CONTRACT DOCUMENTS AND SPECIFICATIONS

for

South Dock Replacement – Prescott Park

Bid Proposal

John P. Bohenko, City Manager

City of Portsmouth, New Hampshire

Prepared by:

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INVITATION TO BID

Sealed bid proposals, **plainly marked, South Dock Replacement**, Bid Proposal #44-14 **on the outside of the mailing envelope as well as the sealed bid envelope,** addressed to the Finance/Purchasing Department, City Hall, 1 Junkins Avenue, Portsmouth, New Hampshire, 03801, will be accepted until **2:00 p.m. June 30, 2014** at which time all bids will be publicly opened and read aloud. A mandatory pre-bid meeting will be held at **12:00 p.m. June 5, 2014** on site at Prescott Park.

The project consists of the replacement of a new dock system in Prescott Park, which lies along Marcy Street in Portsmouth, NH. The project work includes replacement of the existing float and gangway, removal and reinstallation of utilities, and the relocation and installation of mooring blocks. This project must be completed by March 27, 2015. The City of Portsmouth is responsible for obtaining a NH Department of Environmental Services Standard Impact Dredge and Fill Permit.

Specifications and plan sets can be obtained by visiting www.cityofportsmouth.com. Questions may be addressed to the Purchasing Coordinator by calling (603) 610-7227. Addenda to this bid document, if any, including written answers to questions, will be posted on the City of Portsmouth website http://www.cityofportsmouth.com/finance/purchasing.htm under the project heading.

Work may begin in accordance with the Notice to Proceed with all work completed by March 27, 2015. Liquidated damages shall be assessed at $100.00 per day.

Bidders must determine the quantities of work required and the conditions under which the work will be performed.

The City of Portsmouth reserves the right to reject any or all bids, to waive technical or legal deficiencies, to re-bid, and to accept any bid that it may deem to be in the best interest of the City.

Each Bidder shall furnish a bid security in the amount of ten percent (10%) of the bid. The Bid Security may be in the form of a certified check drawn upon a bank within the State of New Hampshire or a bid bond executed by a surety company authorized to do business in the State of New Hampshire, made payable to the City of Portsmouth, N.H.

Bidders shall have a minimum of 5 years experience in marine construction with prior floating dock construction. Contractor shall be responsible for all work specified in the contract documents including all construction, incidental work, and restoration of the existing work that was disturbed during construction. All work shall be in complete accordance with sound construction practices and in conformance with the attached contract documents.

This project is contingent upon funding approval; no contract will be awarded until funding authorizations are complete.

INSTRUCTIONS TO BIDDERS

BIDDING REQUIREMENTS AND CONDITIONS

1. Special Notice to Bidders and Addenda

Appended to these instructions is a complete set of bidding and general contract forms. These forms may be detached and executed for the submittal of bids. The plans, specifications, and other documents designated in the proposal form will be considered as part of the proposal, whether attached or not.

The bidders must submit a statement of bidder's qualifications, if requested, subsequent to bid opening but prior to award.

Addenda to this bid document, if any, including written answers to questions, will be posted on the City of Portsmouth website at http://www.cityofportsmouth.com/finance/purchasing.htm under the project heading. Addenda and updates will NOT be sent directly to firms. Contractors submitting a bid should check the web site daily for addenda and updates after the release date. Firms should print out, sign and return addenda with the proposal. Failure to do so may result in disqualification.

2. Interpretation of Quantities in Bid Schedules

The quantities appearing in the bid schedule are approximate only and are prepared for the comparison of bids. Payment to the contractor will be made only for actual work performed and accepted in accordance with the contract. Any scheduled item of work to be done and materials to be furnished may be increased, decreased or omitted as hereinafter provided, and no claim for loss, anticipated profits or costs incurred in anticipation of work not ultimately performed will be allowed due to such increase or decrease.

3. Examination of Plans, Specifications and Site Work

The bidder is expected to examine carefully the site of the proposed work, the plans, standard specifications, supplemental specifications, special provisions and contract forms before submitting a proposal. The submission of a bid shall be considered conclusive evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the contract. It will be conclusive evidence that the bidder has also investigated and is satisfied with the sources of supply for all materials.

Plans, surveys, measurements, dimensions, calculations, estimates and statements as to the condition under which the work is to be performed are believed to be correct, but the contractors must examine for themselves, as no allowance will be made for any errors or inaccuracies that may be found therein.

4. Familiarity with Laws

The bidder is assumed to have made himself or herself familiar with all federal and state laws and all local by-laws, ordinances and regulations which in any manner affect those engaged or employed on the work or affect the materials or equipment used in the work or affect the conduct of the work, and the bidder, if awarded the contract, shall be obligated to perform the work in conformity with said laws, by-laws, ordinances and regulations notwithstanding its ignorance thereof. If the bidder shall discover any provision in the plans or specifications which is in conflict with any such law, by-law, ordinance or regulation the bidder shall forthwith report it to the engineer in writing.

5. Preparation of Proposal

a) The bidder shall submit its proposal upon the forms furnished by the Owner. The bidder shall specify a lump sum price in figures, for each pay item for which a quantity is given and shall also show the products of the respective prices and quantities written in figures in the column provided for that purpose and the total amount of the proposal obtained by adding the amount of the several items. All words and figures shall be in ink or typed. If a unit price or a lump sum bid already entered by the bidder on the proposal form is to be altered it should be crossed out with ink, the new unit price or lump sum bid entered above or below it and initialed by the bidder, also with ink.

b) The bidder's proposal must be signed with ink by the individual, by one or more general partners of a partnership, by one or more members or officers of each firm representing a joint venture; by one or more officers of a corporation, by one or more members (if member-managed) or managers (if manager-managed) of a limited liability company, or by an agent of the contractor legally qualified and acceptable to the owner. If the proposal is made by an individual, his or her name and post office address must be shown, by a partnership the name and post office address of each general and limited partner must be shown; as a joint venture, the name and post office address of each venturer must be shown; by a corporation, the name of the corporation and its business address must be shown, together with the name of the state in which it is incorporated, and the names, titles and business addresses of the president, secretary and treasurer.

6. Nonconforming Proposals

Proposals will be considered nonconforming and may be rejected in the Owner's sole discretion for any of the following reasons:

- If the proposal is on a form other than that furnished by the Owner, or if the form is altered or any portion thereof is detached;
- If there are unauthorized additions, conditional or altered bids, or irregularities of any kind which may tend to make the proposal or any portion thereof incomplete, indefinite or ambiguous as to its meaning;
- If the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award; or
- If the proposal does not contain a unit price for each pay item listed except in the case of authorized alter pay items.

7. Proposal Guaranty

No proposal will be considered unless accompanied by a bid bond, surety, or similar guaranty of the types and in an amount not less than the amount indicated in the Invitation to Bid. All sureties shall be made payable to the "City of Portsmouth". If a bid bond is used by the bidder it shall be:

- In a form satisfactory to the Owner;
- With a surety company licensed, authorized to do business in, and subject to the jurisdiction of the courts of the State of New Hampshire; and
- Conditioned upon the faithful performance by the principal of the agreements contained in the sub-bid or the general bid.

In the event any irregularities are contained in the proposal guaranty, the bidder will have four business days (not counting the day of opening) to correct any irregularities. The corrected guaranty must be received by 4:00 p.m. If irregularities are not corrected to the satisfaction of the Owner, the Owner, in its sole discretion, may reject the bid.

8. Delivery of Proposals

When sent by mail, the sealed proposal shall be addressed to the Owner at the address and in the care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and at the place specified in the invitation for bids. Proposals received after the time for opening of the bids will be returned to the bidder, unopened.

9. Withdrawal of Proposals

A bidder will be permitted to withdraw his or her proposal unopened after it has been submitted if the Owner receives a request for withdrawal in writing prior to the time specified for opening the proposals.

10. Public Opening of Proposals

Proposals will be opened and read publicly at the time and place indicated in the invitation for bids. Bidders, their authorized agents, and other interested parties are invited to be present.

11. Disqualification of Bidders

Any or all of the following reasons may be deemed by Owner in its sole discretion as being sufficient for the disqualification of a bidder and the rejection of his/her proposal:

- More than one proposal for the same work from an individual, firm, or corporation under the same or different name;
- Evidence of collusion among bidders;
- Failure to submit all required information requested in the bid specifications;
- Unqualified to complete the work as demonstrated by previous project experience and reference checks;
- Lack of competency or of adequate machinery, plant or other equipment, as revealed by the statement of bidders qualification or otherwise;
- Uncompleted work which, in the judgment of the owner, might hinder or prevent the prompt completion of additional work if awarded;
- Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts;
- Default or unsatisfactory performance on previous contracts; or
- Such disqualification would be in the best interests of the Owner.

12. Material Guaranty and Samples

Before any contract is awarded, the bidder may be required to furnish a complete statement of the origin, composition and manufacture of any or all materials to be used in the construction of the work, and the Owner may, in its sole discretion, reject the bid based on the contents of the statement or as a result of the failure of the bidder to submit the statement.

AWARD AND EXECUTION OF CONTRACT

1. Consideration of Proposals

a) After the proposals are opened and read, they will be compared on the basis of the total price for all sections of work to be charged to perform the work and any such additional considerations as may be identified in the bid documents. The results of such comparisons will be immediately available to the public. In case of a discrepancy between the prices written in words and those written figures, the prices written in words shall govern. In case of a discrepancy between the total shown in the proposal and that obtained by adding the products of the quantities of items and unit bid prices, the latter shall govern.

b) The Owner reserves the right to reject any or all proposals, to waive technicalities or to advertise for new proposals, if, in the sole discretion of the Owner, the best interest of the City of Portsmouth will be promoted thereby.

2. Award of Contract

Within 30 calendar days after the opening of proposals, if a contract is to be awarded, the award will be made to the lowest responsible and qualified bidder whose proposal complies with all the requirements prescribed. The successful bidder will be notified, in writing, mailed to the address on his or her proposal, that his or her bid has been accepted and that the bidder has been awarded the contract.

The award shall not be considered official until such time that a Purchase Order, fully executed contract or an award letter has been issued by the Finance Director. No presumption of award shall be made by the bidder until such documents are in hand. Verbal notification of award is not considered official. Any action by the bidder to assume otherwise is done so at his/her own risk and the City will not be held liable for any expense incurred by a bidder that has not received an official award.

This project is contingent upon funding approval; no contract will be awarded until funding authorizations are complete.

Determination of the lowest bidder will be based on the Base bid, or the Base Bid with any combination of Bid Options the City deems to be in its best interest, for the work described on the bid proposal form.

3. Cancellation of Award

The Owner reserves the right to cancel the award of any contract at any time before the execution of such contract by all parties without any liability of the Owner.

4. Return of Proposal Guaranty

All proposal guaranties, except those of the three lowest bidders, will be returned upon request following the opening and checking of the proposals. The proposal guaranties of the three lowest bidders will be returned within ten days following the award of the contract if requested.

5. Contract Bonds

At the time of the execution of the contract, the successful bidder shall furnish:

- Labor and materials payment bond in the sum equal to 100 percent of the contract amount.
- Performance bond in the sum equal to 100 percent of the contract amount.

At the time of project completion, the Owner may, in its sole discretion, permit the Contractor to substitute a maintenance bond in lieu of holding retainage for the entire guaranty period. If a bond is furnished it shall meet the following criteria:

- The bond shall be in an amount equal to 20 percent of the contract amount. Such bond shall guarantee the repair of all damage due to faulty materials or workmanship provided or done by the contractor. The guarantee shall remain in effect for a period of one year after the date of final acceptance of the job by the Owner.

Each bond shall be: (1) in a form satisfactory to the Owner; (2) with a surety company licensed and authorized to do business and with a resident agent designated for services of process in the State of New Hampshire; and (3) conditioned upon the faithful performance by the principal of the agreements contained in the original bid. All premiums for the contract bonds are to be paid by the contractor.

6. Execution and Approval of Contract

The successful bidder is required to present all contract bonds, to provide proof of insurance, and to execute the contract within 10 days following receipt of the City's notification of acceptance of the bid. No contract shall be considered as in effect until it has been fully executed by all parties.

7. Failure to Execute Contract

Failure to execute the contract and file an acceptable bond within 10 days after notification of acceptance of bid shall be just cause for the cancellation of the award and the forfeiture of the proposal guarantee which shall become the property of the Owner, not as a penalty, but in liquidation of damages sustained. Award may then be made to the next lowest responsible bidder, or the work may be re-advertised as the Owner may determine in its sole discretion.

PROPOSAL FORM

South Dock Replacement – Prescott Park

CITY OF PORTSMOUTH, N.H.

To the City of Portsmouth, New Hampshire, herein called the Owner.

The undersigned, as Bidder, herein referred to as singular and masculine declares as follows:

1. All interested in the Bid as Principals are named herein;

2. This bid is not made jointly, or in conjunction, cooperation or collusion with any other person, firm, corporation, or other legal entity;

3. No officer, agent or employee of the Owner is directly or indirectly interested in this Bid;

4. The bidder has carefully examined the sites of the proposed work and fully informed and satisfied himself as to the conditions there existing, the character and requirements of the proposed work, the difficulties attendant upon its execution and the accuracy of all estimated quantities stated in this Bid, and the bidder has carefully read and examined the Drawings, Agreement, Specifications and other Contract Documents therein referred to and knows and understands the terms and provisions thereof;

5. The bidder understands that the quantities of work calculated in the Bid or indicated on the Drawings or in the Specifications or other Contract Documents are approximate and are subject to increase or decrease or deletion as deemed necessary by the Portsmouth Engineer. The bidder understands any such changes will not result in or be justification for any penalty or increase in contract prices; and agrees that, if the Bid is accepted the bidder will contract with the Owner, as provided in the Contract Documents, this Bid Form being part of said Contract Documents, and that the bidder will supply or perform all labor, services, plant, machinery, apparatus, appliances, tools, supplies and all other activities required by the Contract Documents in the manner and within the time therein set forth, and that the bidder will take in full payment therefore the following item prices; and

6. It is the intention of this contract that the items listed above describe completely and thoroughly the entirety of the work as shown on the plans and as described in the specifications. All other items required to accomplish the above items are considered to be subsidiary work, unless shown as a pay item.

PROPOSAL FORM

Pay Item	Description	Estimated Quantity	Unit	Unit Price	Amount
	Base Bid				
1-1	Mobilization/Demobilization	1	LS	_____	$_____
1-2	Remove and Replace Existing Floating Dock and Gangway	1	LS	_____	$_____
1-3	Remove and Reinstall Existing Utilities	1	LS	_____	$_____
1-4	Modify and Relocate Existing Mooring Blocks	1	LS	_____	$_____
1-5	Provide and Install Three Additional Mooring Blocks	1	LS	_____	$_____
	BASE BID TOTAL FIXED SUM:				**$_____**
	Bid Options				
2-1	Expanded Floating Dock	1	LS	_____	$_____
2-2	Utility System Upgrades	1	LS	_____	$_____
2-3	Unit Price for Replacement Granite Anchor Block System	1	EA	_____	$_____

Basis of award will be based on the Base bid, or the Base Bid with any combination of Bid Options as the City deems to be in its best interest. SEE NOTE ON PAGE 8

PROPOSAL FORM (continued)

The undersigned agrees that for extra work, if any, performed in accordance with the terms and provisions of the Contract Documents, the bidder will accept compensation as stipulated therein.

_____
Date

_____
Company

_____
Business Address

_____
City, State, Zip Code

By:_____
Signature

Title:_____

Telephone:_____

The Bidder has received and acknowledged Addenda No._____through _____.

All Bids are to be submitted on this form and in a sealed envelope, plainly marked on the outside with the Bidder's name and address and the Project name as it appears at the top of the Proposal Form.

We certify that the Company is currently pre-qualified with the State of New Hampshire for Marine Work.

By:_____
Signature

In order to follow the City's sustainability practices, future bid invitations/specifications may be sent electronically. Please provide an email address as to where I could email future bid invitations/specifications of this type. Thank you in advance for your cooperation.
Email Address:_____

BID SECURITY BOND

(This format provided for convenience, actual Bid Bond is acceptable in lieu of, if compatible.)

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned

_____, as Principal, and

_____, as Surety, are hereby

held and firmly bound unto _____

IN THE SUM OF _____

as liquidated damages for payment of which, well and truly to be made we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

The condition of this obligation is such that whereas the Principal has submitted to the

_____ _____

A CERTAIN Bid attached hereto and hereby made a part hereof to enter into a contract in writing, hereinafter referred to as the "AGREEMENT" and or "CONTRACT", for

_____

_____

_____

NOW THEREFORE,

(a) If said Bid shall be rejected or withdrawn as provided in the INFORMATION FOR BIDDERS attached hereto or, in the alternative,

(b) If said Bid shall be accepted and the Principal shall duly execute and deliver the form of AGREEMENT attached hereto and shall furnish the specified bonds for the faithful performance of the AGREEMENT and/or CONTRACT and for the payment for labor and materials furnished for the performance of the AGREEMENT and or CONTRACT,

then this obligation shall be void , otherwise it shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder in no event shall exceed the amount of this obligation.

BID SECURITY BOND (continued)

The Surety, for value received, hereby agrees that the obligation of said surety and its bond shall be in no way impaired or affected by any extensions of the time within such BID may be accepted, and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the parties hereto have duly executed

this bond on the _____ day of _____, 20__.

_____L.S.
(Name of Principal)

(SEAL)

BY _____

_____
(Name of Surety)

BY _____

STATEMENT OF BIDDER'S QUALIFICATIONS

Note: This is a required submittal, fill out completely.

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. Add separate sheets if necessary

1. Name of Bidder

2. Permanent Main Office Address

3. Form of Entity

4. When Organized

5. Where Organized

6. How many years have you been engaged in the contracting business under your present name; also state names and dates of previous firm names, if any.

7. Contracts on hand; (schedule these, showing gross amount of each contract and the approximate anticipated dates of completion).

