)

STA. 8+75  
START OF BASE BID

SHEET 9 OF 12

**Proposed Maintenance  
Dredging, Beach Nourishment  
Jetty Rehabilitation**

IN: DELAWARE BAY  
AT: BOWERS BEACH / SOUTH BOWERS  
KENT COUNTY, DELAWARE  
APPL. BY: DNREC - DIVISION OF  
WATERSHED STEWARDSHIP  
DATE: AUGUST 2013 REVISED: NOV. 2013

PROPOSED BEACH NOURISHMENT MATERIAL

PROPOSED CAPE AMERICAN BEACH GRASS

PROPOSED DUNE SYSTEM

SEE SHEET 2 FOR PROPERTY OWNER INFORMATION TYP

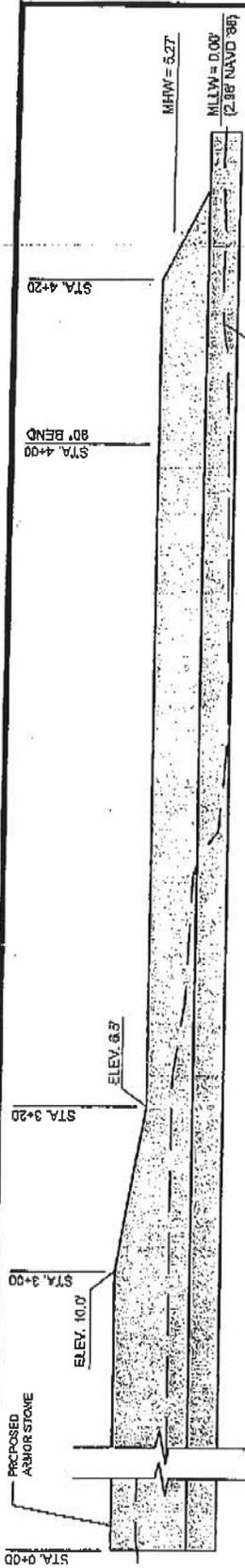
MATCHLINE - SEE SHEET 8

PROPERTY OF STATE OF DELAWARE

PROPERTY OF JAMES S. WEBB JR.

