



State of Delaware
Department of Natural Resources and Environmental Control
Delaware Division of Parks and Recreation
89 Kings Highway
Dover, Delaware 19901

**CONTRACT DOCUMENTS & TECHNICAL
SPECIFICATIONS ADDENDUM NO. 2**

**Indian River Marina - Queuing Dock Expansion
Contract No. 2017-DS-21**

ADDENDUM NO. 2

Project Name: Indian River Marina - Queuing Dock Expansion

Contract No.: 2017-DS-21

Date of Issue: February 21, 2018

Notice No. 2: Attach this addendum to the Project Manual for this project. It modifies and becomes part of the Bidding Documents. Work or material not specifically mentioned herein is to be as described in the main body of the specifications and as shown on the drawings.

Bids Due: February 26, 2018, 2:00 PM

DNREC CONTRACT NO. 2017-DS-21 SEALED BID – DO NOT OPEN".

Dept. of Natural Resources & Environmental Control

Division of Parks and Recreation

Office of Design and Development

89 Kings Highway, Dover DE 19901

Attn: Cindy A. Todd, RLA. Phone Number: 302-739-9210

QUESTIONS:

1. In Section 35-51-13 Floating Pier section 2.2A PARAGRAPH (2) STATE THAT Floating pier shall be designed for easy removal by owner during winter month. The project Dock drawings outlines a beam to beam monolithic bolted system/Non hinge in 40 Ft length section not easily removable for winterization. Will the dock be disassembled each season for winterization purposes/ or do you plan to install the Deckers and leave in year round.
 - *The queuing docks do not have to be designed for easy removal, and the note was left in the document from a previous project. We usually reserve that note for small boat ramp floating sections. The queuing docks and nearby marina docks are maintained all year by the marina staff.*

2. In the float plan drawing, Anchorage piles 12” Gal steel show as internal with no internal closure gate to assist in the winterization removable process of the Floating dock system. If the floating dock system is to be removed each season, would external Pile Guide Frames with removable closure gates be allowed to assist in the ease of removal each season? If the Float is to stay in all year around, then the current anchorage guide, Internal is completely understandable.
 - *See the answer noted above for your use.*
3. Please confirm that a corrected/revised Bid Form will be forth coming that includes lines for unit pricing of additional VF of Pipe Piles, Splicing the additional Pipe Piling and the Allowances for both the Electric and Water Services.
 - *Please see the revised Bid Form for your use.*
4. Please confirm that the 12” dia. A252 Grade 2/3 x .406 wall Pipe Piles are to be Galvanized **and** then coated with CTE.
 - Please see revised plansheet C-2 and Specification Section 355113 for your use.

SPECIFICATIONS:

Specification Section 355113, Section 012200, Section 012100, Bid Form: The Bid Form and the enclosed Specifications Sections were revised to include rectification to the description for the Unit Prices for the water and the electrical lines.

DRAWINGS:

Drawings: The plansheets C-2 has being revised to show the rectified diameter of the piles.

INDIAN RIVER MARINA
DELAWARE SEASHORE STATE PARK
REHOBOTH BEACH, DELAWARE 19971
DIVISION OF PARKS AND RECREATION CONTRACT No. DS-01

BID FORM

For Bids Due: **Monday, February 26, 2018**
At 2:00 PM

To: Dept. of Natural Resources and Environmental Control
Division of Parks and Recreation
Office of Design and Development
89 Kings Highway, Dover DE 19901

Name of Bidder: _____

Delaware Business License No.: _____ Taxpayer ID No.: _____
(A copy of Bidder's Delaware Business License must be attached to this form.)

(Other License Nos.): _____

Phone Number: () _____ Fax Number: () _____

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

BASE BID:

ITEM No. 1: Furnish and Install 284 LF of 10' wide Floating Dock & Appurtenances:

(\$ _____)

ALLOWANCE No. 1: Lump Sum Allowance, include the sum of \$25,000.00 for the installation of an
Electrical line: _____
(\$ _____)

ALLOWANCE No. 2: Lump Sum Allowance, include the sum of \$20,000.00 for the installation of a
2-inch line: _____
(\$ _____)

Total Bid = Item No. 1 + Allowance No.1 + Allowance No. 2:

(\$ _____)

INDIAN RIVER MARINA
DELAWARE SEASHORE STATE PARK
REHOBOTH BEACH, DELAWARE 19971
DIVISION OF PARKS AND RECREATION CONTRACT No. DS-01