8. General character of work performed by your company.

9. Have you ever failed to complete any work awarded to you? _____(no)____(yes). If so, where and why?

10. Have you ever defaulted on a contract?
_____(no)_____(yes). If so, where and why?

11. Have you ever failed to complete a project in the time allotment according to the Contract Documents?
_____(no)_____(yes). If so, where and why?

12. List the most important contracts recently executed by your company, stating approximate cost for each, and the month and year completed.

13. List your major equipment available for this contract.

14. List your key personnel such as project superintendent and foremen available for this contract.

15. List the names, locations and contact information for previous marine construction projects.

16. List of three similar scope floating dock system projects that been completed in the past three years.

STATEMENT OF BIDDERS QUALIFICATIONS (continued)

17. List any subcontractors whom you will use for the following
(unless this work is to be done by your own organization, if so please state).
a. Electrical - _____
b. Other: _____ - _____
c. Other: _____ - _____

(The City reserves the right to approve subcontractors for this project and any changes to listed subcontractors.)

18. With what banks do you do business?

a. Do you grant the Owner permission to contact this/these institutions? ____(yes) ___(no).

b. Latest Financial Statements, certified audited if available, prepared by an independent certified public accountant, may be requested by Owner. If requested, such statements must be provided within five (5) business days or the bid proposal will be rejected. Certified Audited Statement are preferred. Internal statements may be attached only if independent statements were not prepared.

Dated at _____ this _____ day of _____, 20___.

_____
Name of Bidder

BY_____

TITLE_____

State of_____ County of_____

_____being duly sworn, deposes and

says that the bidder is _____ of_____
(Name of Organization)

and answers to the foregoing questions and all statements contained therein are true and correct.

Sworn to before me this ____day of _____, 20__.

_____
Notary of Public

My Commission expires_____

CONTRACT AGREEMENT

South Dock Replacement – Prescott Park

THIS AGREEMENT made as of the ___th day of _____ in the year **2014,** by and between the City of Portsmouth, New Hampshire (hereinafter call the Owner) and _____ (hereinafter called the Contractor),

WITNESSETH; that the Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE I- Work - The Contractor shall perform all work as specified or indicated in the Contract Documents. The Contractor shall provide, at his expense, all labor, materials, equipment and incidentals as may be necessary for the expeditious and proper execution of the Project.

ARTICLE II - ENGINEER - The Director of Public Works or his authorized representative will act as Engineer in connection with completion of the Project in accordance with the Contract Documents.

ARTICLE III - CONTRACT TIME - Work will begin in accordance with the Notice to Proceed and work shall be completed by March 27, 2015. Work may not commence on site until after November 3, 2014 due to public use of the dock. The contractor is not permitted to be onsite performing work for a period of time totaling more than 6 weeks without previous authorization from the Owner. The parties understand that on site work may be completed in one three-six week period depending on weather and other conditions, or it may be necessary for contractor to commence certain work in the fall, remove and clean up all materials for winter shut down, and return in the spring to complete work. Materials and equipment may not remain on site for any period of shut down.

ARTICLE IV - CONTRACT PRICE - Owner shall pay Contractor for performance of the work in accordance with the Contract Documents as shown under item prices in the Bid Proposal.

ARTICLE V - PAYMENT - Partial payments will be made in accordance with the Contract Documents. Upon final acceptance of the work and settlement of all claims, Owner shall pay the Contractor the unpaid balance of the Contract Price, subject to additions and deductions provided for in the Contract Documents.

ARTICLE VI - RETAINAGE - To insure the proper performance of this Contract, the Owner shall retain certain amounts in the percentage of the Contract Price and for the time specified as provided in the Contract Documents.

ARTICLE VII - LIQUIDATED DAMAGES - In event the Contractor fails to successfully execute the work within the specified contract time the Owner shall assess the Contractor liquidated damages in the amount of **one hundred dollars ($100)** for each calendar day beyond the specified completion date for each section of work. Liquidated damages shall be deducted from the Contract Price prior to final payment of the Contractor.

CONTRACT AGREEMENT (continued)

ARTICLE VIII – CONTRACT DOCUMENTS – The Contract Documents which comprise the contract between Owner and Contractor are attached hereto and made a part hereof and consist of the following:

8.1 This Agreement
8.2 Contractor's Bid and Bonds
8.3 Notice of Intent to Award, Notice to Proceed
8.4 Instruction to Bidders
8.5 General Requirements, Control of Work, Temporary Facilities, Measurement and Payment, Standard Specifications
8.6 Insurance Requirements
8.7 Standard and Technical Specifications
8.8 Drawings
8.9 Special Provisions
8.10 Any modifications, including change orders, duly delivered after execution of this Agreement.

ARTICLE IX – TERMINATION FOR DEFAULT – Should contractor at any time refuse, neglect, or otherwise fail to supply a sufficient number or amount of properly skilled workers, materials, or equipment, or fail in any respect to prosecute the work with promptness and diligence, or fail to perform any of its obligations set forth in the Contract, Owner may, at its election, terminate the employment of Contractor, giving notice to Contractor in writing of such election, and enter on the premises and take possession, for the purpose of completing the work included under this Agreement, of all the materials, tools and appliances belonging to Contractor, and to employ any other persons to finish the work and to provide the materials therefore at the expense of the Contractor.

ARTICLE X – INDEMNIFICATION OF OWNER – Contractor will indemnify Owner against all suits, claims, judgments, awards, loss, cost or expense (including without limitation attorneys fees) arising in any way out of the Contractor's negligent performance or non-performance of its obligations under this Contract. Contractor will defend all such actions with counsel satisfactory to Owner at its own expense, including attorney's fees, and will satisfy any judgment rendered against Owner in such action.

ARTICLE XI – PERMITS – The Contractor will secure at its own expense, all permits and consents required by law as necessary to perform the work and will give all notices and pay all fees and otherwise comply with all applicable City, State, and Federal laws, ordinances, rules and regulations. The City of Portsmouth is responsible for obtaining a NH Department of Environmental Services Standard Impact Dredge and Fill Permit.

ARTICLE XII – INSURANCE – The Contractor shall secure and maintain, until acceptance of the work, insurance with limits not less than those specified in the Contract.

ARTICLE XIII – MISCELLANEOUS –

A. Neither Owner nor Contractor shall, without the prior written consent of the other, assign, sublet or delegate, in whole or in part, any of its rights or obligations under any of the Contract Documents; and, specifically not assign any monies due, or to become due, without the prior written consent of Owner.

B. Owner and Contractor each binds himself, his partners, successors, assigns and legal representatives, to the other party hereto in respect to all covenants, agreements and obligations contained in the Contract Documents.

C. The Contract Documents constitute the entire Agreement between Owner and Contractor and may only be altered amended or repealed by a duly executed written instrument.

D. The laws of the State of New Hampshire shall govern this Contract without reference to the conflict of law principles thereof.

E. Venue for any dispute shall be the Rockingham County Superior Court unless the parties otherwise agree.

IN WITNESS WHEREOF, the parties hereunto executed this

AGREEMENT the day and year first above written.

BIDDER:

BY:_____

TITLE:_____

CITY OF PORTSMOUTH, N.H.

BY:_____
John P. Bohenko

TITLE: City Manager

NOTICE OF INTENT TO AWARD

Date:

TO:

IN AS MUCH as you were the low responsible bidder for work entitled:

South Dock Replacement – Prescott Park
Bid Proposal #44-14

You are hereby notified that the City intends to award the aforesaid project to you.

Immediately take the necessary steps to execute the Contract and to provide required bonds and proof of insurance within ten (10) calendar days from the date of this Notice.

The City reserves the right to revoke this Notice if you fail to take the necessary steps to execute this Contract.

City of Portsmouth
Portsmouth, New Hampshire

Judie Belanger,
Finance Director

NOTICE TO PROCEED

DATE:

PROJECT: **South Dock Replacement – Prescott Park**

TO:

YOU ARE HEREBY NOTIFIED TO COMMENCE WORK IN ACCORDANCE

WITH THE AGREEMENT DATED, ON _____

WORK SHALL BE COMPLETED PRIOR TO _____.

CITY OF PORTSMOUTH, N.H.

_____

BY: Peter L. Rice, PE

TITLE: Public Works Director

ACCEPTANCE OF NOTICE

RECEIPT OF THE ABOVE NOTICE TO
PROCEED IS HEREBY ACKNOWLEDGED BY

_____

This the _____day of_____ 20__

By:_____

Title:_____

CHANGE ORDER

Change Order # Date of Issuance:

Owner: CITY OF PORTSMOUTH, N.H

Contractor:

You are directed to make the following changes in the Contract Documents:

Description:

Purpose of Change Order:

Attachments:

CHANGE IN CONTRACT PRICE	CHANGE IN CONTRACT TIME
Original Contract Price: $	Original Completion Date:
Contract Price prior to this Change Order: $	Contract Time prior to this Change Order:
Net Increase of this Change Order: $	Net Increase or Decrease of this Change Order:
Contract Price with all approved Change Orders: $	Contract Time with all approved Change Orders:

RECOMMENDED:	APPROVED:		APPROVED:
by_____	by_____	by_____	by_____
PW Director	City Finance	City Manager	Contractor

LABOR AND MATERIAL PAYMENT BOND

(This format provided for convenience, actual Labor and Material Bond is acceptable in lieu, if compatible)

Bond Number _____

KNOW ALL MEN BY THESE PRESENTS:

that _____

as Principal, hereinafter called Contractor, and _____ (Surety Company) a corporation organized and existing under the laws of the State of

_____ and authorized to do business in the State of New Hampshire hereinafter called Surety, are held and firmly bound unto the City of Portsmouth, N.H. Obligee, hereinafter called Owner, for the use and benefit of claimants as herein below defined, in the

amount of _____ Dollars ($_____), for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated _____ entered into a

contract with Owner for _____ in accordance with drawings and specifications prepared by the Public Works Department, 680 Peverly Hill Road, Portsmouth, N.H. 03801 and the Community Development, 1 Junkins Avenue, Portsmouth, NH 03801, which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that the Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract and for the hire of all equipment, tools, and all other things contracted for or used in connection therewith, then this obligation shall be void, otherwise it shall remain in full force and effect, subject however, to the following conditions:

(1) A claimant is defined as one having a direct contract with the Principal or, with a subcontractor of the Principal for labor, material, equipment, or other things used or reasonably required for use in the performance of the Contract. "Labor and material" shall include but not be limited to that part of water, gas, power, light, heat, oil and gasoline, telephone service or rental of equipment applicable to the Contract.

(2) The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such a claimant, may sue on this bond for the use of such claimant, prosecute the suit by final judgment for such sum or sums as may be

LABOR AND MATERIAL PAYMENT BOND (continued)

justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any such suit or any costs or expenses of any such suit, and principal and surety shall jointly and severally indemnify, defend and hold the Owner harmless for any such suit, costs or expenses.

(3) No suit or action shall be commenced hereunder by any claimant:

(a) Unless Claimant, other than one having a direct contract with the Principal, shall have given notice to all the following:

The Principal, the Owner and the Surety above named, within six (6) calendar months after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Owner, and Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the State of New Hampshire save that such service need not be made by a public officer.

(b) After the expiration of one (1) year following the date on which Principal ceased all work on said contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

(c) Other than in a State court of competent jurisdiction in and for the county or other political subdivision of the State in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere. (4) The amount of this bond may be reduced by and to the extent of any payment of payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed on record against said improvement, whether or not claim for the amount of such lien by presented under and against this bond.

Signed and sealed this _____ day of _____, 20____. In the presence of:

_____ BY: _____
(Witness) (Principal) (Seal)

_____
(Surety Company)

_____ BY: _____
(Witness) (Title) (Seal)

LABOR AND MATERIAL PAYMENT BOND (continued)

Note:
If the Principal (Contractor) is a partnership, the Bond should be signed by each of the partners.

If the Principal (Contractor) is a corporation, the Bond should be signed in its correct corporate name by its duly authorized Officer or Officers.

If this bond is signed on behalf of the Surety by an attorney-in-fact, there should be attached to it a duly certified copy of his Power of Attorney showing his authority to sign such Bonds.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Agreement.

PERFORMANCE BOND

(This format provided for convenience, actual Performance Bond is acceptable in lieu, if compatible)

Bond Number _____

KNOW ALL MEN BY THESE PRESENTS

that _____as Principal, hereinafter called Contractor, and _____ (Surety Company) a corporation organized and existing under the laws of the State of_____ and authorized to do business in the State of New Hampshire as surety, hereinafter called Surety, are held and firmly bound unto the City of Portsmouth, N.H. Obligee, hereinafter called Owner, in the amount of _____ Dollars ($_____), for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents. WHEREAS, Contractor has by written agreement dated _____ entered into a contract with Owner for _____in accordance with drawings and specifications prepared by the Public Works Department, 680 Peverly Hill Road, Portsmouth, N.H. 03801, which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Contractor shall well and faithfully do and perform the things agreed by him to be done and performed, according to the terms of said Contract and such alterations as may be made in said Contract during progress work, and shall further indemnify and save harmless the said Owner in accordance with the Contract and shall remedy without cost to the Owner any defect which may develop within one year from the time of completion and acceptance of the work.

The Surety hereby waives notice of any alteration in work or extension of time made by the Owner or any of its agents or representatives.

Whenever Contractor shall be, and declared by Owner to be, in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

(1) Complete the Contract in accordance with its terms and conditions, or

PERFORMANCE BOND (continued)

(2) Obtain a bid or bids for submission to the Owner for completing the Contract in accordance with its terms and conditions, and upon determination by Owner and Surety of the lowest responsible bidder, arrange for a contract between such bidder and Owner and make available as work progresses (even though there should be a default or a succession of defaults under the contract of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price", as used in this paragraph, shall mean the total amount payable by the Owner to Contractor under the Contract and any amendments thereto, less the amount paid by Owner to Contractor.

Any suit under this bond must be instituted before the expiration of (2) years from the date on which final payment under the contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of Owner.

Signed and sealed this _____ day of _____

A.D., 20___ .

In the presence of:

_____ BY: _____
(Witness) (Principal) (Seal)

_____
(Surety Company)

_____ BY: _____
(Witness) (Title) (Seal)

Note:
If the Principal (Contractor) is a partnership, the Bond should be signed by each of the partners.

If the Principal (Contractor) is a corporation, the Bond should be signed in its correct corporate name by its duly authorized Officer or Officers.

If this bond is signed on behalf of the Surety by an attorney-in-fact, there should be attached to it a duly certified copy of his Power of Attorney showing his authority to sign such Bonds.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Agreement.

MAINTENANCE BOND

At the Owner's election, a maintenance bond may be substituted for retainage at the completion of the project. If the Owner permits a maintenance bond, it shall be in the amount of Twenty **Percent (20%)** of the contract price with a corporate surety approved by the Owner. Such bond shall be provided at the time of Contract completion and shall guarantee the repair of all damage due to faulty materials or workmanship provided or done by the Contractor. This guarantee shall remain in effect for a period of one year after the date of final acceptance of the job by the Owner.

CONTRACTOR'S AFFIDAVIT

STATE OF _____:

COUNTY OF _____:

Before me, the undersigned, a _____
(Notary Public, Justice of the Peace)

in and for said County and State personally appeared, _____
(Individual, Partner, or duly authorized representative of Corporate)

who, being duly sworn, according to law deposes and says that the cost of labor, material, and equipment and outstanding claims and indebtedness of whatever nature arising out of the performance of the Contract between

CITY OF PORTSMOUTH, NEW HAMPSHIRE

and _____
(Contractor)

of _____

Dated: _____

has been paid in full for Construction of: **South Dock Replacement – Prescott Park**

_____
(Individual, Partner, or
duly authorized
representative of
Corporate Contractor)

Sworn to and subscribed
before me this _____day
of _____ 20____

_____

CONTRACTOR'S RELEASE

KNOW ALL MEN BY THESE PRESENTS that

_____(Contractor) of _____, County of

_____and State of _____

does hereby acknowledge that_____(Contractor)

has on this day had, and received from the CITY OF PORTSMOUTH NEW HAMPSHIRE, final and completed

payment for the Construction of:

South Dock Replacement – Prescott Park

NOW THEREFORE, the said _____

(Contractor)

for myself, my heirs, executors, and administrators) (for itself, its successors and assigns) do/does by these presents remise, release, quit-claim and forever discharge the City of Portsmouth, New Hampshire, its successors and assigns, of and from all claims and demands arising from or in connection with the said Contract dated _____, and of and from all, and all manners of action and actions, cause and causes of action and actions, suits, debts, dues, duties, sum and sums of money, accounts, reckonings, bonds, bills, specifications, covenants, contracts, agreements, promises, variances, damages, judgments, extents, executions, claims and demand, whatsoever in law of equity, or otherwise, against the City of Portsmouth, New Hampshire, its successors and assigns, which (I, my heirs, executors, or administrators) (it, its successors and assigns) ever had, now have or which (I, my heirs, executors, or administrators) (it, its successors and assigns) hereafter can shall or may have, for, upon or by reason of any matter, cause, or thing whatsoever; from the beginning of record time to the date of these presents.

IN WITNESS WHEREOF,

Contractor:

_____ By:_____

print name of witness:_____ Its Duly Authorized _____

Dated: _____

GENERAL REQUIREMENTS

SCOPE OF WORK

1. INTENT OF CONTRACT

The intent of the Contract is to provide for the construction and completion in every detail of the work described. The Contractor shall furnish all labor, materials, equipment, tools, transportation and supplies required to complete the work in accordance with the terms of the Contract. The Contractor shall be required to conform to the intent of the plans and specifications. No extra claims shall be allowed for portions of the work not specifically addressed in the plans and specifications but required to produce a whole and complete project, such work will be considered subsidiary to the bid items.