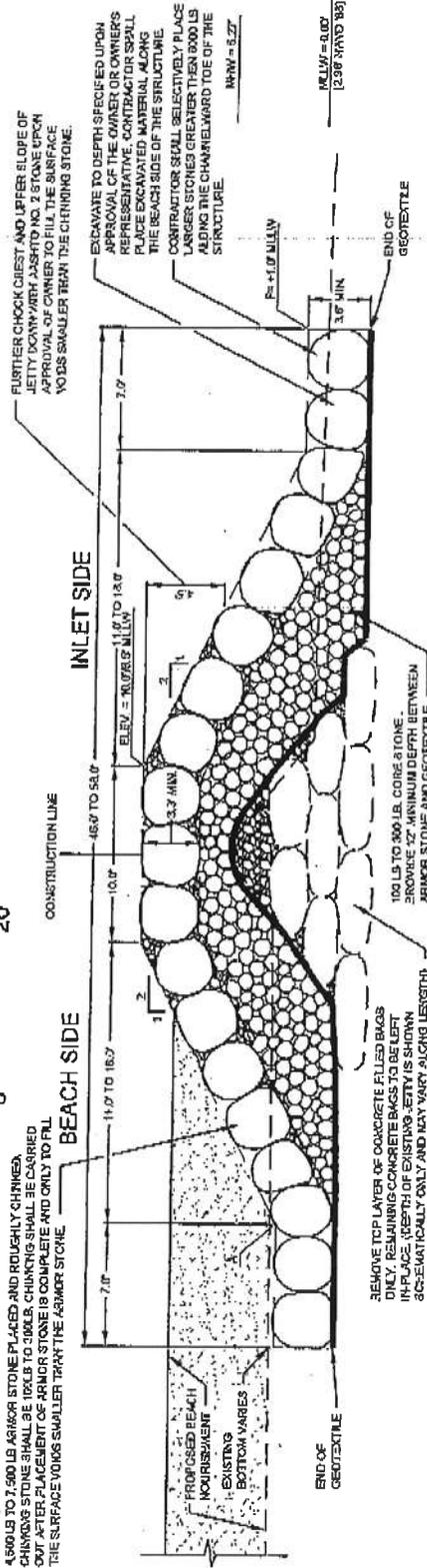
E-10





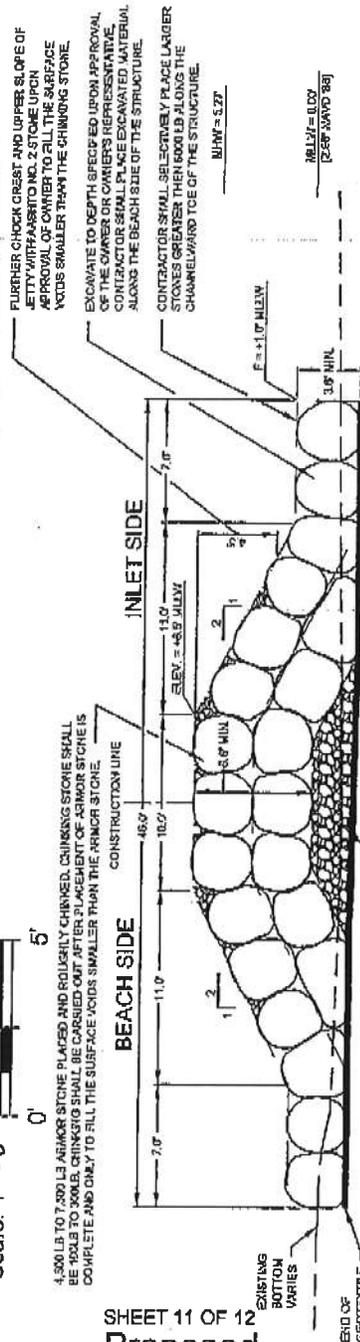
### TYPICAL JETTY REHABILITATION PROFILE

Scale: 1" = 20'



### TYPICAL JETTY REHABILITATION SECTION STA. 0+00 TO 3+50

Scale: 1" = 5'



### TYPICAL JETTY REHABILITATION SECTION STA. 3+50 TO 4+20

Scale: 1" = 5'

SHEET 11 OF 12

## Proposed Maintenance Dredging, Beach Nourishment, Jetty Rehabilitation

IN: DELAWARE BAY  
 AT: BOWERS BEACH / SOUTH BOWERS  
 KENT COUNTY, DELAWARE  
 APPL. BY: DNREC - DIVISION OF  
 WATERSHED STEWARDSHIP  
 DATE: AUGUST 2013  
 REVISED: NOV. 2013

E-12





Applicant: Delaware Division of Watershed Stewardship		File No: CENAP-OP-R-2013-1033	Date: DEC 06 2013
Attached is:			See Section below
<input checked="" type="checkbox"/>	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A	
<input type="checkbox"/>	PROFFERED PERMIT (Standard Permit or Letter of permission)	B	
<input type="checkbox"/>	PERMIT DENIAL	C	
<input type="checkbox"/>	APPROVED JURISDICTIONAL DETERMINATION	D	
<input type="checkbox"/>	PRELIMINARY JURISDICTIONAL DETERMINATION	E	

**SECTION II** The following information governs rights and remedies regarding an administrative appeal of the above decisions. Additional information may be found at: <http://www.delsos.com/decisions> or <http://www.delsos.com/decisions>

**A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the Philadelphia District Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations (JD) associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the Philadelphia District Engineer. Your objections must be received by the Philadelphia District Engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the Philadelphia District Engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the Philadelphia District Engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

**B: PROFFERED PERMIT:** You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the Philadelphia District Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the North Atlantic Division Engineer, ATTN: CENAD-ET-O, Fort Hamilton Military Community, Building 301, General Lee Avenue, Brooklyn, NY 11252-6700. This form must be received by the North Atlantic Division Engineer within 60 days of the date of this notice with a copy furnished to the Philadelphia District Engineer.

**C: PERMIT DENIAL:** You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the North Atlantic Division Engineer, ATTN: CENAD-ET-O, Fort Hamilton Military Community, Building 301, General Lee Avenue, Brooklyn, NY 11252-6700. This form must be received by the North Atlantic Division Engineer within 60 days of the date of this notice with a copy furnished to the Philadelphia District Engineer.

**D: APPROVED JURISDICTIONAL DETERMINATION:** You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the North Atlantic Division Engineer, ATTN: CENAD-ET-O, Fort Hamilton Military Community, Building 301, General Lee Avenue, Brooklyn, NY 11252-6700. This form must be received by the North Atlantic Division Engineer within 60 days of the date of this notice with a copy furnished to the Philadelphia District Engineer.

**ENCLOSURE 3**

**E: PRELIMINARY JURISDICTIONAL DETERMINATION:** You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

**SECTION II REQUEST FOR APPEAL OR OBJECTIONS TO AN INITIAL PROFFERED PERMIT**  
**REASONS FOR APPEAL OR OBJECTIONS:** (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

**ADDITIONAL INFORMATION:** The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

**POINT OF CONTACT FOR QUESTIONS OR INFO**

If you have questions regarding this decision and/or the appeal process you may contact:

U.S. Army Corps of Engineers, Philadelphia District  
 ATTN: CENAP-OP-R  
 Wanamaker Building, 100 Penn Square East  
 Philadelphia, PA 19107-3390  
 Telephone:

If you only have questions regarding the appeal process you may also contact:

Michael G. Vissichelli  
 Regulatory Appeals Review Officer  
 North Atlantic Division, U.S. Army Corps of Engineers  
 Fort Hamilton Military Community  
 General Lee Avenue, Building 301  
 Brooklyn, NY 11252-6700  
 Telephone: (718) 765-7150  
 E-mail: Michael.G.Vissichelli@usacc.army.mil

**RIGHT OF ENTRY:** Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.	Date:	Telephone number:
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