BID FORM

UNIT PRICES

Unit prices conform to applicable project specification section. Refer to the specifications for a complete description of the following Unit Prices:

	DEDUCT	ADD
UNIT PRICE No. 1: Life Safety Stations Furnish and Install Life Safety Stations	\$ _____	\$ _____
UNIT PRICE No. 2: Utility Pedestals Install Utility Pedestals (Provided By Owner)	\$ _____	\$ _____
UNIT PRICE No. 3: Twelve Inch (12") Steele Pile Guide Including Material, delivery and placement VF	\$ _____	\$ _____
UNIT PRICE No. 4: 2-inch Water line Including Material, delivery and placement LF	\$ _____	\$ _____
UNIT PRICE No. 5: Electrical Line Including Material, delivery and placement LF	\$ _____	\$ _____

INDIAN RIVER MARINA
DELAWARE SEASHORE STATE PARK
REHOBOTH BEACH, DELAWARE 19971
DIVISION OF PARKS AND RECREATION CONTRACT No. DS-01
BID FORM

I/We acknowledge Addendums numbered _____ and the price(s) submitted include any cost/schedule impact they may have.

This bid shall remain valid and cannot be withdrawn for thirty (30) days from the date of opening of bids, and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid.

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to achieve substantial completion of all the work within _____ calendar days of the Notice to Proceed.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

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

(State of Corporation)

Business Address: _____

Witness: _____ By: _____
(Authorized Signature)

(Seal)

(Title)
Date: _____

ATTACHMENTS

- Sub-Contractor List
- Non-Collusion Statement
- Affidavit(s) of Employee Drug Testing Program
- Bid Security
- (Others as Required by Project Manual)

INDIAN RIVER MARINA
DELAWARE SEASHORE STATE PARK
REHOBOTH BEACH, DELAWARE 19971
DIVISION OF PARKS AND RECREATION CONTRACT No. DS-01
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.** This form must be filled out completely with no additions or deletions. **Note that all subcontractors listed below must have a signed Affidavit of Employee Drug Testing Program included with this bid.**

Subcontractor Category	Subcontractor	Address (City & State)	Subcontractors tax payer ID # or Delaware Business license #
1. Marine/Pile Driver	_____	_____	_____
	_____	_____	_____
2. General Construction	_____	_____	_____
	_____	_____	_____
3. Electrician	_____	_____	_____
	_____	_____	_____
4. Plumber	_____	_____	_____
	_____	_____	_____

INDIAN RIVER MARINA
DELAWARE SEASHORE STATE PARK
REHOBOTH BEACH, DELAWARE 19971
DIVISION OF PARKS AND RECREATION CONTRACT No. DS-01
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 the Office of Design and Development, Division of Parks and Recreation, DNREC.

All the terms and conditions of the Holts Landing Boat Ramp Parking Lot have been thoroughly examined and are understood.

NAME OF BIDDER

**AUTHORIZED REPRESENTATIVE
(TYPED):**

**AUTHORIZED REPRESENTATIVE
(SIGNATURE):**

TITLE:

ADDRESS OF BIDDER:

E-MAIL:

PHONE NUMBER:

Sworn to and Subscribed before me this _____ day of _____ of 20_____.

My commission expires _____, NOTARY PUBLIC _____

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

INDIAN RIVER MARINA
DELAWARE SEASHORE STATE PARK
REHOBOTH BEACH, DELAWARE 19971
DIVISION OF PARKS AND RECREATION CONTRACT No. DS-01

**AFFIDAVIT
OF
EMPLOYEE DRUG TESTING PROGRAM**

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite that complies with this regulation:

Contractor/Subcontractor Name: _____

Contractor/Subcontractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

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

SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for unit prices.
- B. Related Sections include the following:
 - 1. Division 1 Section "Contract Modification Procedures" for procedures for submitting and handling Change Orders.