2. INCIDENTAL WORK

Incidental work items for which separate payment is not measured includes, but is not limited to, the following items:

a. Clearing, grubbing and stripping (unless otherwise paid for)
b. Clean up
c. Cutting and Capping existing water lines
d. Signs
e. Mobilization/Demobilization (unless otherwise paid for)
f. Restoration of property
g. Cooperation with other contractors, abutters and utilities.
h. Utility crossings, (unless otherwise paid for)
i. Minor items - such as replacement of fences, guardrails, rock wall, etc.
j. Steel and/or wood sheeting as required.
k. Accessories and fasteners or components required to make items paid for under unit prices or lump sum items complete and functional.

3. ALTERATION OF PLANS OR OF CHARACTER OF WORK

The Owner reserves the right, without notice to Surety, to make such alterations of the plans or of the character of the work as may be necessary or desirable to complete fully and acceptably the proposed construction; provided that such alterations do not increase or decrease the contract cost. Within these cost limits, the alterations authorized in writing by the Owner shall not impair or affect any provisions of the Contract or bond and such increases or decreases of the quantities as a result from these alterations or deletions of certain items, shall not be the basis of claim for loss or for anticipated profits by the contractor. The contractor shall perform the work as altered at the contract unit price or prices.

4. EXTRA WORK ITEMS

Extra work shall be performed by the Contractor in accordance with the specifications and as directed, and will be paid for at a price as provided in the Contract documents or if such pay items are not applicable than at a price negotiated between the contractor and the Owner or at the unit bid price. If the Owner determines that extra work is to be performed, a change order will be issued.

5. CHANGE ORDERS

The Owner reserves the right to issue a formal change order for any increase, decrease, deletion, or addition of work or any increase in contract time or price. The contractor shall be required to sign the change order and it shall be considered as part of the Contract documents.

6. FINAL CLEANING UP

Before acceptance of the work, the contractor shall remove from the site all machinery, equipment, surplus materials, rubbish, temporary buildings, barricades and signs. All parts of the work shall be left in a neat and presentable condition. On all areas used or occupied by the contractor, regardless of the contract limits, the bidder shall clean-up all sites and storage grounds.

The items prescribed herein will not be paid for separately, but shall be paid for as part of the total contract price.

7. ERRORS AND INCONSISTENCY IN CONTRACT DOCUMENTS

Any provisions in any of the Contract Documents that may be in conflict with the paragraphs in these General Requirements shall be subject to the following order of precedence for interpretation.

1. Technical Specifications will govern General Requirements.

2. Technical Specifications will govern Plans.

CONTROL OF WORK

1. AUTHORITY OF ENGINEER

(a) All work shall be done under supervision of the Engineer and to his satisfaction. The Engineer will decide all questions which may arise as to the quality and acceptability of materials furnished and work performed and as to the rate of progress of the work; all questions that may arise as to the interpretation of the plans and specifications; and all questions as to the acceptable fulfillment of the Contract by the Contractor.

(b) The Engineer will have the authority to suspend the work wholly or in part for such periods as he may deem necessary due to the failure of the Contractor to correct conditions unsafe for workers or the general public; for failure to carry out provisions of the Contract; for failure to carry out orders; for conditions considered unsuitable for the prosecution of the work, including unfit weather; or for any other condition or reason deemed to be in the public interest. The Contractor shall not be entitled any additional payments arising out of any such suspensions.

(c) The Owner reserves the right to demand a certificate of compliance for a material or product used on the project. When the certificate of compliance is determined to be unacceptable to the Engineer the Contractor may be required to provide engineering and testing services to guarantee that the material or product is suitable for use in the project, at its expense (see Sample of Certificate of Compliance).

2. PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPES

(a) The Contractor shall use every precaution to prevent injury or damage to wires, poles, or other property of public utilities; trees, shrubbery, crops, and fences along and adjacent to the right-of-way, all underground structures such as pipes and conduits, within or outside of the right-of-way; and the Contractor shall protect and carefully preserve all property marks until an authorized agent has witnessed or otherwise referenced their location.

(b) The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of the work, resulting from any act, omission, neglect, or misconduct in his manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the project shall have been completed and accepted.

(c) When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or as a result of the failure to perform work by the Contractor, the Contractor shall restore, at its own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing rebuilding, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

(d) The Contractor shall paint with tree paint all scars made on fruit or ornamental trees by equipment, construction operations, or the removal of limbs larger than one inch in diameter. Damaged trees must be replaced if so determined by the City Arborist, in his or her sole discretion.

(e) If the Contractor fails to repair, rebuild or otherwise restore such property as may be deemed necessary, the Owner, after 48 hours notice, may proceed to do so, and the cost thereof may be deducted from any money due or which may become due the Contractor under the contract.

(f) It is the intent of the Parties that the Contractor preserve, to as great an extent as possible, the natural features of the site.

(g) Manhole and/or catch basin castings, frames, covers, and grates shall be protected and preserved during construction. A careful inventory shall be keep regarding which frames and covers/grates were removed so they can be replaced in the proper location. Any damaged or missing frames, covers, or grates shall be replaced by the contractor at no cost to the owner.

3. MAINTENANCE DURING CONSTRUCTION

The Contractor shall maintain the work during construction and until the project is accepted. This maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and workers to ensure that the structure is kept in satisfactory conditions at all times.

4. SAFETY PRECAUTIONS

Upon commencement of work, the Contractor shall be responsible for initiating, maintaining and supervising all safety precautions necessary to ensure the safety of employees on the site, other persons who may be affected thereby, including the public, and other property at the site or adjacent thereto.

5. PERMITS

It will be the responsibility of the Contractor to obtain all permits required for the operation of equipment in, or on, all city streets and public ways.

6. BARRICADES, WARNING SIGNS AND TRAFFIC OFFICERS

(a) The Contractor shall provide, erect and maintain all necessary barricades, suitable and sufficient lights, danger signals, signs and other traffic control devices, and shall take all necessary precautions for the protection of the work and safety of the public. Roadway closed to traffic shall be protected by effective barricades. Obstructions shall be illuminated during hours of darkness. Suitable warning signs shall be provided to control and direct traffic in a proper manner, as approved by the engineer.

(b) The Contractor will be held responsible for all damage to the work from traffic, pedestrians, animals or any other cause due to lack of adequate controlling devices.

(c) The Contractor shall provide such police officers as the Engineer deems necessary for the direction and control of traffic within the site of project.

The work prescribed herein will not be paid for separately but will be paid for as part of the Contract Price unless specifically appearing as a bid item.

TEMPORARY FACILITIES

1. STORAGE FACILITIES

(a) The Contractor shall not store materials or equipment in a public right-of-way beyond the needs of one working day. Equipment and materials shall be stored in an approved location.

(b) The Contractor shall protect all stored materials from damage by weather or accident and shall insure adequate drainage at and about the storage location.

(c) Prior to final acceptance of the work all temporary storage facilities and surplus stored materials shall be removed from the site.

2. SANITARY FACILITIES

(a) The Contractor shall provide for toilet facilities for the use of the workers employed on the work.

(b) Temporary toilet facilities may be installed provided that the installation and maintenance conform with all State and local laws, codes, regulations and ordinances governing such work. They shall be properly lit and ventilated, and shall be kept clean at all times.

(c) Prior to final acceptance of the work all temporary toilet facilities shall be removed from the site.

3. TEMPORARY WATER

The Contractor shall make all arrangements with the local water department for obtaining water connections to provide the water necessary for construction operations and shall pay all costs.

4. TEMPORARY ELECTRICITY

The Contractor shall make all arrangements with the Public Service Company for obtaining electrical connections to provide the electrical power necessary for construction operations and security lighting and shall pay all electrical connection and power costs.

The Contractor shall be responsible with obtaining any applicable electrical permits from the City Electrical Inspector.

INSURANCE REQUIREMENTS

Insurance shall be in such form as will protect the Contractor from all claims and liabilities for damages for bodily injury, including accidental death, and for property damage, which may arise from operations under this contract whether such operation by himself or by anyone directly or indirectly employed by him.

AMOUNT OF INSURANCE

A) Comprehensive General Liability:
Bodily injury or Property Damage - $2,000,000
Per occurrence and general aggregate

B) Automobile and Truck Liability:
Bodily Injury or Property Damage - $2,000,000
Per occurrence and general aggregate

Additionally, the Contractor shall purchase and maintain the following types of insurance:

A) Coverage for Marine Activities

B) Full Workers Comprehensive Insurance coverage for all people employed by the Contractor to perform work on this project. This insurance shall at a minimum meet the requirements of the most current laws of the State of New Hampshire.

B) Contractual Liability Insurance coverage in the amounts specified above under Comprehensive General Liability.

C) Product and Completed Operations coverage to be included in the amounts specified above under Comprehensive General Liability.

ADDITIONAL INSURED

All liability policies (including any excess policies used to meet coverage requirements) shall include the City of Portsmouth, New Hampshire as named Additional Insured.

1) The contractor's insurance shall be primary in the event of a loss.
2) The Additional Insured endorsement must include language specifically stating that the entity is to be covered for all activities performed by, or on behalf of, the contractor, including the City of Portsmouth's general supervision of the contractor.
3) City of Portsmouth shall be listed as a Certificate Holder. The City shall be identified as follows:

City of Portsmouth
Attn: Legal Department
1 Junkins Avenue
Portsmouth, NH 03801

MEASUREMENT AND PAYMENT

1. MEASUREMENT OF QUANTITIES

(a) All work completed under the contract will be measured according to the United States standard measure.

(b) The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice. Unless otherwise stated all quantities measured for payment shall be computed or adjusted for "in place" conditions.

(c) Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures having an area of 9 square feet or less. Unless otherwise specified, transverse measurements for area computations will be the dimensions shown on the plans or ordered in writing.

(d) Structures will be measured according to lines shown on the plans or as ordered unless otherwise provided for elsewhere in the specifications.

(e) In computing volumes of excavation, embankment, and borrow, the average end area method will be used. Where it is impracticable to measure by the cross-section method, acceptable methods involving three-dimensional measurement may be used. When measurement of borrow in vehicles is permitted, the quantity will be determined as 80 percent of the loose volume.

(f) In computing volumes of concrete, stone and masonry, the prismoidal method will be used. The term "ton" will mean the short ton consisting of 2,000 pounds avoirdupois.

(g) Except as specified below, all materials that are measured or proportioned by weight shall be weighed on scales which the Contractor has had sealed by the State or by a repairman registered by the Commissioner of Agriculture. All weighing shall be performed in a manner prescribed under the Rules and Regulations of the Bureau of Weights and Measures of the New Hampshire Department of Agriculture.

(h) Weighing of materials on scales located outside New Hampshire will be permitted for materials produced or stored outside the state, when requested by the Contractor and approved. Out-of-state weighing in order to be approved, must be performed by a licensed public weigh master or a person of equal authority in the state concerned on scales accepted in the concerned state.

(i) Each truck used to haul material being paid for by weight shall bear a plainly legible identification mark, and if required, shall be weighed empty daily at such times as directed.

(j) When material is weighed, the individual weight slips, which shall be furnished by the Contractor, for trucks, trailers, or distributors, shall show the following information: the date; the project; the material or commodity; the dealer or vendor; the Contractor or Subcontractor; the location of the scales; the vehicle registration number or other approved legible identification mark; the tare and net weights, with gross weights when applicable; and the weigher's signature or his signed initials.

MEASUREMENT AND PAYMENT (continued)

(k) The right is reserved to weight any truck, trailer, or distributor, at locations designated, before and after making deliveries to the project.

(l) Bituminous materials will be measured by the gallon or ton.

(m) When material is specified to be measured by the cubic yard but measurement by weight is approved, such material may be weighed and the weight converted to cubic yards for payment purposes. Necessary conversion factors will be determined by the Owner.

(n) The term "lump sum" when used as an item of payment will mean complete payment for the work described in the item.

(o) When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories, so as to provide the item complete and functional. Except as may be otherwise provided, partial payments for lump sum items will be made approximately in proportion to the amount of the work completed on those items.

(p) Material wasted without authority will not be included in the final estimate.

2. SCOPE OF PAYMENT

(a) The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials and for performing all work under the contract in a complete and acceptable manner and for all risk, loss, damage or expense of whatever character arising out of the nature of the work or the prosecution thereof.

(b) The Contractor shall be liable to the Owner for failure to repair, correct, renew or replace, at his own expense, all damage due or attributable to defects or imperfections in the construction which defects or imperfections may be discovered before or at the time of the final inspection and acceptance of the work.

(c) No monies, payable under the contract or any part thereof, except the first estimate, shall become due or payable if the Owner so elects, until the Contractor shall satisfy the Owner that the Contractor has fully settled or paid all labor performed or furnished for all equipment hired, including trucks, for all materials used, and for fuels, lubricants, power tools, hardware and supplies purchased by the Contractor and used in carrying out said contract and for labor and parts furnished upon the order of said Contractor for the repair of equipment used in carrying out said contract; and the Owner, if he so elects, may pay any and all such bills, in whole or in part, and deduct the amount of amounts so paid from any partial or final estimate, excepting the first estimate.

MEASUREMENT AND PAYMENT (continued)

3. COMPENSATION FOR ALTERED QUANTITIES

(a) Except as provided for under the particular contract item, when the accepted quantities of work vary from the quantities in the bid schedule the Contractor shall accept as payment in full, so far as contract items are concerned, at the original contract unit prices for the accepted quantities of work done. No allowance will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor resulting either directly from such alterations or indirectly from unbalanced allocation among the contract items of overhead expense on the part of the Bidder and subsequent loss of expected reimbursements therefore or from any other cause.

(b) Extra work performed will be paid for at the contract bid prices or at the price negotiated between the Owner and the Contractor if the item was not bid upon. If no agreement can be negotiated, the Contractor will accept as payment for extra work, cost plus 15% (overhead and profit). Costs shall be substantiated by invoices and certified payroll.

4. PARTIAL PAYMENTS

Partial payments will be made on a monthly basis during the contract period. From the total amount ascertained as payable, an amount equivalent to ten percent (10%) of the whole will be deducted and retained by the Owner until such time as the work receives final acceptance.

5. FINAL ACCEPTANCE

Upon due notice from the Contractor of presumptive completion of the entire project, the Engineer will make an inspection. If all construction provided for and contemplated by the contract is found complete to his satisfaction, this inspection shall constitute the final inspection and the Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of the final inspection.

If, however, the inspection discloses any work in whole or in part, as being unsatisfactory, the Engineer will give the Contractor the necessary instructions for correction of such work, and the Contractor shall immediately comply with and execute such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection provided the work has been satisfactorily completed. In such event, the Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

MEASUREMENT AND PAYMENT (continued)

6. ACCEPTANCE AND FINAL PAYMENT

(a) When the project has been accepted and upon submission by the Contractor of all required reports, completed forms and certifications, the Owner will review the final estimate of the quantities of the various classes of work performed. The Contractor may be required to certify that all bills for labor and material used under this contract have been paid.

(b) The Contractor shall file with the Owner any claim that the Contractor may have regarding the final estimate at the same time the Contractor submits the final estimate. Failure to do so shall be a waiver of all such claims and shall be considered as acceptance of the final estimate. From the total amount ascertained as payable, an amount equal to ten percent (10%) of the whole will be deducted and retained by the Owner for the guaranty period. This retainage may be waived, at the discretion of the City, provided the required Maintenance Bond has been posted. After approval of the final estimate by the Owner, the Contractor will be paid the entire sum found to be due after deducting all previous payments and all amounts to be retained or deducted under the provisions of the contract.

(c) All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

7. GENERAL GUARANTY AND WARRANTY OF TITLE

(a) Neither the final certification of payment nor any provision in the contract nor partial or entire use of the improvements embraced in this Contract by the Owner or the public shall constitute an acceptance of work not done in accordance with the Contract or relieve the Contractor of liability in respect to any express or implied warranties or responsibility for faulty materials or workmanship. The Contractor shall promptly remedy any defects in the work and pay for any damage to other work resulting there from which shall appear within a period of twelve (12) months from the date of final acceptance of the work. The Owner will give notice of defective materials and work with reasonable promptness.

(b) No material, supplies or equipment to be installed or furnished under this Contract shall be purchased subject to any chattel mortgage or under a conditional sale, lease purchase or other agreement by which an interest therein or in any part thereof is retained by the Seller or supplier. The Contractor shall warrant good title to all materials, supplies and equipment installed or incorporated in the work and upon completion of all work, shall deliver the same together with all improvements and appurtenances constructed or placed thereon by him to the Owner free from any claims, liens or charges. Neither the Contractor nor any person, firm or corporation furnishing any material or labor for any work covered by this Contract shall have the right to a lien upon any improvements or appurtenances thereon.

Nothing contained in this paragraph, however, shall defeat or impair the right of persons furnishing materials or labor to recover under any bond given by the Contractor for their protection or any rights under any law permitting such persons to look to funds due the Contractor in the hands of the Owner. The provisions of this paragraph shall be inserted in all subcontractors and material contracts and notice of its provisions shall be given to all persons furnishing materials for the work when no formal contract is entered into for such materials.

MEASUREMENT AND PAYMENT (continued)

8. NO WAIVER OF LEGAL RIGHTS

(a) Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or be stopped from recovering from the Contractor or his Surety, or both, such overpayment as it may sustain by failure on the part of the Contractor to fulfill his obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

(b) The Contractor, without prejudice to the Contract shall be liable to the terms of the Contract, shall be liable to the Owner for latent defects, fraud or such gross mistakes as may amount to fraud, and as regards the Owner's right under any warranty or guaranty.

9. TERMINATION OF CONTRACTOR'S RESPONSIBILITY

Whenever the improvement provided for by the Contract shall have been completely performed on the part of the Contractor and all parts of the work have been released from further obligations except as set forth in his bond and as provided in Section 8 above.

STANDARD SPECIFICATIONS

The Standard Specifications for Road and Bridge Construction of the State of New Hampshire Department of Transportation and any Addenda shall apply but without regard to Section 100 "General Conditions" of those Standard Specifications

For Standard Specifications for each work classification refer to Technical Specifications.