1.3 DEFINITIONS

- A. Unit price is an amount proposed by bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A list of unit prices is included at the end of this Section. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 LIST OF UNIT PRICES

A. Unit Price No. 1

1. Life Safety Stations
2. Contractor to furnish and install utility pedestals

B. Unit Price No. 2

1. Utility Pedestals
2. Contractor to install utility pedestals provided by the owner.

C. Unit Price No. 3

1. Twelve Inch (12") Steel Guide Pile
2. Including material, delivery and placement per VF

D. Unit Price No. 4

1. 2-Inch Water Line
2. The contractor to install and furnish 450 LF of waterline, and the contractor to connector the water line at the inland water source within proximity of the gangway.
3. Unit of Measurement: LF

E. Unit Price No. 5

1. Electrical Line
2. The contractor to install and furnish 450 LF of waterline, and the contractor to connector the water line at the inland water source within proximity of the gangway.
3. Unit of Measurement: LF

END OF SECTION 012200

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
- B. Selected materials and equipment are specified in the Contract Documents by Allowances. In some cases, these Allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Proposal Request.
- C. Types of allowances include the following:
 - 1. Lump-sum allowances.
 - 2. Unit-cost Allowances.
 - 3. Contingency Allowances.
- D. Related Requirements:
 - 1. Section 012200 "Unit Prices" for procedures for using unit prices.

1.3 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Owner of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. At Owner's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected in writing by Owner from the designated supplier.

1.4 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

1.5 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.6 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.7 LUMP-SUM ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight, and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.
- C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
 - 1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

1.8 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
 - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
 - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
 - 3. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.

4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.
 1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
 2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.
- 1.9 Contingency Allowances:
- A. Use the Contingency Allowance only as directed for the Owner's purposes and only by Change Orders that indicate amounts to be charged to the Allowance.
 - B. Change Orders authorizing use of funds from the Contingency Allowance, for purchase of products and equipment, will include Contractor's related costs and reasonable overhead and profit margins. These related costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.
 - C. At Project Closeout, credit unused amounts remaining in the Contingency Allowance to the Owner by Change Order.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1 - Lump-Sum Allowance: Include the sum of \$25,000.00 for the installation of an electrical line to power up the proposed utility pedestals on the Queuing Dock.
 - 1. This allowance includes material cost, receiving, handling, installation and all appurtenances as required to install electrical line, and Contractor overhead and profit.

- B. Allowance No. 2 - Lump-Sum Allowance: Include the sum of \$20,000.00 for the installation of a 2-inch water line to supply the proposed utility pedestals on the Queuing Dock with potable water.
 - 1. This allowance includes material cost, receiving, handling, installation and all appurtenances as required to install 2-inch water line, and Contractor overhead and profit.

END OF SECTION 012100

SECTION 35 51 13 – FLOATING PIER

Part 1 – General

1-1 Scope

- A. The Contractor shall furnish all tools, equipment, materials, and supplies and shall perform all labor, supervision, fabrication, assembly, and installation of a complete pre-engineered floating dock system as shown on the drawings and/or as specified herein.
- B. The Contractor shall adhere to the terms of the various permits/approvals issued to this project. This shall include permits/approvals from the U. S. Army Corps of Engineers, Delaware Department of Natural Resources and Environmental Control, and any other applicable permits.
- C. 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 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 or Owner's Representative, he will bear all costs arising therefrom.
- D. Included elsewhere in these Specifications are copies of construction permits which are required to be available at the construction site. They are included for the Contractor's convenience, compliance and guidance, but the engineering sketches and notes are approximate and suitable only for permit purposes and the Contractor shall attach no significance to volumes mentioned in these permits, but shall compute his own.
- E. Related Documents: The general provisions of the Contract; including Division 1 – General Requirements and all applicable supplements and addenda pertaining thereto apply to this section.

1-2 Contractor Site Inspection

The Contractor shall examine the jobsite before preparing his shop drawings to verify all physical conditions and surroundings.

1-3 Submittals

- 1. Prior to fabrication or construction, the Contractor and/ or supplier shall furnish sufficient information to describe his flotation system, and shall submit complete shop drawings for approval by the Owner or the Owner's Representative.
- 2. Shop drawings shall show the floats, details of all connections, pile locations, pile guides, and all other details necessary and pertinent to the construction of the floating dock system.

Part 2 – Materials

2-1 General

- A. The Contractor shall submit for approval by the Owner, all items he intends on using for the construction of this project, as well as any alternate materials.
- B. The Owner or Owner's Representative will be allowed access to all sites where materials

FLOATING PIER

Revised February 20, 2018

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pertaining to this contract are manufactured or constructed for purposes of inspection.

- C. Materials delivered and stored at either the manufacturing facility, staging area, or jobsite shall be properly stored on dunnage or by other appropriate means to prevent direct contact with the ground and unnecessary damage.

2-2 Timber Frame Floating Pier

- A. The floating dock system and access ramps shall be manufactured by Meeco Sullivan, LLC. P.O. Box 639 3 Chancellor Lane, Warwick, NY, (845) 986-7377, or an approved equal having a minimum of ten years' experience in the manufacture and installation of floating dock systems, that are the same type as proposed for this project, on at least three other installations. If required, the previous experience record will be submitted to the Owner or his designated representative 5 working days prior to the bid opening. A representative of the floating pier supplier shall be present when the piers are delivered to the Contractor.

~~The pier shall be designed to allow for easy removal by the Owner during the winter months. The method of removal shall be detailed on the shop drawings.~~

Docks shall be completely fabricated in the manufacturers facility and shipped to site complete with decking and flotation attached, ready for off-load direct into water. Knocked down framing systems assembled at site will not be allowed, panelized decking systems will not be allowed.

B. DESIGN AND LOAD CONDITIONS:

1. Vertical Loads:

- a. Dead loads shall consist of the entire weight of the floating structure, including utilities, ramps, dock boxes and other accessories and appurtenances.
- b. Deck surface and structural frame live load shall be equal to 50 PSF applied to the full surface area of the deck.
- c. Bridges and ramps four feet (4') in width or less shall be designed for 40 PSF applied to the full surface area and 80 PSF for widths over four feet. Bridge and ramp handrails shall be designed for a 200 pound load applied in any direction and at any point along the handrail.
- d. Flotation shall be designed to support the dead load plus 30 PSF live load applied to the full area of the deck surface.
- e. Freeboard under dead load conditions only shall equal 19" +/- 1". Freeboard under combined dead load and 30 lbs. per square foot uniformly distributed liveload shall not be less than 8".
- f. Concentrated live load: 400 lbs at any one point on the deck shall not tilt the dock more than six degrees from horizontal.

2. Horizontal loads:

- a. A uniform horizontal wind loading from any direction shall be calculated at 15 PSF on all projected surfaces, assuming 100% boat occupancy. Craft profile heights shall be determined from Figure 4-9, page 106, ASCE Report No. 50 revised. Full wind load is to be applied to all unshielded dock and boat profiles and 10% of the wind load is to be applied to each shielded boat profile.

- b. A horizontal load due to impact on a finger dock shall be the result of the largest berthed craft normally using the adjacent slip striking the end of the finger dock 10 degrees (10) off center line. For purposes of calculations, the weight of the craft shall be 12 times the finger length squared (12L). The craft shall be considered moving at a speed of 3 FPS.
3. Ice: Structures are to be designed to withstand the forces of non-moving ice.
4. Waves: This structure and system shall be designed to withstand storm conditions of up to 1.5 waves on a periodic, but not continual basis.

C. WOOD FRAMING:

1. All structural beams, bracing and deck supports to be Southern Yellow Pine, Grade #1 or better exterior, and grade #2 or better interior, in accordance with the rules of the West Coast Bureau of Timber Grade and Inspection for Southern Yellow Pine. Individual members shall be minimum 2" x 6" for horizontal members and 2" x 8" for vertical members.
2. All decking to be Southern Yellow Pine, 2" x 6" Grade # 1 or better. Pressure treatment for use category 4B. 4C in accordance with AWWA use category system.
3. All framing lumber to be pressure treated to 0.6 PCF retention with chromated copper arsenate (CCA). Treatment shall be full length under pressure by the empty-cell or full-cell process in accordance with AWWA Standards C1 and C18 decking
4. All lumber to be kiln dried after treatment.
5. All lumber shall be sound, well seasoned, and straight grained, free from shakes and large or loose knots and shall have no defects which will impair its strength or durability for the purpose intended.
6. All structural side beams to be of mechanical laminated construction, minimum 3 members, minimum size of each member to be 2" x 8" with a 2" x 10" outer member.
7. All lumber to be surfaced four sides.
8. For torsional rigidity on main walkways a combination of horizontally laid timber cross members and diagonals with interior steel cross brackets shall be utilized. Finger docks shall have minimum 4" x 2" tube cross members with minimum 2" x 2" steel tube diagonal members in addition to horizontal timber bracing used on main walkways.
9. Sections to be fabricated in full length with longitudinal splicing (monolithic design). No butting of end members to be allowed. Any spliced connection with require at minimum (2) 2" x 8" x 8' long timber splice with interior beams spliced with minimum 2" x 8" x 8' member. To give adequate depth to utility channels 2" x 4" or 4" x 4" timber members will not be allowed in construction.