SHOP DRAWINGS

Shop Drawings for this project shall be submitted under the following conditions:

1. The Contractor shall submit working and detail drawings, well in advance of the work, to the Engineer for review.
2. The Contractor's drawings shall consist of shop detail, erection and other working plans showing dimensions, sizes and quality of material, details and other information necessary for the complete fabrication and erection of the pertinent work.
3. The Contractor shall submit three (3) sets of drawings to the Engineer.
4. Prior to the approval of the drawings, any work done or materials ordered for the work involved shall be at the Contractor's risk.
5. One (1) set of the drawings will be returned to the Contractor approved or marked with corrections to be made. After approval has been given, the Contractor shall supply the Engineer with two sets of the revised detail working drawings.
6. The Engineer's approval of the Contractor's working drawings will not relieve the Contractor from responsibility for errors in dimensions or for incorrect fabrication processes, or from responsibility to complete the contract work.

TECHNICAL SPECIFICATIONS

The Technical Specifications for this project are referred to above and include the following Technical Specifications dated May 2014 from Appledore Marine Engineering, Inc.

PROJECT TABLE OF CONTENTS

-- End of Project Table of Contents --

SECTION 01 11 00

SUMMARY OF WORK

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

The entire work called for on the drawings and described in the specifications including but not limited to:

1. Submit construction schedule
2. Mobilize on-site
3. Submit material certifications and shop drawings
4. Complete demolition of dock
5. Complete removal and storage of items designated for reuse
6. Complete installation of dock, gangway and anchors
7. Complete installation of utility work
8. Demobilize from site

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: South Floating Dock Replacement

1. Project Location: Portsmouth, New Hampshire

B. Owner: City of Portsmouth

C. Engineer: Appledore Marine Engineering, 600 State St, Portsmouth, NH 03801

1.4 PERMITS

A. The Owner is in the process of procuring the necessary permits with the State of New Hampshire Department of Environmental Services and the U.S. Army Corps of Engineers. The Contractor is responsible for obtaining any additional federal, state, or local permits required to complete the work.

1.5 WORK SCHEDULE

A. Site Availability: The site and laydown area as described in the contract documents will be made available at a time designated by the Owner.

B. Time: The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

1.6 USE OF PREMISES

A. Use of Site: Limit use of premises to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in

which the Work is indicated.

1. Driveways and Entrances: Keep driveways, parking, and entrances serving buildings within Contract limits and adjacent premises clear and available to Owner, public traffic, and emergency vehicles at all times. Restrict use of areas for parking or storage of materials to locations indicated.
   - Schedule deliveries to minimize use of driveways and entrances.
   - Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

B. Existing Facilities: Maintain existing facilities in a operational condition throughout construction period. Repair damage caused by construction operations at no additional cost to the Owner. Protect adjacent buildings and waterfront facilities and their occupants/users during construction period.

1.7 OWNER'S OCCUPANCY REQUIREMENTS

A. The site is located in a park that is open to the public. The construction site will remain off limits to the general public however, due to the limited available space the Contractor must cooperate with the Owner to minimize conflicts with park activities. Existing parking and roadways not within the work area must be maintained clear unless otherwise indicated.

1. Maintain access to existing walkways, corridors, and other adjacent facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
2. Provide not less than 72 hours notice to Owner of activities that will affect Owner's operations.

B. The Contractor shall supervise the actions of employees and subcontractors with regard to inappropriate activity at the site. Comply with the following requirements:

1. Sexual harassment of any nature will not be tolerated.
2. No pornography on property.
3. No alcohol on property.
4. No drugs on property.
5. No guns or weapons on property.

C. Failure to comply with the requirements outlined above will result in immediate action by the Owner. First Offense: The individual removed permanently from premises. Second Offense: The responsible subcontractor removed permanently from premises.

1.8 WORK RESTRICTIONS

A. On-Site Work Hours: Work shall be generally performed as follows: Unless otherwise noted, work shall be completed between the hours of 7 AM and 5 PM.

B. Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Engineer and Owner not less than three days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Owner's written permission.

1.9 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 33-division format and CSI/CSC's "MasterFormat" numbering system.

1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.

2. Division 01: Sections in Division 01 govern the execution of the Work of all Sections in the Specifications

B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.

2. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

1.10 MISCELLANEOUS PROVISIONS

A. Material safety data sheets shall be made available in accordance with OSHA requirements.

B. No asbestos containing materials shall be used in the work.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

-- End of Section --

SECTION 01 14 00.01

RESPONSIBILITIES OF CONTRACTOR

PART 1 GENERAL

1.1 DISCOVERY

It was not possible for the Owner and/or Engineer to observe all existing conditions in the completion of these documents. Unforeseen conditions are expected to be discovered. The accuracy of the existing conditions data is not guaranteed to the Contractor. During the execution of the Work, it shall be the Contractors' responsibility to discover, identify and observe existing conditions not anticipated by the Construction Documents, and promptly notify the Owner's Representative of such conditions and proposed solutions at no additional cost to the Owner.

The Engineer's services include preparation of the Construction Documents, periodic site visits to provide requested clarifications and observe the progress of the Work. In consideration of this limited scope of services, it shall be the Contractor's responsibility to notify the Owner's Representative, in writing, of any substantive changes to the Work, or discovery of existing conditions that may affect the integrity of the proposed design. Such notice shall be served prior to proceeding with Work. No Extra Work or changes in the design intent shall be commenced without written authorization from the Owner's Representative and the Owner.

1.2 REGULATIONS

The Contractor shall fully comply with all governing local, state and federal laws, rules, regulations, ordinances and permits.

1.3 PERMITS

The Contractor shall obtain and pay for all building permits and inspections, and arrange for necessary inspections and approvals from the authorities having jurisdiction. Should any changes be necessary in the Contract Documents to secure such approvals, the Contractor shall promptly notify the Owner's Representative.

1.4 COORDINATION

The Contractor shall coordinate all work with the following:

City of Portsmouth
Prescott Park

The park will remain operational during construction. Coordination will be required between the Contractor and Owner to minimize construction delays due to facility operations. The Contractor is expected to perform the work in a manner that will allow continued use of all necessary facilities.

The Contractor shall be fully responsible for coordinating all construction activities, verifying dimensions and existing field conditions, establishing on-site lines of authority and communication, monitoring schedules and progress, monitoring quality, maintaining records and reports and in general assuring the proper administration of the Work. Disruptions

and inconveniences to the activities of adjacent facilities to remain in operation during construction shall be minimized, and shall be subject to the prior approval of the Owner. The Contractor shall cooperate with the Owner to the greatest extent possible. The Contractor's cooperative efforts shall include, but shall not necessarily be limited to:

A. Protecting existing structures, utilities and uses and all other improvements within and about the project area.

B. Storing on-site materials at locations acceptable to the Owner and governing authorities.

C. Controlling construction parking and traffic and limiting it to areas acceptable to the Owner and governing authorities.

D. Providing access for and cooperating with other Contractors or Workers to be employed by the Owner.

E. Coordinating work and work schedule to allow continued use of the facilities with minimal interruption.

1.5 SAFETY

The Contractor shall assume full responsibility for all means, methods, procedures, sequences and techniques of construction employed and shall take all measures required to ensure the publics' safety. The Contractor shall take into full consideration and assure himself that all necessary barricades and fencing are provided and that they comply with applicable regulations and standards of good practice. The public shall be guarded from all construction hazards and/or attractive nuisances. The Contractor shall pay all costs necessary for temporary partitioning, barricading, fencing, security and safety devices required for the maintenance of a clean and safe construction site.

1.6 JOB SITE LAYOUT, CONDITIONS AND MEASUREMENTS

The Contractor shall field verify existing job conditions and measurements shown on the Drawings. All discrepancies shall be reported to the Owner's Representative for clarification. The Contractor shall carefully examine the site and Contract Documents prior to proceeding with the Work and satisfy himself as to the conditions under which he must operate to perform the Work. No additional compensation will be made to the Contractor for any error or negligence on his part, nor for discrepancies between actual conditions found at the site and as indicated in the Contract Documents, after the work has commenced.

1.7 PROTECTION OF EXISTING PROPERTY

The Contractor shall provide all shoring, fencing, and other work necessary to support, protect and keep unharmed all walls, buildings, walks, roadways, docks, and all other parts of any existing buildings, facilities, etc. The Contractor shall hold the Owner harmless from any such damage due to any operations under this Contract. Any existing Work or property damaged or disrupted as a result of this Contract shall be replaced or repaired to match original existing conditions at no additional cost to the Owner.

1.8 UTILITIES

The Contractor shall send proper notices, make all necessary arrangements and perform all other services required for the removal or the care, protection and maintenance of all utilities.

1.9 SUPERINTENDENT/FOREMAN - SUPERVISION

The Contractor shall place and maintain a competent, experienced construction Superintendent/Foreman in charge of the Work, on the job site at all times while work is in progress, including overtime operations by the Contractor's forces or by Subcontractors. No changes in this position shall be made without the Owner's prior approval. The Owner shall have the right to review the qualifications of the proposed Superintendent/Foreman and ask for a replacement if in his opinion the person does not meet the qualifications which the project will demand.

The Superintendent shall be responsible to make satisfactory arrangements with the Owner to service emergencies or complaints which may occur at night, over the weekend, holidays or when the job is shut down.

1.10 TRAFFIC REGULATIONS

Parking for workmen and construction vehicles shall be limited to areas designated by the Owner. Parking areas and roadways outside the limits of the Contract shall be kept free of debris resulting from construction related traffic.

1.11 WORK HOURS

All work and trucking shall occur from 7:00AM to 5:00PM (local time) Monday through Friday. No work will be permitted on Sundays or Holidays except as approved or required by the Owner.

1.12 ROADS AND ACCESS TO THE SITE

Access to the site for workmen and the delivery or removal of construction materials and/or equipment shall be made only from locations approved by the Owner. Existing roads, lanes and other required fire access shall remain accessible to fire vehicles at all times. Hauling permits and route approvals shall be obtained by the Contractor from governing authorities as applicable.

1.13 VANDALISM/ACCIDENTS

The Contractor shall take all reasonable precautions necessary to prevent loss or damage caused by vandalism, theft, burglary, pilferage, or unexplained disappearance of property of the Owner, whether or not forming part of the Work, located within those areas of the Project to which the Contractor has access until the work has been Substantially Completed and accepted by the Owner's Representative.

1.14 EXISTING MATERIALS AND EQUIPMENT

All materials scheduled to be removed shall become the property of the Contractor unless otherwise specified. The Contractor shall dispose of all material off-site in accordance with all federal, state and local regulations, ordinances, and codes.

1.15 GUARANTEE

The Contractor shall guarantee the entire Work to be free from defective or improper Work or materials, and shall make good any damage due to such Work or materials for a term of one (1) year from the date of the satisfactory completion and final acceptance of the Work. Extended guarantees or warranties shall be provided where specified.

-- End of Section --

SECTION 01 32 01.00 10

CONSTRUCTION SCHEDULE

PART 1 GENERAL

1.1 SUBMISSION TO OWNER'S REPRESENTATIVE

The Contractor shall be responsible for submitting to the Owner's Representative a detailed construction schedule, at least seven (7) days before the start of construction and on a weekly basis, showing how he intends to approach the project and what he expects to have completed at the end of each week. The schedule should be in bar graph form and list the various tasks required to complete the project and the dates which these tasks will be done.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

-- End of Section --

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 DEFINITIONS

1.1.1 Submittal Descriptions (SD)

Submittal requirements are specified in the technical sections. Submittals are identified by Submittal Description (SD) numbers and titles as follows:

SD-01 Preconstruction Submittals

Submittals which are required prior to construction:

Certificates of Insurance

Surety Bonds

List of Proposed Subcontractors

List of Proposed Products

Construction Progress Schedule

Network Analysis Schedule (NAS)

Submittal Register

Schedule of Prices

Health and Safety Plan

Work Plan

Quality Control(QC) Plan

Environmental Protection Plan

SD-02 Shop Drawings

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

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

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

SD-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and

other characteristics of materials, systems or equipment for some portion of the work.

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

SD-05 Design Data

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

SD-06 Test Reports

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

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

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

Investigation reports.

Daily logs and checklists.

Final acceptance test and operational test procedure.

SD-07 Certificates

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

SD-08 Manufacturer's Instructions

Preprinted material describing installation of a product, system or material, including special notices and (MSDS)concerning impedances, hazards and safety precautions.

1.1.2 Approving Authority

Office or designated person authorized to approve submittal.

1.1.3 Work

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

1.2 SUBMITTALS

Owner approval is required for submittals with a "O" designation; submittals not having a "O" designation are for information only. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Submittal Register; O

1.3 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.4 PREPARATION

1.4.1 Transmittal Form

1.5 VARIATIONS

Variations from contract requirements require both Designer of Record (DOR) and Owner approval pursuant to contract Clause FAR 52.236-21 and will be considered where advantageous to Owner.

1.5.1 Considering Variations

Discussion with Owner prior to submission, after consulting with the DOR, will help ensure functional and quality requirements are met and minimize rejections and re-submittals. When contemplating a variation which results in lower cost, consider submission of the variation as a Value Engineering Change Proposal (VECP).

Specifically point out variations from contract requirements in transmittal letters. Failure to point out deviations may result in the Owner requiring rejection and removal of such work at no additional cost to the Owner.

1.5.2 Proposing Variations

When proposing variation, deliver written request to the Owner, with documentation of the nature and features of the variation and why the variation is desirable and beneficial to Owner, including the DOR's written analysis and approval. If lower cost is a benefit, also include an estimate of the cost savings. In addition to documentation required for variation, include the submittals required for the item. Clearly mark the proposed variation in all documentation.

1.5.3 Warranting That Variations Are Compatible

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

1.5.4 Review Schedule Is Modified

In addition to normal submittal review period, a period of 10 working days will be allowed for consideration by the Owner of submittals with variations.

1.6 SUBMITTAL REGISTER

Prepare and maintain submittal register, as the work progresses. A submittal register showing items of equipment and materials for which submittals are required by the specifications is provided as an attachment. This list may not be all inclusive and additional submittals may be required.

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

Column (d): Lists each submittal description (SD No. and type, e.g. SD-02 Shop Drawings) required in each specification section.

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

1.6.1 Use of Submittal Register

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

Column (a) Activity Number: Activity number from the project schedule.

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

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

Column (i) Contractor Material: Date that Contractor needs material delivered to Contractor control.

1.6.2 Contractor Use of Submittal Register

Update the following fields[in the Owner-furnished submittal register program or equivalent fields in program utilized by Contractor] with each submittal throughout contract.

Column (b) Transmittal Number: Contractor assigned list of consecutive numbers.

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

Column (l) List date of submittal transmission.

Column (q) List date approval received.

1.6.3 Approving Authority Use of Submittal Register

Update the following fields[in the Owner-furnished submittal register program or equivalent fields in program utilized by Contractor].

Column (b) Transmittal Number: Contractor assigned list of consecutive numbers.

Column (l) List date of submittal receipt.

Column (m) through (p) List Date related to review actions.

Column (q) List date returned to Contractor.

1.6.4 Copies Delivered to the Owner

Deliver one copy of submittal register updated by Contractor to Owner with each invoice request.

1.7 SCHEDULING

Schedule and submit concurrently submittals covering component items forming a system or items that are interrelated. Include certifications to be submitted with the pertinent drawings at the same time. No delay damages or time extensions will be allowed for time lost in late submittals.

a. Coordinate scheduling, sequencing, preparing and processing of submittals with performance of work so that work will not be delayed by submittal processing. Allow for potential resubmittal of requirements.

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

c. Re-submit register and annotate monthly by the Contractor with actual submission and approval dates. When all items on the register have been fully approved, no further re-submittal is required.

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

1.8 OWNER APPROVING AUTHORITY

When approving authority is Owner, the Owner will:

a. Note date on which submittal was received.

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

c. Identify returned submittals with one of the actions defined in paragraph entitled, "Review Notations," of this section and with markings appropriate for action indicated.

1.9 DISAPPROVED OR REJECTED SUBMITTALS

Contractor shall make corrections required. If the Contractor considers any correction or notation on the returned submittals to constitute a change to the contract drawings or specifications; notice as required under the clause entitled, "Changes," is to be given to the Owner. Contractor is responsible for the dimensions and design of connection details and construction of work. Failure to point out deviations may result in the Owner requiring rejection and removal of such work at the Contractor's expense.

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

1.10 APPROVED/ACCEPTED SUBMITTALS

The Owner's approval or acceptance of submittals is not to be construed as a complete check, and indicates only that

Approval or acceptance will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this contract is responsible for.

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

1.11 APPROVED SAMPLES

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

Match the approved samples for materials and equipment incorporated in the work. If requested, approved samples, including those which may be damaged in testing, will be returned to the Contractor, at his expense, upon completion of the contract. Samples not approved will also be returned to the Contractor at its expense, if so requested.

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

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

Approval of the Contractor's samples by the Owner does not relieve the Contractor of his responsibilities under the contract.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
South Floating Dock Replacment

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH	
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 33 00	SD-01 Preconstruction Submittals															
			Submittal Register	1.6	O													
		02 41 00	SD-07 Certificates															
			Demolition plan	1.9														
			Existing Work	1.6.1														
		05 12 00	SD-02 Shop Drawings															
			Fabrication drawings	1.4.1	O													
			SD-07 Certificates															
			Bolts, Nuts, and Washers	2.2	O													
			Steel Shapes And Plates	2.1	O													
			Anchors	2.3	O													
			Anchor Chain	2.5.1	O													
			Anchor Assembly Hardware	2.5.2	O													
			Welding electrodes and rods	2.4.1	O													
			Galvanizing	2.6	O													
			Welding procedures and	1.4.2.1														
			qualifications															
		26 27 29	SD-02 Shop Drawings															
			Panelboards	2.10	G													
			SD-03 Product Data															
			Receptacles	2.8	G													
			Conduit and fittings	2.2	G													
			Dock power pedestal	2.3	G													
			Grounding and bonding	2.12	G													
			equipment															
			Device plates	2.7	G													

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION: South Floating Dock Replacment

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		26 27 29	Wires and cables	2.6	G													
			Outlet boxes and covers	2.4	G													
			Splice and termination	2.6.5	G													
			components															
			Cabinets, junction boxes, and pull	2.5	G													
			boxes															
			Mounting straps	2.11	G													
			Surge protective devices	2.14	G													
			Surge protective devices	3.3.4	G													
			SD-06 Test Reports															
			Grounding system test	3.3.3	G													
		33 11 00	SD-03 Product Data															
			Water service line	2.1														
		35 51 10.00 00	SD-01 Preconstruction Submittals															
			Manufacturer's Qualifications	1.8.1														
			Manufacturer's Warranty	1.8.2														
			SD-02 Shop Drawings															
			Gangway Design Drawings	1.5.2														
			SD-03 Product Data															
			Decking	2.1.6														
			Non-Skid Surface	2.1.8														
			SD-05 Design Data															
			Gangway Design Calculations	1.5.1														
		35 51 13.00 20	SD-01 Preconstruction Submittals															
			Manufacturer's Qualifications	1.4	O													
			Manufacturer's Warranty	1.4	O													

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
South Floating Dock Replacment

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		35 51 13.00 20	SD-02 Shop Drawings															
			Drawings of Precast Float	1.9.2	O													
			System															
			SD-03 Product Data															
			Concrete Float System catalogs,	1.9.1	O													
			illustrations, and brochures															
			Mooring Hardware	2.2.6.6	O													
			Fender Elements	2.6	O													
			SD-05 Design Data															
			Design Calculations	1.9.3	O													
			Concrete Mix Design	1.9.4	O													
			SD-06 Test Reports															
			Contractor-Furnished Mix Design	2.1	O													
			Performance Reports	3.8	O													
			Concrete Field and Lab Test	1.6.1	O													
			Reports															
			Chloride Ion Penetration Test	1.9.5	O													
			Results															
			SD-07 Certificates															
			Fabrication	2.3	O													
			Granite Anchor Block	2.5	O													
			SD-08 Manufacturer’s Instructions															
			Handling and Concrete Float	1.9.1	O													
			System Installation Instructions															
			Operation and Maintenance Data	1.9.1	O													

SECTION 01 35 30.01

SAFETY, HEALTH, AND ENVIRONMENTAL PROTECTION

PART 1 GENERAL

This section applies to all necessary steps taken by the Contractor to comply with the safety, health, and environmental protection requirements listed herein.

1.1 REFERENCES

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

ENVIRONMENTAL PROTECTION AGENCY (EPA) REGULATIONS

40 CFR 262	Standards Applicable To Generator Of Hazardous Waste
40 CFR 763	Asbestos Hazards and Emergency Response Act (AHERA)
40 CFR Part 204	Noise Emission Standards For Construction Equipment
16 CFR 1303	Ban Of Lead-Containing Paint And Certain Consumer Products Bearing Lead-Containing Paint

U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS

29 CFR 1910.1025	Occupational Safety and Health Standard - Lead
29 CFR 1910.120	Occupational Safety and Health Standard - Hazardous Waste Operations and Emergency Response
29 CFR 1926.62	Safety and Health Regulations for Construction - Lead
29 CFR 1926.106	Safety and Health Regulations for Construction - Working Over or Near Water
29 CFR 1926.501	Safety and Health Regulations for Construction - Duty to have Fall Protection
29 CFR 1926.502	Safety and Health Regulations for Construction -Fall Protection Systems Criteria and Practices

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

29 CFR 1926.59	Hazard Communication

40 CFR 261	Identification and Listing of Hazardous Waste
49 CFR 178	Specifications for Packagings

1.2 REFERENCE STATUES

The statutes listed below form a part of this specification to the extent referenced.

A. Clean Air Act (CAA) (42 U.S.C. 7401 to 7642)

B. Clean Water Act (33 U.S.C. 1251 to 1387)

C. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. 9601 to 9675)

D. Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 U.S.C.136 to 139y)

E. Noise Control Act (NCA) (42 U.S.C. 4901 to 4918)

F. Residential Lead-Based Paint Exposure Reduction Act (15 U.S.C. 2681 to 2692)

G. Toxic Substance Control Act (TSCA) (15 U.S.C. 2601 to 2654)

H. Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6901 to 6992K)

1.3 HAZARDOUS MATERIAL TESTING

No tests have been conducted on materials selected for demolition.

1.4 UNFORESEEN HAZARDOUS MATERIALS

A. If, during the course of work, material is found that may be hazardous to human health upon disturbance during construction operations, stop that portion of work and notify the Owner's Representative immediately. Within 14 calendar days, the Owner will determine if the material is hazardous. If the material is not hazardous or poses no danger, the Owner will direct the Contractor to proceed without change. If material is necessary to accomplish work, the Owner will issue a contract modification.

B. If asbestos is the hazard of concern, the materials shall be tested following the negative assessment protocol found in 40 CFR 763, Asbestos Hazards and Emergency Response Act (AHERA).

1.5 DEFINITIONS

A. Sediment: Soil and other debris that has been eroded and transported by runoff water.

B. Solid Waste: Rubbish, debris, sanitary waste, and other discarded solid materials resulting from industrial, commercial, and agricultural operations, and from community activities.

C. Rubbish: A variety of combustible and noncombustible wastes such as paper, boxes, glass, crockery, metal, lumber, cans, and bones.

D. Debris: Includes combustible and noncombustible wastes, such as ashes, waste materials that result from construction or maintenance and repair work, leaves, and tree trimmings.

E. Chemical Wastes: Includes salts, acids, alkalies, herbicides, pesticides, and organic chemicals.

F. Sanitary Wastes:

1. Sewage: Wastes characterized as domestic sanitary sewage.
2. Garbage: Refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food.

G. Asbestos and Asbestos Materials: Asbestos means actinolite, amosite, antophyllite, chrysotile, crocidolite, and tremolite. Asbestos material means asbestos or any material containing asbestos such as asbestos waste, scrap, debris bags, containers, equipment, and asbestos-contaminated clothing consigned for disposal. Friable asbestos material means any material that contains more than one percent asbestos by weight and that can be crumbled, pulverized, or reduced to powder, when dry, by hand pressure.

H. Oily Waste: Includes petroleum products and bituminous materials.

I. Hazardous Material (HM): Chemicals defined by OSHA 29 CFR 1926.59 and under the U.S. Department of Transportation (DOT) regulations (Title 49 CFR Parts 100 through 199) which are determined by the Secretary of Transportation to present risks to safety, health, and property during transportation. The DOT regulations include requirements for shipping papers, package marking, labeling, transport vehicle placarding, and training of personnel handling hazardous materials.

J. Hazardous Substance: Substances defined under the Clean Water Act and CERCLA as chemicals that are harmful to aquatic life or the environment and are regulated, if spilled or otherwise released to the environment. The EPA has designated "reportable quantities" for each hazardous substance under CERCLA. If an amount equal to or greater than the reportable quantity of a hazardous substance is released to the environment, that spill must be reported.

K. Hazardous Waste (HW): Substances which are hazardous and have been discarded are regulated as hazardous waste under RCRA or State Health and Safety Codes and their implementing regulations. A waste is hazardous if it meets certain levels of reactivity, ignitability, corrosivity, or toxicity, or is otherwise listed as a hazardous waste in Title 40 CFR 261 or in the respective State Health and Safety Code or Code of Regulations.

L. Lead Containing Paint: Paint or other similar surface coating material containing lead or lead compounds and in which the lead content is in excess of 0.06% by weight of the total nonvolatile content of the paint or the weight of the dried paint film. Abatement of paint containing even trace amounts of lead must meet the requirements of federal and state laws for protection of employees (e.g., 29 CFR 1926.62).

1.6 SUBMITTALS

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

A. Solid Waste Disposal Permit
Upon disposal, provide copies of the acceptance receipts for the material from the disposal site.

B. Material Safety Data Sheets (MSDS)
Copies of all MSDS's for all hazardous materials (including petroleum products) shall be submitted along with a listing of quantities of these hazardous materials proposed to be stored on site.

1.7 ENVIRONMENTAL PROTECTION REQUIREMENTS

Provide and maintain environmental protection during the life of the Contract to control pollution or to correct conditions that develop during construction. Comply with all federal, state, and local laws and regulations pertaining to water, air, soil, and noise pollution.

1.8 PROTECTION OF NATURAL RESOURCES

A. Preserve the natural resources within the project boundaries and outside the limits of permanent work performed under this Contract in their existing condition or restore to an equivalent or improved condition upon completion of the work. Repair or restore to original condition all trees or other landscape features scarred or damaged by equipment or operations. Obtain Owner's Representative's approval before repair or restoration. Confine construction activities to areas defined by the work schedule, drawings, and specifications. Federal Acquisition Regulation clause 52.236-9 applies.

B. Do not remove, cut, deface, injure, or destroy trees or shrubs without special written permission from the Owner's Representative. Protect existing trees that may be damaged by construction operations.

C. Construction equipment is to be kept in good repair without leaks of hydraulic or lubricating fluids. If such leaks or drips do occur, they shall be cleaned up immediately. Drip pans shall be utilized when vehicles are parked. Confine equipment maintenance and/or repair to one location. Control runoff in this area to prevent contamination of soils and water.

D. At or before Contract completion, obliterate all signs of temporary construction facilities such as haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess or waste materials, and all other vestiges of construction. Temporary roads, parking areas, staging areas, and similar temporary use areas where excavation has been accomplished shall be graded in conformance with surrounding areas. Restore all disturbed areas to their original condition.

1.9 CONTROL AND DISPOSAL OF WASTE

With the exception of materials specifically indicated or specified to be salvaged for reuse in construction, or turned over to the Owner, all wastes and demolished materials become the Contractor's property and shall be removed from the job site daily.

A. Hazardous Waste Disposal. Any hazardous waste generated by work under this contract is the responsibility of the Contractor and shall be disposed of in accordance with all applicable federal, state, and local regulatory requirements. Along with the Owner, the Contractor is the co-generator of any hazardous waste. As the other co-generator, the Owner shall make available its facility's EPA generator ID number for manifesting of

hazardous waste. The Contractor shall arrange and be responsible for the transportation and final disposal of any hazardous waste. Comply with applicable parts of 40 CFR 262. Any manifest of hazardous waste shall be signed by the Owner's Hazardous Materials/Hazardous Waste Coordinator at the work site (hereinafter "HM/HW Coordinator"). The Contractor shall contact the HM/HW Coordinator for disposal of any hazardous waste. No contractor or subcontractor shall have the authority to sign a hazardous waste manifest using the facility's EPA generator ID number. Only the HM/HW Coordinator may sign a manifest for hazardous waste.

B. HM/HW Spill Response. Store chemical waste in corrosion resistant containers labeled to identify type of waste and date filled. Comply with 49 CFR 178. Remove containers from Owner property and dispose of in accordance with federal, state, and local regulations. Submit a certified copy of the acceptance receipts for these materials, indicating quantities. For oil and hazardous material spills that may be large enough to violate Federal, State, and local regulations, notify the Owner's Representative immediately.

C. Comply with 40 CFR 262 and 263, 29 CFR 1910.120, and state regulations for removal, transportation and disposal of hazardous waste as discussed in the Contractor's HM/HW Handling Plan.

D. Lead:

1. Lead-Based Paint, The contractor shall comply with all applicable local, state, and federal laws and regulations regarding lead-based or lead-containing paint, when engaging in lead-based paint activities or when addressing lead-based paint hazards. Compliance with all such laws and regulations shall be indicated in the HM/HW Abatement Plan. Whenever this contract provides more than one standard for regulating lead-based paint, the contractor shall comply with the most restrictive law or regulation. Applicable laws or regulations include, but are not limited to, 16 CFR 1303, Ban of Lead-Containing Paint; 29 CFR 1910.1025, Occupational Safety and Health Standards for General Industry; and 29 CFR 1926.62, Lead Exposure in Construction; 15 U.S.C. 2601, et. seq., and the Residential Lead-Based Paint Exposure Reduction Act.

2. Lead-Contaminated Material Abatement: The Contractor shall not release lead or lead-contaminated materials into the environment. The Contractor shall not dispose of lead or lead-contaminated materials except in accordance with hazardous waste laws. When handling and storing lead-contaminated materials, the Contractor shall be responsible for compliance with 42 U.S.C. 9601-9675, 42 U.S.C. 6901-6991, and all other applicable federal, state, and local environmental laws and regulations.

3. Painting Over Lead Based Paint: If it is intended that the contractor is to paint over lead-based paint, prepare surfaces in accordance with the HM/HW abatement plan. Record the exact, detailed locations where the lead-based paint was removed or had new paint applied over it. Provide copies of these records to the Owner's Representative.

1.10 FALL PROTECTION

Per 29 CFR 1926.501and 29 CFR 1926.502, employees engaged in activities on walking/working surface with an unprotected side or edge which is 6 feet or

more above a lower level shall be protected from falling by guardrail systems, safety net systems, or personal fall arrest systems.

1.11 DUST CONTROL

Keep dust down at all times, including non-working hours, weekends, and holidays. No dry power brooming is permitted. Instead, use vacuuming, wet mopping, wet sweeping, or wet power brooming. Air blowing is permitted only for cleaning nonparticulate debris, such as steel reinforcing bars. No grit blasting is permitted unless dust is confined and collected. Only wet cutting of concrete blocks, concrete, and asphalt is permitted. No unnecessary shaking of bags is permitted where bagged cement, concrete mortar, and plaster is used.

1.12 NOISE

Make the maximum use of "Low-noise-emission products" as certified by EPA and described at 40 CFR Part 204. No blasting or use of explosives is permitted. Comply with applicable portions of the Noise Control Act (NCA). The Contractor is responsible for complying with all other federal, state, and local noise control laws and regulations.

1.13 WORKING OVER OR NEAR WATER

When working over or near water, comply with 29 CFR 1926.106.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

-- End of Section --

SECTION 01 78 00

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1 DESCRIPTION

A. Work Included

Keep accurate record documents for all additions, substitutions of material, variations of work and any other additions or revisions to the Contract.

B. Related Work Specified Elsewhere

Shop Drawings, Project Data and Samples are specified in "General Conditions".

1.2 MAINTENANCE OF DOCUMENTS

A. Maintain at job site, one copy of:

1. Contract Drawings
2. Specifications
3. Addenda
4. Reviewed Shop Drawings
5. Change Orders
6. Any other modifications to the Contract
7. Field Test Reports

B. Store documents in approved files and racks apart from documents used for construction.

C. File documents in a logical manner indexed for easy reference.

D. Maintain documents in clean, dry, legible condition.

E. Do not use record documents for construction purposes.

F. Make documents available at all times for inspection by the Owner's Representative and Owner.

1.3 RECORDING

A. Label each document "PROJECT RECORD" in large, high printed letters.

B. Keep record documents current and do not permanently conceal any work until required information has been recorded.

C. Contract Drawings - legibly mark to record actual construction:

1. Depths of various elements of foundation in relation to survey data.

2. Horizontal and vertical locations of underground utilities and appurtenances referenced to permanent surface improvements.

a. Include all water, sewer, steam, air, instrumentation and fuel piping systems and all electrical and communications circuits including all direct burial cables.

b. Whenever any existing utility line is uncovered in the course of excavation for new utility installation, record location and dimensions for such lines.

c. Method of location and recording shall have prior approval of the Owner's Representative.

3. Location of service connection points (when applicable) with any utility (water, sewer, electrical, telephone, etc.) and the location of capped or plugged ends of these same service lines.

a. Locations shall be recorded by accurate "swing ties" or other methods approved by the Owner's Representative.

b. Method of location and recording shall have prior approval of the Owner's Representative.

4. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.

a. Electrical equipment such as conduits, piping, instrumentation located in slabs, walls, etc. and to include approximate locations and routing.

b. Schematic diagram of actual electric conduit or instrument tubing routing between equipment and supply.

5. Field changes of dimension and detail and changes made by Change Order or Field Order.

6. Details not on original Contract Drawings.

D. Specifications and Addenda - legibly mark each section to record:

1. Manufacturer, trade name, catalog number and supplier of each product and item of equipment actually installed.

2. Changes made by Change Order or Field Order.

1.4 SUBMITTALS

A. At the completion of the project, deliver record documents to the Owner's Representative.

B. Accompany submittal with transmittal letter, in duplicate, containing:

1. Date, project title and number.
2. Contractor's name and address.
3. Title and number of each record document with certification that each document is completed and accurate.
4. Signature of Contractor, or his authorized representative.

C. Failure to record these locations on the Project Record Drawings shall result in non-approval of the final payment of the Contract and/or if contract time (as specified in accordance with the Standard General Conditions of the Construction Contract) has elapsed, this shall be grounds for the enactment of the liquidated damages as specified.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

-- End of Section --

SECTION 02 41 00

DEMOLITION

PART 1 GENERAL

1.1 REFERENCES

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

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2008) Safety and Health Requirements Manual

1.2 GENERAL REQUIREMENTS

Do not begin demolition until authorization is received from the Owner's Representative. Remove rubbish and debris from the project site; do not allow accumulations. The work includes demolition, salvage of identified items and materials, and removal of resulting rubbish and debris. Remove rubbish and debris from Owner property daily, unless otherwise directed. Materials that cannot be removed daily shall be stored in areas specified by the Owner's Representative. In the interest of occupational safety and health, perform the work in accordance with EM 385-1-1, Section 23, Demolition, and other applicable Sections.

1.3 SUBMITTALS

Owner approval is required for submittals with a "O" designation; submittals not having a "O" designation are for information only. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-07 Certificates

Demolition plan, O

Existing Work, O

Proposed salvage, demolition and removal procedures for approval before work is started.

1.4 REGULATORY AND SAFETY REQUIREMENTS

Comply with federal, state, and local hauling and disposal regulations.

1.5 DUST AND DEBRIS CONTROL

Prevent the spread of dust and debris and avoid the creation of a nuisance or hazard in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution. Control shall meet the requirements of Division 1 specifications.