D. FLOTATION:

1. All units will be rotationally molded for seamless one piece construction.
2. Encasement shall be manufactured from linear virgin polyethylene resin containing UV

ray inhibitors and carbon black pigment. Nominal wall thickness shall be .150".

3. Foam Core shall be expanded polystyrene foam with a minimum of 1.0 # per cubic foot density.

E. FLOTATION PERFORMANCE:

Flotation units shall be designed to maintain the desired buoyancy and freeboard even if punctured or cracked. Flotation unit and frame to act as one integral unit.

F. STEEL COMPONENTS:

All structural steel connectors, brackets and miscellaneous parts to be fabricated from ASTM A 36 grade steel, installed and fastened in factory before shipping.

G. BOLTS, NUTS, AND WASHERS:

All bolts, nuts and washers shall be fabricated according to ASTM A 307 and shall be of sufficient size, shape and length for their intended use. Flotation fasteners to be minimum 1/2" diameter.

H. FINISH OF STEEL AND BOLTS:

All structural steel, all bolts, nuts and washers shall be hot dipped galvanized in accordance to ASTM A 123. A minimum coating of 2 ounces per square foot shall be applied.

I. DECK:

All deck shall be Southern Yellow Pine, grade #1, surfaced four sides and shall conform to Southern Yellow Pine Inspection Bureau rules. No opening in the deck surface shall exceed 3/16" in width. All decking planks shall be fastened individually with #10 x 2-1/2" stainless steel square drive screws, two per joist, for structural integrity. Full width utility deck access panels (4 planks) shall be provided every 10' – 12' of main dock length. 2-4" deep and 2-7" deep utility raceways are provided in each main walkway section.

J. CLEATS:

All cleats shall be 12" malleable cast iron, conforming to ASTM A 47. Cleats shall be fastened to interior steel angle with 2 - 3/8" diameter through bolts.

K. DOCK BUMPER:

Dock bumper shall be non-marring white or black extruded vinyl 3.5" wide minimum. Dock bumper shall meet or exceed the following:

Durometer Hardness - 89
Specific Gravity - 1.368
Brittleness Temperature- -20F
(ASTM 746052T)

Dock bumper shall be fastened to dock frame with 1" x 7/8" stainless steel staples 6" on center. Optional stainless steel screw fasteners available.

2-3 Guide Pile System: The floating dock manufacturer shall provide the guide pile per size and quantity for their particular system. Piles shall consist of steel pipe as approved by the Owner or

Owner's Representative.

- A. Steel Pipe Guide Piles shall be seamless or electrically welded pipe conforming to 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.
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. Galvanizing / Coating: 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. **Piles shall also be coated with Coal Tar Epoxy, 16 mil Dry Film Thickness (DFT).**
 3. Weather Guards: Black cone shaped plastic pile caps shall be used on guide piles. 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.

Part 3 – Execution

3-1 Shop Drawings

- A. After checking and verifying all field measurements, the Contractor will submit to the Engineer for approval six (6) copies of all shop drawings. Specifically, the shop drawings for the floating piers/ gangway shall detail the connection to the fixed piers, the pile guides, hinges, railing ramps, and floats in addition to the additional standard details associated with the pier suppliers system. In addition, the shop drawing submittal shall include flotation, stability and structural analysis calculations for the system.
- B. 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.
- C. The Owner or Owner's Representative 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 samples. The approval of a separate item as such will not indicate approval of the assembly in which the item functions.
- D. **NO WORK REQUIRING A SHOP DRAWING OR SAMPLE SUBMISSION SHALL BE PROCEEDED WITH UNTIL THE SUBMISSION HAS BEEN APPROVED BY THE OWNER OR OWNER'S REPRESENTATIVE.**
- E. The Engineer's and 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.

3-2 Guide Piles

- A. All guide piles shall be driven by gravity, vibratory, or diesel hammer as approved by the Owner or the Owner'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 the Owner or Owner's Representative. Driving shall be continuous without intermission until the pile has been driven to the required penetration set by the floating dock manufacturer. The quantity and location of piles shall be as shown on the floating dock manufacturers shop drawings.
- B. 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
5. 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 the Owner or Owner's Representative. If the pile tops are not damaged, full length driving will be required.
6. 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 the Owner.
7. Filling of Steel Pipe Guide Piles
 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.
 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 the Owner or Owner's Representative.
 3. The Contractor may substitute concrete fill in lieu of sand fill provided there is no additional cost to the Owner and upon approval of the Owner or Owner's Representative.