1.6 PROTECTION

1.6.1 Existing Work

Before beginning any demolition work, survey the site and examine the drawings and specifications to determine the extent of the work. Record existing work in the presence of the Owner's Representative showing the condition of structures and other facilities adjacent to areas of alteration or removal. Digital photographs with a photo log submitted on a CD will be acceptable as a record of existing conditions.

1.6.2 Items to Remain in Place

Take reasonable precautions to maintain the stability of the bulkhead, including temporary shoring, as needed. Take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Owner. Repair or replace damaged items as approved by the Owner's Representative. Coordinate the work of this section with all other work indicated. Construct and maintain shoring, bracing, and supports as required. Ensure that structural elements are not overloaded. Increase structural supports or add new supports as may be required as a result of any cutting, removal, or demolition work performed under this contract. Do not overload structural elements. Provide new supports and reinforcement for existing construction weakened by demolition or removal work. Repairs, reinforcement, or structural replacement require approval by the Owner's Representative prior to performing such work.

1.6.3 Existing Construction

Do not disturb existing construction beyond the extent indicated or necessary for installation of new construction. Provide temporary shoring and bracing for support of structural components to prevent settlement or other movement. Provide protective measures to control accumulation and migration of dust and dirt in all work areas. Remove dust, dirt, and debris from work areas daily.

1.6.4 Utility Service

Maintain existing utilities indicated to stay in service and protect against damage during demolition operations. Prior to start of work, utilities serving each area of alteration or removal will be shut off by the Owner to permit the work if requested by the Contractor.

1.6.5 Protection of Personnel

Before, during and after the demolition work the Contractor shall continuously evaluate the condition of the structure being demolished and take immediate action to protect all personnel working in and around the demolition site. No structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workmen remove debris or perform other work in the immediate area.

1.7 BURNING

The use of burning at the project site for the disposal of refuse and debris will not be permitted.

1.8 RELOCATIONS

Perform the removal and reinstallation of relocated items as indicated with workmen skilled in the trades involved. Items to be relocated which are damaged by the Contractor shall be repaired or replaced with new undamaged items as approved by the Owner's Representative.

1.9 REQUIRED DATA

The Demolition plan shall include procedures for careful removal and disposition of materials specified to be salvaged, coordination with other work in progress, a disconnection schedule of utility services, a detailed description of methods and equipment to be used for each operation and of the sequence of operations. Provide procedures for safe conduct of the work in accordance with EM 385-1-1.

1.10 ENVIRONMENTAL PROTECTION

Comply with the Department of Environmental Services requirements specified.

1.11 USE OF EXPLOSIVES

Use of explosives will not be permitted.

1.12 AVAILABILITY OF WORK AREAS

Areas in which the work is to be accomplished shall be coordinated with the Owner's Representative.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 EXISTING FACILITIES TO BE REMOVED

3.1.1 Structures

a. Remove existing structures as indicated.

3.2 DISPOSITION OF MATERIAL

3.2.1 Title to Materials

Except for salvaged items specified in related Sections, and for materials or equipment scheduled for salvage, all materials and equipment removed and not reused or salvaged, shall become the property of the Contractor and shall be removed from Owner property. Title to materials resulting from demolition, and materials and equipment to be removed, is vested in the Contractor upon approval by the Owner's Representative of the Contractor's demolition and removal procedures, and authorization by the Owner's Representative to begin demolition. The Owner will not be responsible for the condition or loss of, or damage to, such property after contract award. Materials and equipment shall not be viewed by prospective purchasers or sold on the site.

3.3 CLEANUP

Debris and rubbish shall be removed. Debris shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Apply local regulations regarding hauling and disposal.

3.4 DISPOSAL OF REMOVED MATERIALS

Dispose of debris, rubbish, scrap, and other non-salvageable materials resulting from removal operations with all applicable federal, state and local regulations as contractually specified off site. Removed materials shall not be stored on the project site.

-- End of Section --

SECTION 05 12 00

STRUCTURAL STEEL

PART 4 GENERAL

Work under this section covers structural steel and hardware to construct the gangway connection and other miscellaneous steel assemblies as shown on the drawings and specified herein.

1.1 REFERENCES

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

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

AISC 325	(2011) Steel Construction Manual
AISC 326	(2009) Detailing for Steel Construction

ASTM INTERNATIONAL (ASTM)

ASTM A 123/A 123M	(2009) Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 153/A 153M	(2009) Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A 307	(2007b) Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength
ASTM A 563	(2007a) Standard Specification for Carbon and Alloy Steel Nuts
ASTM A 572/A 572M	(2007) Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel
ASTM A 780	(2001; R 2006) Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
ASTM F 844	(2007a) Washers, Steel, Plain (Flat), Unhardened for General Use

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M	(2010) Structural Welding Code - Steel
AWS D3.6	(1999) Specifications for Underwater Welding

1.2 SYSTEM DESCRIPTION

Provide the structural steel system, including coatings, complete and ready for use. Structural steel systems including design, materials, installation, workmanship, fabrication, assembly, erection, inspection, quality control, and testing shall be provided in accordance with AISC 325 except as modified in this contract.

1.3 SUBMITTALS

Owner approval is required for submittals with a "O" designation; submittals not having a "O" designation are for information only. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Fabrication drawings, O
Drawings shall include details of all connections

SD-07 Certificates

Bolts, Nuts, and Washers, O

Steel Shapes And Plates, O

Anchors, O

Anchor Chain, O

Anchor Assembly Hardware, O

Welding electrodes and rods, O

Galvanizing, O

Welding procedures and qualifications, O

1.4 QUALITY ASSURANCE

1.4.1 Drawing Requirements

Submit fabrication drawings for approval prior to fabrication. Prepare in accordance with AISC 326 and AISC 325. Fabrication drawings shall not be reproductions of contract drawings. Include complete information for the fabrication and erection of the structure's components, including the location, type, and size of bolts, welds, member sizes and lengths, connection details, blocks, copes, and cuts. Use AWS standard welding symbols.

1.4.2 Certifications

1.4.2.1 Welding Procedures and Qualifications

Prior to welding, submit certification for each welder stating the type of welding and positions qualified for, the code and procedure qualified under, date qualified, and the firm and individual certifying the qualification tests. If the qualification date of the welding operator is more than one-year old, the welding operator's qualification certificate

shall be accompanied by a current certificate by the welder attesting to the fact that he has been engaged in welding since the date of certification, with no break in welding service greater than 6 months.

PART 2 PRODUCTS

2.1 STEEL SHAPES AND PLATES

2.1.1 High-Strength Structural Steel(Channels, Angles, and Plates). All elements of the gangway roller guides shall be stainless steel ASTM Type 316L.

2.1.2 Low-Alloy Steel

ASTM A 572/A 572M, Grade 50.

2.2 BOLTS, NUTS, AND WASHERS

2.2.1 Bolts

ASTM A 307, Grade A. The bolt heads and the nuts of the supplied fasteners must be marked with the manufacturer's identification mark, the strength grade and type specified by ASTM Standards.

2.2.2 Nuts

ASTM A 563, Grade and Style for applicable ASTM bolt standard recommended.

2.2.3 Washers

ASTM F 844.

2.3 ANCHORS

Bolts, nuts, and washers shall conform to ASTM A 307, ASTM A 563, and ASTM F 844, as applicable. Hot dip galvanized bolts and studs including associated nuts and washers in accordance with ASTM A 153/A 153M. Gangway connection anchor bolts shall be a minimum of 3/4" diameter.

2.4 STRUCTURAL STEEL ACCESSORIES

2.4.1 Welding Electrodes and Rods

AWS D1.1/D1.1M and AWS D3.6.

2.5 ANCHOR SYSTEM

2.5.1 Anchor Chain

Anchor chain shall be 1 1/4" or 3/4" as shown on the drawings. All anchor chain shall be cast steel or drop forged steel Grade 2 conforming to ABS standards. Contractor shall submit certifications for all chain.

2.5.2 Anchor Assembly Hardware

All hardware shall be suitably sized for anchor chain and as labelled on the drawings. Shackles shall be suitably sized to develop full strength of the chain being connected. Shackles shall be stamped or embossed with the nominal trade size and allowable working load. All hardware shall be

galvanized.

2.6 GALVANIZING

ASTM A 123/A 123M or ASTM A 153/A 153M, as applicable, unless specified otherwise galvanize after fabrication where practicable.

2.7 FABRICATION

2.7.1 Markings

Prior to erection, members shall be identified by a painted erection mark. Connecting parts assembled in the shop for reaming holes in field connections shall be match marked with scratch and notch marks. Do not locate erection markings on areas to be welded. Do not locate match markings in areas that will decrease member strength or cause stress concentrations.

PART 3 EXECUTION

3.1 INSTALLATION

3.2 WELDING

AWS D1.1/D1.1M, AWS D3.6, Grind exposed welds smooth as indicated. Provide AWS D1.1/D1.1M, AWS D3.6, qualified welders, welding operators, and tackers.

3.2.1 Removal of Temporary Welds, Run-Off Plates, and Backing Strips

Removal is not required, but shall be field coated as specified herein for galvanizing repair. Remove only from finished areas.

3.3 GALVANIZING REPAIR

Galvanize after fabrication where practicable. Repair damage to galvanized coatings using ASTM A 780 zinc rich paint for galvanizing damaged by handling, transporting, cutting, welding, or bolting. Do not heat surfaces to which repair paint has been applied.

3.4 FIELD QUALITY CONTROL

Perform field tests, and provide labor, equipment, and incidentals required for testing, except that electric power for field tests will be furnished as set forth in Division 1. The Owner's Representative shall be notified in writing of defective welds, bolts, nuts, and washers within 7 working days of the date of weld inspection.

-- End of Section --

SECTION 26 00 00.00 20

BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 GENERAL

1.1 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

ASTM D709	(2001; R 2007) Laminated Thermosetting Materials

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 100	(2000; Archived) The Authoritative Dictionary of IEEE Standards Terms
IEEE C2	(2012; Errata 2012; INT 1-4 2012) National Electrical Safety Code

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA 250	(2008) Enclosures for Electrical Equipment (1000 Volts Maximum)

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(2011; Errata 2 2012) National Electrical Code

1.2 RELATED REQUIREMENTS

This section applies to certain sections of Division 02, EXISTING CONDITIONS. This section applies to all sections of Division 26 of this project specification unless specified otherwise in the individual sections. This section has been incorporated into, and thus, does not apply to, and is not referenced in the following sections.

Section 26 27 29 MARINA ELECTRICAL WORK

1.3 DEFINITIONS

a. Unless otherwise specified or indicated, electrical and electronics terms used in these specifications, and on the drawings, shall be as defined in IEEE 100.

b. The technical sections referred to herein are those specification sections that describe products, installation procedures, and equipment operations and that refer to this section for detailed description of submittal types.

c. The technical paragraphs referred to herein are those paragraphs in

PART 2 - PRODUCTS and PART 3 - EXECUTION of the technical sections that describe products, systems, installation procedures, equipment, and test methods.

1.4 ADDITIONAL SUBMITTALS INFORMATION

Submittals required in other sections that refer to this section must conform to the following additional requirements as applicable.

1.4.1 Shop Drawings (SD-02)

Include wiring diagrams and installation details of equipment indicating proposed location, layout and arrangement, control panels, accessories, and other items that must be shown to ensure a coordinated installation. Wiring diagrams shall identify circuit terminals and indicate the internal wiring for each item of equipment and the interconnection between each item of equipment. Drawings shall indicate adequate clearance for operation, maintenance, and replacement of operating equipment devices.

1.4.2 Product Data (SD-03)

Submittal shall include performance and characteristic curves.

1.5 QUALITY ASSURANCE

1.5.1 Regulatory Requirements

In each of the publications referred to herein, consider the advisory provisions to be mandatory, as though the word, "shall" had been substituted for "should" wherever it appears. Interpret references in these publications to the "authority having jurisdiction," or words of similar meaning, to mean the Contracting Officer. Equipment, materials, installation, and workmanship shall be in accordance with the mandatory and advisory provisions of NFPA 70 unless more stringent requirements are specified or indicated.

1.5.2 Standard Products

Provide materials and equipment that are products of manufacturers regularly engaged in the production of such products which are of equal material, design and workmanship. Products shall have been in satisfactory commercial or industrial use for 2 years prior to bid opening. The 2-year period shall include applications of equipment and materials under similar circumstances and of similar size. The product shall have been on sale on the commercial market through advertisements, manufacturers' catalogs, or brochures during the 2-year period. Where two or more items of the same class of equipment are required, these items shall be products of a single manufacturer; however, the component parts of the item need not be the products of the same manufacturer unless stated in the technical section.

1.5.2.1 Material and Equipment Manufacturing Date

Products manufactured more than 3 years prior to date of delivery to site shall not be used, unless specified otherwise.

1.6 WARRANTY

The equipment items shall be supported by service organizations which are reasonably convenient to the equipment installation in order to render

satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.

1.7 POSTED OPERATING INSTRUCTIONS

Provide for each system and principal item of equipment as specified in the technical sections for use by operation and maintenance personnel. The operating instructions shall include the following:

a. Wiring diagrams, control diagrams, and control sequence for each principal system and item of equipment.

b. Start up, proper adjustment, operating, lubrication, and shutdown procedures.

c. Safety precautions.

d. The procedure in the event of equipment failure.

e. Other items of instruction as recommended by the manufacturer of each system or item of equipment.

Print or engrave operating instructions and frame under glass or in approved laminated plastic. Post instructions where directed. For operating instructions exposed to the weather, provide weather-resistant materials or weatherproof enclosures. Operating instructions shall not fade when exposed to sunlight and shall be secured to prevent easy removal or peeling.

1.8 MANUFACTURER'S NAMEPLATE

Each item of equipment shall have a nameplate bearing the manufacturer's name, address, model number, and serial number securely affixed in a conspicuous place; the nameplate of the distributing agent will not be acceptable.

1.9 FIELD FABRICATED NAMEPLATES

ASTM D709. Provide laminated plastic nameplates for each equipment enclosure, switch, and device; as specified in the technical sections or as indicated on the drawings. Each nameplate inscription shall identify the function and, when applicable, the position. Nameplates shall be melamine plastic, 0.125 inch thick, white with black center core. Surface shall be matte finish. Corners shall be square. Accurately align lettering and engrave into the core. Minimum size of nameplates shall be one by 2.5 inches. Lettering shall be a minimum of 0.25 inch high normal block style.

1.10 ELECTRICAL REQUIREMENTS

Electrical installations shall conform to IEEE C2, NFPA 70, and requirements specified herein.

1.11 INSTRUCTION TO GOVERNMENT PERSONNEL

Where specified in the technical sections, furnish the services of competent instructors to give full instruction to designated Government personnel in the adjustment, operation, and maintenance of the specified systems and equipment, including pertinent safety requirements as required. Instructors shall be thoroughly familiar with all parts of the installation

and shall be trained in operating theory as well as practical operation and maintenance work. Instruction shall be given during the first regular work week after the equipment or system has been accepted and turned over to the Government for regular operation. The number of man-days (8 hours per day) of instruction furnished shall be as specified in the individual section.

PART 2 PRODUCTS

2.1 FACTORY APPLIED FINISH

Electrical equipment shall have factory-applied painting systems which shall, as a minimum, meet the requirements of NEMA 250 corrosion-resistance test and the additional requirements specified in the technical sections.

PART 3 EXECUTION

3.1 FIELD APPLIED PAINTING

Paint electrical equipment as required to match finish of adjacent surfaces or to meet the indicated or specified safety criteria. Painting shall be as specified in the section specifying the associated electrical equipment.

3.2 FIELD FABRICATED NAMEPLATE MOUNTING

Provide number, location, and letter designation of nameplates as indicated. Fasten nameplates to the device with a minimum of two stainless steel sheet-metal screws or two rivets.

-- End of Section --

SECTION 26 27 29

MARINA ELECTRICAL WORK

PART 1 GENERAL

1.1 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

ASTM B1	(2012) Standard Specification for Hard-Drawn Copper Wire
ASTM B8	(2011) Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA ICS 6	(1993; R 2011) Enclosures
NEMA TC 2	(2003) Standard for Electrical Polyvinyl Chloride (PVC) Conduit
NEMA WD 1	(1999; R 2005; R 2010) Standard for General Color Requirements for Wiring Devices

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 303	(2011) Fire Protection Standards for Marinas and Boatyards
NFPA 70	(2011; Errata 2 2012) National Electrical Code

UNDERWRITERS LABORATORIES (UL)

UL 467	(2007) Grounding and Bonding Equipment
UL 486A-486B	(2013) Wire Connectors
UL 489	(2013) Molded-Case Circuit Breakers, Molded-Case Switches, and Circuit-Breaker Enclosures
UL 498	(2012; Reprint Nov 2012) Attachment Plugs and Receptacles
UL 50	(2007; Reprint Apr 2012) Enclosures for Electrical Equipment, Non-environmental Considerations

UL 510	(2005; Reprint Apr 2008) Polyvinyl Chloride, Polyethylene and Rubber Insulating Tape
UL 514B	(2012) Conduit, Tubing and Cable Fittings
UL 514C	(1996; Reprint Nov 2011) Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers
UL 651	(2011; Reprint Mar 2012) Standard for Schedule 40 and 80 Rigid PVC Conduit and Fittings
UL 67	(2009; Reprint Jan 2013) Standard for Panelboards
UL 83	(2008) Thermoplastic-Insulated Wires and Cables
UL 869A	(2006) Reference Standard for Service Equipment
UL 943	(2006; Reprint Jun 2012) Ground-Fault Circuit-Interrupters
UL 1449	(2006; Reprint Jul 2012) Surge Protective Devices

1.2 RELATED REQUIREMENTS

Section 26 00 00.00 20 BASIC ELECTRICAL MATERIALS AND METHODS, applies to this section with additions and modifications specified herein.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Panelboards; G

Transformers; G

Wireways; G

SD-03 Product Data

Receptacles; G

Conduit and fittings; G (each type)

Dock power pedestal; G

Grounding and bonding equipment; G

Device plates; G

Wires and cables; G

Outlet boxes and covers; G

Splice and termination components; G

Cabinets, junction boxes, and pull boxes; G

Mounting straps; G

Conduit support; G

Surge protective devices; G

SD-06 Test Reports

Grounding system test; G

Submit test results for approval in report format.

SD-07 Certificates

1.4 QUALITY ASSURANCE

1.4.1 Grounding System Tests

Submittal shall include written results of each test and indicate location of rods as well as resistance and soil conditions at the time measurements were made.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

Materials, equipment, and devices shall, as a minimum, meet requirements of UL where UL standards are established for those items, and requirements of NFPA 70 and NFPA 303.

2.2 CONDUIT AND FITTINGS

Rigid non-metallic conduit and plastic-coated rigid steel conforming to the following:

2.2.1 Rigid Nonmetallic Conduit

PVC Type EPC-80 in accordance with NEMA TC 2.

2.2.2 Fittings for Metal Conduit and Flexible Metal Conduit

UL 514B. Ferrous fittings shall be cadmium or zinc coated in accordance with UL 514B.

2.2.2.1 Fittings for Rigid Metal Conduit

Threaded type. Split couplings unacceptable.

2.2.3 Fittings for Rigid Nonmetallic Conduit

UL 514B and UL 651.

2.2.4 Expansion Joints

Provide conduit expansion joints having 6 inch expansion at each expansion joint in the pier and in each conduit run exceeding 250 feet. Provide expansion joints having 2 inch expansion in each conduit run of less than 250 feet.

2.3 DOCK POWER PEDESTAL

A complete factory-assembled and prewired unit specifically constructed for marina applications. Dock power pedestal shall be a surface mounted type having a separate circuit breaker for each outlet. Circuit breaker size shall be the same size as outlet to which it is connected. Power outlets shall be single, locking and grounding type, size and voltage as indicated. Each individual outlet and circuit breaker enclosure shall have a separate gasketed weatherproof cover. Entire exterior surface of dock power pedestal shall be corrosion resistant design for exposure to saltwater environment. Provide photo controlled L.E.D. station light.

2.3.1 Warning Sign

Provide permanently mounted waterproof warning sign at each power center. Sign shall have red letters on a white background with letters no less than .25 inch in height. Sign shall be worded as follows:

"WARNING
To minimize shock and fire hazards:
Turn off the boat's shore connection switch before connecting or disconnecting shore cable.
Connect shore power cable at the boat first.
Disconnect shore power cable at shore outlet first.
Close shore power inlet cover tightly.
DO NOT ALTER SHORE POWER CABLE CONNECTORS"

2.4 OUTLET BOXES AND COVERS

UL 514C.

2.5 CABINETS, JUNCTION BOXES, AND PULL BOXES

UL 50. NEMA 4X stainless steel, gasketed, screw cover, lockable. Provide with interior mounted back-plane to install power distribution blocks.

2.6 WIRES AND CABLES

Shall meet applicable requirements of NFPA 70 and UL for type of insulation, jacket, and conductor specified or indicated. Do not provide wires and cables manufactured more than 12 months prior to date of delivery

to site.

2.6.1 Conductors

No. 8 AWG and larger diameter shall be stranded; No. 10 AWG and smaller shall be solid, except that conductors for remote control, alarm, and signal circuits shall be stranded. Conductors shall be copper. Conductor sizes and ampacities shown are based on copper.

2.6.1.1 Minimum Conductor Sizes

Minimum size for branch circuits shall be No. 12 AWG.

2.6.2 Color Coding

Provide for service, feeder, branch, control, and signaling circuit conductors. Color shall be green for grounding conductors and white for neutrals; except where neutrals of more than one system are installed in same raceway or box, other neutral shall be white with colored, except green, stripe. Color of ungrounded conductors in different voltage systems shall be as follows:

a. 120/208 volt, three phase:

(1) Phase A - black

(2) Phase B - red

(3) Phase C - blue

2.6.3 Insulation

Unless otherwise required by NFPA 70, power and lighting wires shall be 600-volt, Type THWN, XHHW, or RHW, except that grounding wire may be Type TW. Conductors shall conform to UL 83. Where lighting fixtures require 90-degree C conductors, provide only conductors with 90-degree C insulation or better.

2.6.4 Bonding Conductors

ASTM B1, solid bare copper wire for sizes No. 8 AWG and smaller diameter; ASTM B8, Class B, stranded bare copper wire for sizes No. 6 AWG and larger diameter.

2.6.5 Splice and Termination Components

UL 486A-486B, for wire connectors, and UL 510 for insulating tapes. Connectors for No. 10 AWG and smaller diameter wires shall be insulated, pressure type in accordance with UL 486A-486B, twist-on splicing connector. Provide solderless terminal lugs on stranded conductors. Splice and termination components shall be wet location and corrosion resistant.

2.6.5.1 Watertight Pin Connectors

Connectors shall be rated 600 volts, and individual pins shall have ampere rating equal to or greater than the cable to which they are joined. Connectors shall be molded-to-cable, quick-disconnect, polarized type having full male shroud so that when male and female assemblies are joined

the shroud shall provide a completely sealed connection. Connector material shall be neoprene resistant to oil, dust, acids, and sunlight and shall be watertight.

2.7 DEVICE PLATES

Provide UL listed, one-piece device plates for outlets to suit the devices installed. Screws shall be stainless steel machine type with countersunk heads. Plates shall be corrosion resistant, gasketed and UL listed for wet locations.

2.8 RECEPTACLES

UL 498 and NEMA WD 1, heavy-duty, grounding type. Bodies shall be of thermosetting plastic supported on a metal mounting strap. Provide screw type, side wired wiring terminals. Connect grounding pole to mounting strap. Receptacles shall be corrosion resistant, gasketed and weather proof while in use.

2.8.1 Duplex Receptacles

Receptacles shall be 20 amperes, 125 volts.

2.8.2 Weatherproof Receptacles

Provide in corrosion resistant, stainless steel box with gasketed, weatherproof, nonmetallic cover plate and gasketed cap over each receptacle opening. Provide corrosion resistant, weather proof caps. Provide UL listed receptacle for use in wet locations.

2.8.3 Ground-Fault Circuit Interrupter (GFCI) Receptacles

UL 943. Duplex type for mounting in standard outlet box. Device shall be capable of detecting current leak of 6 milliamperes or greater and tripping in accordance with UL 943 for Class A GFCI devices. Receptacle shall be wet location rated while in use.

2.8.4 Special-Purpose Receptacles

Receptacles within dock power centers shall be weatherproof. Provide in ratings indicated.

2.9 PLUGS

Provide heavy-duty, rubber-covered cord and plug assemblies of required size. Provide UL listed cord and plug assemblies.

2.9.1 Weatherproof Cord and Plug Assemblies

Furnish cord and plug assemblies as scheduled. Plugs shall be compatible with power center outlets.

2.10 PANELBOARDS

UL 67 and UL 50 having a short-circuit current rating of 22,000 amperes symmetrical minimum. Panelboards for use as service disconnecting means shall additionally conform to UL 869A. Panelboards shall be circuit breaker equipped. Design shall be such that individual breakers can be removed without disturbing adjacent units or without loosening or removing

supplemental insulation supplied as means of obtaining clearances as required by UL. Key panelboard locks the same. Directories shall indicate load served by each circuit in panelboard and main source of service to panelboard. Type directories and mount in holder behind transparent protective covering. Provide safety labels per NFPA 70E. Obtain fault current rating from PSNH and post at panel.

2.10.1 Panelboard Buses

Copper. Support bus bars on bases independent of circuit breakers. Design main buses and back pans so that breakers may be changed without machining, drilling, or tapping. Provide isolated copper neutral bus in each panel for connection of circuit neutral conductors. Provide separate copper ground bus identified as equipment grounding bus in accordance with UL 67 for connecting grounding conductors; bond to steel cabinet.

2.10.2 Circuit Breakers

UL 489, bolt-on style, thermal magnetic type having a minimum short-circuit current rating equal to the short-circuit rating of the panelboard in which the circuit breaker will be mounted. Breaker terminals shall be UL listed as suitable for type of conductor provided. Plug-in circuit breakers and series rated circuit breakers are unacceptable.

2.10.2.1 Multipole Breakers

Provide common trip type with single operating handle. Breaker design shall be such that overload in one pole automatically causes all poles to open. Maintain phase sequence throughout each panel so that any three adjacent breaker poles are connected to Phases A, B, and C respectively.

2.10.2.2 Circuit Breaker With GFCI

UL 943 and NFPA 70. Provide with push-to-test button, visible indication of tripped condition, and ability to detect and trip on current imbalance of 6 milliamperes or greater in accordance with UL 943 for Class A GFCI devices.

2.10.3 Panelboard Enclosure

NEMA 4X stainless steel. Hardware shall be stainless steel.

2.11 MOUNTING STRAPS

Fiberglass or PVC coated stainless steel, two-hole type designed for rigid steel conduit support. PVC coating shall be between 20 and 40 mil thickness.

2.12 GROUNDING AND BONDING EQUIPMENT

UL 467. Ground rods shall be copper-clad steel, with minimum diameter of 3/4 inch and minimum length of 10 feet.

2.13 NAMEPLATES

Provide nameplates in accordance with Section 26 00 00.00 20 BASIC ELECTRICAL MATERIALS AND METHODS.

2.14 SURGE PROTECTIVE DEVICES

Provide parallel type surge protective devices which comply with UL 1449 at the service entrance, and panelboards. Provide surge protectors in a NEMA 4x enclosure per NEMA ICS 6. Provide the following modes of protection:

FOR THREE PHASE WYE CONNECTED SYSTEMS-
Each phase to neutral (L-N)
Neutral to ground (N-G)
Phase to ground (L-G)

Surge protective devices at the dock hut service entrance shall have a minimum surge current rating of 80,000 amperes per mode minimum. The maximum line to neutral (L-N) Suppressed Voltage Rating (SVR) shall be:

500V for 208Y/120V, three phase system

The minimum MCOV (Maximum Continuous Operating Voltage) rating shall be:

300/150V for 208Y/120V, three phase system

EMI/RFI filtering shall be provided for each mode with the capability to attenuate high frequency noise. Minimum attenuation shall be 20db.

PART 3 EXECUTION

3.1 INSTALLATION

Electrical installations shall conform to requirements of NFPA 70 and to requirements specified herein.

3.1.1 Underground Service

Underground service conductors and associated conduit shall be continuous from service equipment to the power system connection. Provided by the City of Portsmouth.

3.1.2 Service Entrance Identification

Label or identify service entrance disconnect breaker and enclosures.

3.1.3 Wiring Methods

Provide insulated conductors installed in rigid schedule 80 PVC conduit, except where specifically indicated or specified otherwise or required by NFPA 70 to be installed otherwise. Grounding conductor shall be separate from electrical system neutral conductor. Provide insulated, green equipment grounding conductors for circuits installed in conduit and raceways. Minimum conduit size shall be 3/4 inch in diameter for lighting and power circuits.

3.1.3.1 PVC Schedule 80

a. Do not install PVC Schedule 80 in areas subject to severe physical damage.

b. Do not install in hazardous areas.

3.1.4 Cable Installation

Run cable supported by hangers under dock ramp structure. Install cable parallel with or at right angles to structural members.

3.1.4.1 Cable Support

Support conduit by nonmetallic cable straps, wall brackets or hangers. Fasten by stainless steel hardware. Fasten with concrete inserts or expansion bolts on concrete. Load applied to fasteners shall not exceed one-fourth proof test load. Fasteners attached to concrete dock shall be vibration resistant and shock resistant. Holes cut to depth of more than 1 1/2 inches in reinforced concrete beams or to depth of more than 3/4 inch in concrete joints shall not cut main reinforcing bars. Fill unused holes. Where cable crosses expansion joints, provide suitable drip loop.

3.1.4.2 Pull Wire

Install in empty conduits in which wire is to be installed by others. Pull wire shall be plastic having minimum 200 pound tensile strength. Leave minimum 12 inches of slack at each end of pull wire. Provide corrosion resistant tags at each end.

3.1.4.3 Locknuts and Bushings

Fasten cables with kellum strain relief to sheet metal boxes with two locknuts where required by NFPA 70, with insulated bushings. Install bushings on ends of conduits, and provide insulating type where required by NFPA 70.

3.1.4.4 Conduit and Cable Connections

Provide watertight connectors for conduit and cable connections to boxes and cabinets. Secure cables at each dock power pedestal.

3.1.5 Boxes, Outlets, and Supports

Provide stainless steel junction box with back plane. Fasten power distribution blocks to back plane with stainless steel machine screws. Fasteners shall be stainless steel. Fasten boxes and supports with wood screws on wood and with bolts and expansion shields on concrete or granite. Threaded studs driven in by powder charge not permitted. Support boxes directly from structure.

3.1.5.1 Boxes

Boxes for use with raceway systems shall be minimum 1 1/2 inches deep. Boxes shall be minimum 4 inches square.

3.1.5.2 Pull Boxes

Construct of at least minimum size required by NFPA 70 compatible with raceway systems. Furnish boxes with screw-fastened covers. Where several feeders pass through common pull box, tag feeders to indicate clearly electrical characteristics, circuit number, dock pedestal label, and panel designation.

3.1.6 Mounting Heights

Mount panelboards so maximum height of operating handle is 78 inches above finished structure. In no case shall entire or part of panelboards, boxes, cabinets, receptacles, and other electrical devices be mounted below the electrical datum plane as defined in NFPA 303. Coordinate datum height with City of Portsmouth. Measure mounting heights of wiring devices and outlets to center of device or outlet.

3.1.7 Conductor Identification

Provide within each enclosure where tap, splice, or termination is made. For conductor sizes No. 6 AWG and smaller diameter, color coding shall be by factory-applied, color-impregnated insulation. For conductor sizes No. 4 AWG and larger diameter, color coding shall be by plastic-coated, self-sticking markers; colored nylon cable ties and plates; or heat shrink-type sleeves.

3.1.8 Splices

Make splices in stainless steel box with power distribution blocks. Splices shall be wet location and corrosion resistant.

3.1.9 Covers and Device Plates

Install gasketed plates with alignment tolerance of 1/16 inch.

3.1.10 Grounding and Bonding

NFPA 70. Ground-exposed, noncurrent-carrying metallic parts of electrical equipment, metallic raceway systems, grounding conductor in metallic and nonmetallic raceways, and neutral conductor of wiring systems. Make ground connection at main service equipment, and extend grounding conductor to point of entrance of metallic water service. Make connection to water pipe by suitable corrosion resistant, salt spray resistant, ground clamp or lug connection to plugged tee. Make ground connection to driven ground rods. Where ground-fault protection is employed, ensure that connection of ground and neutral does not interfere with correct operation of fault protection.

3.1.10.1 Resistance

Maximum resistance-to-ground of grounding system shall not exceed 5 ohms under dry conditions. Where resistance obtained exceeds 5 ohms, contact Owner's Representative for further instructions.

3.2 REPAIR AND SERVICE OF EXISTING STRUCTURES AND EQUIPMENT

Perform demolition, and modification of existing electrical distribution systems as follows:

3.2.1 Workmanship

Lay out work in advance. Exercise care where cutting, channeling, chasing, or drilling of existing surfaces is necessary for proper installation, support, or anchorage of conduit, raceways, or other electrical work. Repair damage to structure, piping, and equipment using skilled craftsmen of trades involved.

3.2.2 Existing Concealed Wiring to be Removed

Disconnect from its source. Remove conductors, cut exposed conduit flush with structure, and seal openings with corrosion resistant, wet location fittings.

3.2.3 Existing Electrical Distribution System Removal

Include removal of equipment's associated wiring, including conductors, cables, exposed conduit, boxes, fittings, anchors, supports, and other such items. Provide unused openings in remaining boxes, fittings, and equipment with watertight nonmetallic knockout seals.

3.3 FIELD QUALITY CONTROL

Furnish test equipment and personnel. Notify Owner's Representative five working days prior to each test.

3.3.1 Devices Subject to Manual Operation

Operate each device subject to manual operation at least five times, demonstrating satisfactory operation each time.

3.3.2 600-Volt Wiring Test

Test wiring rated 600 volts and less to verify that no short circuits or accidental grounds exist. Perform insulation resistance tests on wiring No. 6 AWG and larger diameter using instrument which applies voltage of approximately 500 volts to provide direct reading of resistance. Minimum resistance shall be 250,000 ohms.

3.3.3 Grounding System Test

Test grounding system to ensure continuity and resistance to ground is not excessive. Test each ground rod for resistance to ground before making connections to rod; tie grounding system together and test for resistance to ground. Make resistance measurements in dry weather, not earlier than 48 hours after rainfall.

3.3.4 Surge Protective Devices

Connect the surge protective devices in parallel to the power source, keeping the conductors as short and straight as practically possible.

-- End of Section --

SECTION 33 11 00

WATER DISTRIBUTION

PART 1 GENERAL

1.1 REFERENCES

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

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA B300	(2010; Addenda 2011) Hypochlorites
AWWA B301	(2010) Liquid Chlorine
AWWA C600	(2010) Installation of Ductile-Iron Water Mains and Their Appurtenances
AWWA C651	(2005; Errata 2005) Standard for Disinfecting Water Mains
AWWA C901	(2008) Polyethylene (PE) Pressure Pipe and Tubing, 1/2 In. (13mm) Through 3 In. (76 mm), for Water Service

ASTM INTERNATIONAL (ASTM)

ASTM D2737	(2012a) Polyethylene (PE) Plastic Tubing

1.2 DESIGN REQUIREMENTS

1.2.1 Water Service Lines

Provide water service lines as indicated. Water service lines shall be polyethylene pipe, unless otherwise indicated. Provide water service line appurtenances as specified.

1.3 SUBMITTALS

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

SD-03 Product Data

Piping Materials

Water service line piping, fittings, joints and valves.