3-3 Pre-Engineered Floating Dock System

- A. A representative of the floating pier manufacturer shall be present when the pier is delivered to the Contractor.
- B. Floating dock must move freely during the entire cycle of water level extremes with the normal expected wind condition.

Part 4 - Measurement

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

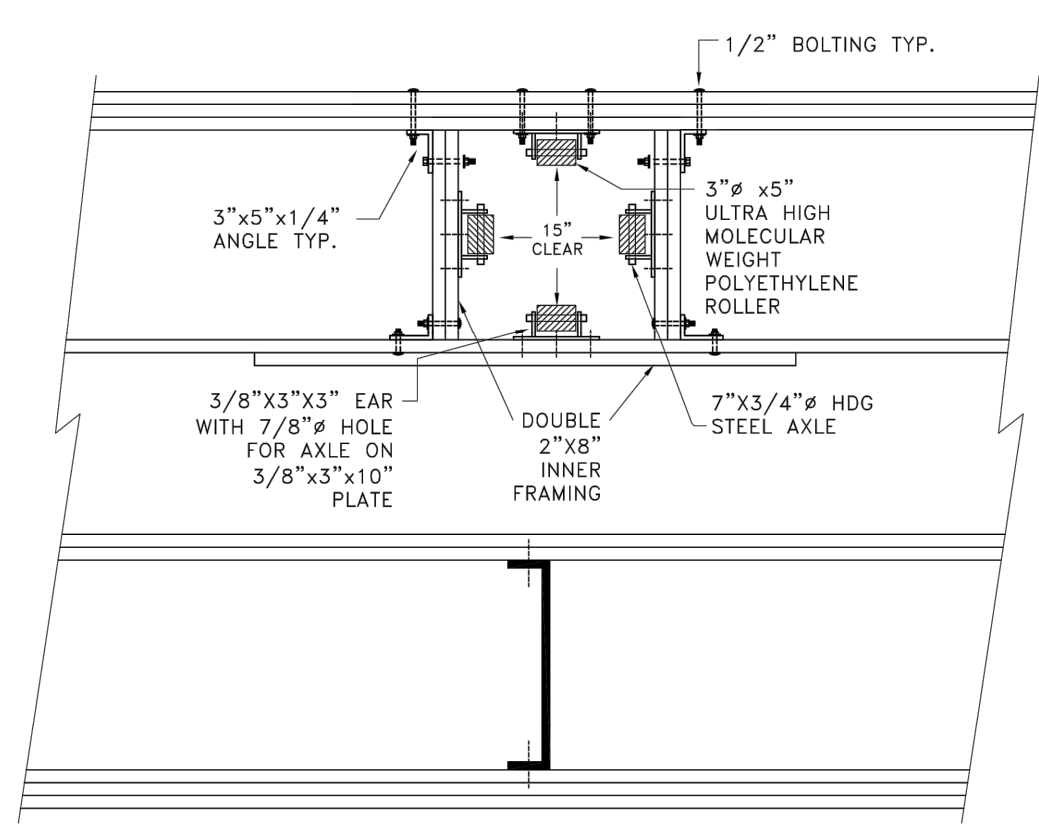
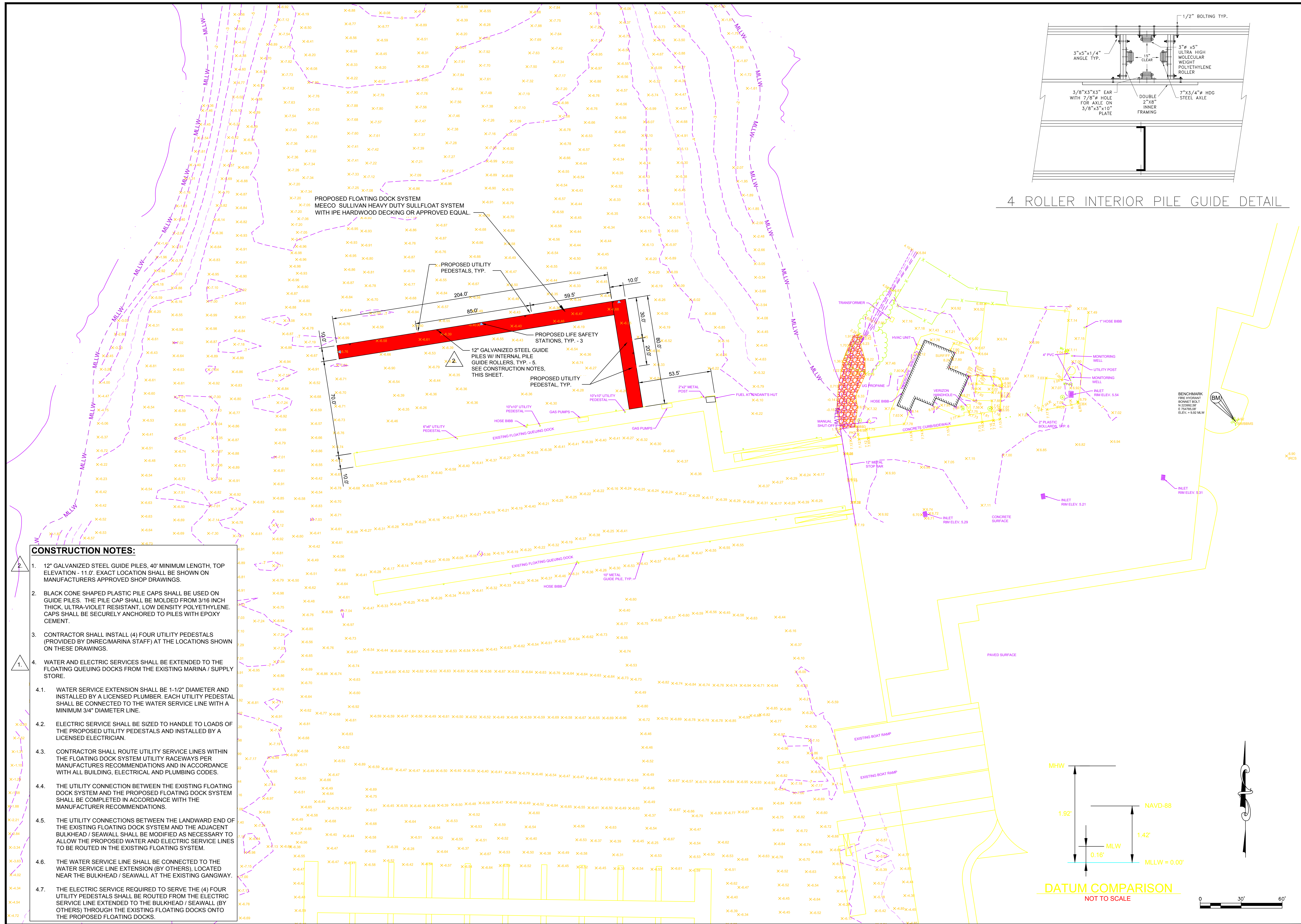
FLOATING PIER

Revised February 20, 2018

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- END OF SECTION -

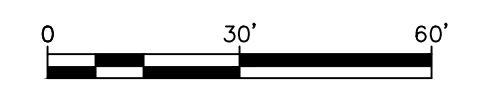
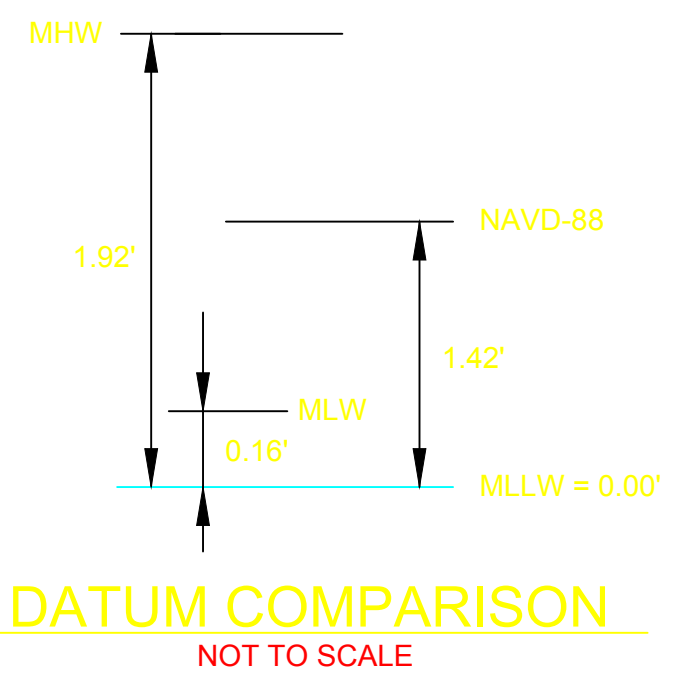
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4 ROLLER INTERIOR PILE GUIDE DETAIL

CONSTRUCTION NOTES:

1. 12" GALVANIZED STEEL GUIDE PILES, 40' MINIMUM LENGTH, TOP ELEVATION - 11.0'. EXACT LOCATION SHALL BE SHOWN ON MANUFACTURERS APPROVED SHOP DRAWINGS.
2. BLACK CONE SHAPED PLASTIC PILE CAPS SHALL BE USED ON GUIDE PILES. THE PILE CAP SHALL BE MOLDED FROM 3/16" THICK, ULTRA-VIOLET RESISTANT, LOW DENSITY POLYETHYLENE. CAPS SHALL BE SECURELY ANCHORED TO PILES WITH EPOXY CEMENT.
3. CONTRACTOR SHALL INSTALL (4) FOUR UTILITY PEDESTALS (PROVIDED BY DNREC/MARINA STAFF) AT THE LOCATIONS SHOWN ON THESE DRAWINGS.
4. WATER AND ELECTRIC SERVICES SHALL BE EXTENDED TO THE FLOATING QUEUING DOCKS FROM THE EXISTING MARINA / SUPPLY STORE.
 - 4.1. WATER SERVICE EXTENSION SHALL BE 1-1/2" DIAMETER AND INSTALLED BY A LICENSED PLUMBER. EACH UTILITY PEDESTAL SHALL BE CONNECTED TO THE WATER SERVICE LINE WITH A MINIMUM 3/4" DIAMETER LINE.
 - 4.2. ELECTRIC SERVICE SHALL BE SIZED TO HANDLE TO LOADS OF THE PROPOSED UTILITY PEDESTALS AND INSTALLED BY A LICENSED ELECTRICIAN.
 - 4.3. CONTRACTOR SHALL ROUTE UTILITY SERVICE LINES WITHIN THE FLOATING DOCK SYSTEM UTILITY RACEWAYS PER MANUFACTURERS RECOMMENDATIONS AND IN ACCORDANCE WITH ALL BUILDING, ELECTRICAL AND PLUMBING CODES.
 - 4.4. THE UTILITY CONNECTION BETWEEN THE EXISTING FLOATING DOCK SYSTEM AND THE PROPOSED FLOATING DOCK SYSTEM SHALL BE COMPLETED IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS.
 - 4.5. THE UTILITY CONNECTIONS BETWEEN THE LANDWARD END OF THE EXISTING FLOATING DOCK SYSTEM AND THE ADJACENT BULKHEAD / SEAWALL SHALL BE MODIFIED AS NECESSARY TO ALLOW THE PROPOSED WATER AND ELECTRIC SERVICE LINES TO BE ROUTED IN THE EXISTING FLOATING SYSTEM.
 - 4.6. THE WATER SERVICE LINE SHALL BE CONNECTED TO THE WATER SERVICE LINE EXTENSION (BY OTHERS), LOCATED NEAR THE BULKHEAD / SEAWALL AT THE EXISTING GANGWAY.
 - 4.7. THE ELECTRIC SERVICE REQUIRED TO SERVE THE (4) FOUR UTILITY PEDESTALS SHALL BE ROUTED FROM THE ELECTRIC SERVICE LINE EXTENDED TO THE BULKHEAD / SEAWALL (BY OTHERS) THROUGH THE EXISTING FLOATING DOCKS ONTO THE PROPOSED FLOATING DOCKS.



NO.	DATE	BY	ITEM
1.	2/20/2018	KBE	Note #4 (4 and 4.1 thru 4.7) revised Electrical & Water extensions
2.	2/20/2018	NBE	Clarify Sheet Guide Pile Size (12")

Andrews, Miller & Associates
 ARCHITECTS ENGINEERS SURVEYORS
 14th ELECTION DISTRICT
 SUSSEX COUNTY, DELAWARE
 A Division of:
DAVIS, BOWEN & FRIEDEL, INC.
 EASTON, MARYLAND (410) 776-7444
 SALISBURY, MARYLAND (410) 444-4444
 MILFORD, DELAWARE (302) 424-1441

SITE PLAN
INDIAN RIVER MARINA
QUEUING DOCK EXPANSION
 14th ELECTION DISTRICT
 SUSSEX COUNTY, DELAWARE

DRAWN	DESIGNED	CHECKED
SMS	KBE	KBE
DATE JANUARY 2018		
SCALE 1" = 30'		
PROJ. NO. 1945C004.A01		
Dwg No. C - 2		
2 of 3		