Submit manufacturer's standard drawings or catalog cuts. Include information concerning gaskets with submittal for joints and couplings.

1.4 DELIVERY, STORAGE, AND HANDLING

1.4.1 Delivery and Storage

Inspect materials delivered to site for damage. Unload and store with minimum handling. Store materials on site in enclosures or under protective covering. Do not store materials directly on the ground. Keep inside of pipes and fittings free of dirt and debris.

PART 2 PRODUCTS

2.1 WATER SERVICE LINE MATERIALS

2.1.1 Piping Materials

2.1.1.1 Polyethylene (PE) Plastic Piping and Associated Fittings

Tubing, and heat fusion fittings, copper tube size (CTS) shall have a working pressure of 160 psi and conform to AWWA C901 and ASTM D2737. Tubing shall be formulated with carbon black and ultraviolet stabilizers for protection against UV rays.

2.1.2 Water Service Line Appurtenances

2.1.2.1 Ball Valves

NSF approved, rated for 150 psi water pressure, PTFE coated brass ball, with CTS compression connections.

2.1.2.2 Disinfection

Chlorinating materials shall conform to the following:

Chlorine, Liquid: AWWA B301.

Hypochlorite, Calcium and Sodium: AWWA B300.

2.1.2.3 Clamps, Hangers and Fasteners

Type 304 stainless steel.

2.1.2.4 Flexible Hose

Provide a flexible hose with length to account for dock movement due to extreme tides plus 12 inches. The flexible hose shall have a pressure rating of at least 100 psi, manufactured for exposed conditions, comply with standards for potable water and allow for bending to a 12 inch radius without damage to the hose, for temperatures ranging from -25 to 140 degrees Fahrenheit.

2.1.2.5 Transition Fittings

Provide transition fittings with a pressure rating of at least the pressure rating of the pipe and manufactured for exposed conditions.

PART 3 EXECUTION

3.1 INSTALLATION OF PIPELINES

3.1.1 General Requirements for Installation of Pipelines

These requirements shall apply to all pipeline installation except where specific exception is made in the "Special Requirements..." paragraphs.

3.1.1.1 Pipe Laying and Jointing

Before placing in position, clean pipe, fittings, valves, and accessories, and maintain in a clean condition.

3.1.2 Special Requirements for Installation of Water Service Piping

3.1.2.1 Installation of Plastic Piping

a. General Installation: PE pipes shall be installed in accordance with ASTM D2774.

b. Jointing: Jointing shall comply with ASTM D2657, Technique II-Butt Fusion.

3.1.3 Disinfection

Prior to disinfection, obtain Owner's approval of the proposed method for disposal of waste water from disinfection procedures. Disinfect new water piping and existing water piping affected by Contractor's operations in accordance with AWWA C651. Fill piping systems with solution containing minimum of 50 parts per million of available chlorine and allow solution to stand for minimum of 24 hours. Flush solution from the systems with domestic water until maximum residual chlorine content is within the range of 0.2 and 0.5 parts per million, or the residual chlorine content of domestic water supply. Coordinate with the city of Portsmouth for bacteriological sample and test. Repeat disinfection procedure until satisfactory test results are obtained.

3.2 FIELD QUALITY CONTROL

3.2.1 Field Tests and Inspections

Perform field tests, and provide labor, equipment, and incidentals required for testing. Produce evidence, when required, that any item of work has been constructed in accordance with the drawings and specifications.

3.2.2 Testing Procedure

Test water service lines in accordance with the applicable specified standard, except for the special testing requirements given in paragraph entitled "Special Testing Requirements." Test water service lines in accordance with applicable requirements of AWWA C600 for hydrostatic testing. No leakage will be allowed at polyethylene butt fused pipe joints.

3.2.3 Special Testing Requirements

For pressure test, use a hydrostatic pressure 50 psi greater than the maximum working pressure of the system. Hold this pressure for not less than 2 hours. Prior to the pressure test, fill that portion of the

pipeline being tested with water for a soaking period of not less than 24 hours. For leakage test, use a hydrostatic pressure not less than the maximum working pressure of the system. Leakage test may be performed at the same time and at the same test pressure as the pressure test.

3.3 CLEANUP

Upon completion of the installation of water lines, and appurtenances, all debris and surplus materials resulting from the work shall be removed.

-- End of Section --

SECTION 35 51 10.00 00

GANGWAY

PART 1 GENERAL

Furnish and install truss-type aluminum gangways and related hardware to provide access to the concrete floating dock from the seawall as specified herein and as shown on the Contract drawings. The gangways shall be in accordance with the requirements of this specification.

1.1 REFERENCES

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

ALUMINUM ASSOCIATION (AA)

AA ADM1	(2005) Aluminum Design Manual

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M	(2010) Structural Welding Code - Steel
AWS D1.2/D1.2M	(2008) Structural Welding Code - Aluminum

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO Publication	"Guide Specifications for Design of Pedestrian Bridges" Appendix A

ASTM INTERNATIONAL (ASTM)

ASTM A123/A123M	(2009) Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A36/A36M	(2008) Standard Specification for Carbon Structural Steel
ASTM A572/A572M	(2007) Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel
ASTM B209	(2010) Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
ASTM B308/B308M	(2010) Standard Specification for Aluminum-Alloy 6061-T6 Standard Structural Profiles
ASTM B429/B429M	(2010) Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube

ASTM F 593	(2002; R 2008) Stainless Steel Bolts, Hex Cap Screws, and Studs
ASTM F 594	(2009) Standard Specification for Stainless Steel Nuts

U.S. DEPARTMENT OF DEFENSE (DOD)

MIL-I-24768/14	(1992) Insulation, Plastic, Laminated, Thermosetting, Cotton-Fabric-Base, Phenolic-Resin (FBG)

OTHER PUBLICATIONS

Theodore B. Galambos	"Guide to Stability Design Criteria for Metal Structures," 4th Edition

1.2 SUBMITTALS

Owner approvals are required for submittals with a "0" designation. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Manufacturer's Qualifications; 0

Manufacturer's Warranty; 0

SD-02 Shop Drawings

Gangway Design Drawings; 0

Submit the drawings and calculations as one package for approval prior to fabrication.

SD-03 Product Data

Decking; 0

Non-Skid Surface Material; 0

SD-05 Design Data

Gangway Design Calculations; O

Submit the drawings and calculations as one package for approval prior to fabrication.

1.3 SYSTEM CHARACTERISTICS

1.3.1 Gangway

Furnish and install aluminum truss-type gangways of the general configuration and dimensions indicated on the contract drawings, complete with handrails, intermediate rails, rollers, and utility supports. Gangway connections and transitions shall be achieved with hinges and transition plates, respectively, and shall safely carry the design loads described herein. The top chord of the truss shall not be more than 42 inches above

the walkway surface. Gangways shall provide safe access between the fixed pier and the floating dock and contain a non-skid walking surface.

1.3.1.1 Handrails

Handrails shall be continuous members placed on both sides of the walking surface and shall extend a minimum of 1 ft beyond the walking surface at each end. The top of the handrails shall not be less than 34 inches nor more than 42 inches above the walking surface. The clear inside dimension between the handrails shall be a nominal 4 ft. The handrail shall be 1.5 inch nominal diameter and shall have a smooth surface with no sharp corners. Provide 1.5 inches clearance between the backside of the handrail and the gangway truss.

1.3.1.2 Intermediate Rails

Continuous full-length intermediate rails shall be provided in addition to the structural truss elements to prevent passage of a 4 inch sphere at any location below the handrails.

1.3.1.3 Rollers

A minimum of two rollers shall be provided at the bottom of the gangway leading to the floating dock, and shall be designed for bearing strength requirements under full live load and dead load (including utilities).

1.3.1.4 Utility Supports

Utility supports shall be securely attached to the bottom side of the gangway deck frame so as to provide support for the utilities at a spacing of 4 ft on center. Supports shall be designed to accommodate the weight and quantity of utilities (current and future) illustrated on the Contract drawings. Utility supports shall not be placed within 10 ft of the bottom of the gangway nor 4 ft of the edge of the floating dock during extreme tidal conditions.

1.3.2 Hinges

The gangway hinge connection shall be in accordance with manufacturer's recommendations.

1.3.3 Transition Plate

The transition plate from the gangway to the floating dock shall be provided by a hinged plate with a hinged pocket and shaft type connection. The plate shall extend across the full width of the gangway. The entire contact edge of the plate shall contain a bullnose wear edge.

1.4 DESIGN REQUIREMENTS

1.4.1 Design Criteria

Gangway deck, trusses, structural components, connections, and bearing points shall be designed for a minimum of four (4) load combinations:

LC1) Dead load (including all current and future utilities) and a uniformly distributed live load of 50 psf applied vertically to the full deck surface;

LC2) Dead load (including all current and future utilities) and a concentrated live load of 500 lbs applied vertically at any location of the deck surface.

LC3) Dead load (including all current and future utilities) and a uniform live load of 50 plf applied laterally to the top chord of the truss.

LC4) Wind load of 20 psf applied laterally to the gangway.

All components of the handrail including mounting brackets and welds shall be capable of withstanding a lateral load of 50 plf applied along the handrail or top chord of the truss.

Under design load combinations, the maximum vertical gangway deflection shall not exceed L/240, and all elements shall remain within their allowable stresses.

The gangway hinge connection to the fixed pier shall be designed to withstand a concentrated lateral force equal to at least 20 percent of the total dead load plus 50 percent of the full live load. Lateral force may be applied either transverse or longitudinally to the alignment of the gangway.

1.5 QUALITY ASSURANCE

1.5.1 Gangway Design Calculations

Submit gangway design calculations. Gangways shall be designed in accordance with the latest edition of the AA ADM1, "Aluminum Design Manual and Specification for Aluminum Structures," using allowable stresses. Design calculations shall address, at a minimum, the flexural, shear, and torsional stresses induced in truss and floor members for live and dead loads described herein. Global and local deflection of floor beams and trusses shall be checked against specified criteria. Truss members shall be designed and sized utilizing Holt's method for analyzing top chord buckling as outlined in, "Guide to Stability Design Criteria for Metal Structures," 4th Edition, by Theodore B. Galambos. An example of this methodology is presented in Appendix A of AASHTO Publication, "Guide Specifications for Design of Pedestrian Bridges." Design calculations shall be prepared and sealed/stamped by a licensed professional engineer, and submitted with the design drawings as one package for approval prior to fabrication.

1.5.2 Gangway Design Drawings

Submit gangway design drawings complete with information for the fabrication, handling, and erection of the gangway. Drawings shall not be reproductions of Contract drawings. Design drawings of gangways (including connections), transitions, and hinges shall be prepared and sealed/stamped by a licensed professional engineer, and submitted for approval prior to fabrication.

1.6 DELIVERY AND STORAGE

Lift and support gangway at the lifting and supporting points indicated on the shop drawings. Store gangway off the ground. Protect from weather, marring, damage, and overload.

1.7 FACTORY INSPECTION

At the option of the Owner's Representative, gangways shall be inspected by the Owner's Representative prior to being transported to the job site. The Contractor shall give notice 14 days prior to the time the units will be available for plant inspection. Neither the exercise nor waiver of inspection at the plant will affect the Government's right to enforce contractual provisions after units are transported or erected.

1.8 MANUFACTURER'S EXPERIENCE AND WARRANTY

1.8.1 Manufacturer's Qualifications

Manufacturer shall submit its qualifications and experience with three recent projects with similar design requirements. Manufacturer shall provide evidence of at least 10 years of experience in the successful production of gangways.

1.8.2 Manufacturer's Warranty

Provide warranty that the gangway will be free of defects in materials, workmanship, design, or fabrication, and will meet the criteria specified for a period of three years. Such warranty shall start upon final acceptance of the work or the date the Owner takes possession, whichever is earlier.

1.9 PRODUCT IDENTIFICATION

Completed gangways shall bear an identification plate with the following:

a. Manufacturer's name

b. Product serial number

c. Date of fabrication

d. Live load capacity.

PART 2 PRODUCTS

2.1 GANGWAYS

2.1.1 Aluminum

Structural aluminum shall be alloy 6061-T6 conforming to ASTM B 209, ASTM B 210, ASTM B308/B308M or ASTM B429/B429M.

2.1.2 Fasteners

Fasteners shall be ASTM F 593 (bolts) and ASTM F 594 (nuts) stainless steel Type 316.

2.1.3 Castings

F-214 Cast aluminum. Castings shall be true to pattern, structurally sound, and free from blow holes or other defects.

2.1.4 Insulators

Bushings or separation sheets shall be a minimum of 1/16 inch thickness and in accordance with MIL-I-24768/14.

2.1.5 Rollers

Rollers shall be UHMW polyurethane, with UV inhibitors added. Color shall be black. Roller axles shall be solid stainless steel rod Type 316.

2.1.6 Decking

Decking shall be comprised of either aluminum extrusions or other marine grade material capable of distributing the design loads to the structural framing. Deck material, connections, and non-skid surface shall be submitted for approval.

2.1.7 Steel Elements

Steel elements (except fasteners) used in the gangway hinge connection shall be ASTM A36/A36M or ASTM A572/A572M, Grade 50 and shall be hot dipped galvanized after fabrication in accordance with ASTM A123/A123M.

2.1.8 Non-Skid Surfaces

Submit for approval material data for non-skid surfaces to be applied to the gangway deck and transition plates. Non-skid surface may be achieved by controlled roughening (such as transverse notching) or by application of a non-skid material. Horizontal cleats are not permitted.

2.2 HINGE CONNECTION

Hinge connection steel (plate and rod) shall be ASTM A36/A36M steel or ASTM A572/A572M, Grade 50, and shall be hot dipped galvanized per ASTM A 123/A123M.

2.3 TRANSITION PLATE APRON

Transition plate shall be aluminum, ASTM B209, with a non-skid surface. The bullnose wear edge shall be UHMW 2 inches wide by 3/4 inches thick (minimum) and extend the full width of the apron.

2.4 MATERIAL COMPATIBILITY

Contact between aluminum and dissimilar metals shall be avoided, except for the use of compatible stainless steels. Where potential for galvanic corrosion exists, the aluminum shall be isolated from direct contact with the other material by use of suitable non-conducting insulators or bushings.

PART 3 EXECUTION

3.1 GANGWAY

3.1.1 Welding

Welding shall be in accordance with AWS D1.1/D1.1M or AWS D1.2/D1.2M as applicable. Weld splatters and rough edges shall be removed from all exposed surfaces. All welding shall be performed by certified welders with current certifications. Certification shall be provided upon request.

3.1.2 Installation

Mill stamps shall be removed prior to installation. Install the gangway so as to provide flush transitions.

Ensure the gangway function freely through the extreme tide ranges and floating dock's allowable movements indicated on the Contract drawings. Utilities shall hang freely and without obstruction at the lower end of the gangway leading to the floating dock.

-- End of Section --

SECTION 35 51 13.00 20

CONCRETE FLOAT SYSTEM

PART 1 GENERAL

Work under this section includes furnishing and installation of the concrete floating dock system as shown on the contract drawings and specified herein.

The concrete float system includes furnishing, transportation, labor, equipment, materials and incidentals, and performing professional design services necessary for the design, fabrication, assembly and installation of concrete float modules and anchor blocks including appurtenances, as shown on the contract drawings. The work also includes engineering submittals and approvals, production quality control and records, and acceptance testing.

1.1 REFERENCES

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

ACI INTERNATIONAL (ACI)

ACI 211.2	(1998; R 2004) Standard Practice for Selecting Proportions for Structural Lightweight Concrete
ACI 304R	(2000; R 2009) Guide for Measuring, Mixing, Transporting, and Placing Concrete
ACI 305R	(2010) Specification for Hot Weather Concreting
ACI 306.1	(1990; R 2002) Standard Specification for Cold Weather Concreting
ACI 309R	(2005) Guide for Consolidation of Concrete
ACI 318	(2008; Errata 2010) Building Code Requirements for Structural Concrete and Commentary
ACI 318M	(2008; Errata 2010) Building Code Requirements for Structural Concrete & Commentary

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M	(2010) Structural Welding Code - Steel
AWS D1.4/D1.4M	(2005; Errata 2005) Structural Welding Code - Reinforcing Steel

ASTM INTERNATIONAL (ASTM)

ASTM A123/A123M	(2009) Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A153/A153M	(2009) Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A185/A185M	(2007) Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete
ASTM A27/A27M	(2010) Standard Specification for Steel Castings, Carbon, for General Application
ASTM A307	(2012) Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength
ASTM A325	(2010) Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength
ASTM A36/A36M	(2008) Standard Specification for Carbon Structural Steel
ASTM A449	(2010) Standard Specification for Hex Cap Screws, Bolts, and Studs, Steel, Heat Treated, 120/105/90 ksi Minimum Tensile Strength, General Use
ASTM A47/A47M	(1999; R 2009) Standard Specification for Ferritic Malleable Iron Castings
ASTM A497/A497M	(2007) Standard Specification for Steel Welded Wire Reinforcement, Deformed, for Concrete
ASTM A563	(2007a) Standard Specification for Carbon and Alloy Steel Nuts
ASTM A615/A615M	(2012) Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A706/A706M	(2009b) Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775/A775M	(2007b) Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A780/A780M	(2009) Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
ASTM C1202	(2012) Standard Test Method for Electrical

	Indication of Concrete's Ability to Resist Chloride Ion Penetration
ASTM C150/C150M	(2012) Standard Specification for Portland Cement
ASTM C260/C260M	(2010a) Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C272/C272M	(2012) Standard Test Method for Water Absorption of Core Materials for Sandwich Constructions
ASTM C33/C33M	(2013) Standard Specification for Concrete Aggregates
ASTM C330/C330M	(2009) Standard Specification for Lightweight Aggregates for Structural Concrete
ASTM C494/C494M	(2012) Standard Specification for Chemical Admixtures for Concrete
ASTM C578	(2012b) Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation
ASTM C94/C94M	(2012a) Standard Specification for Ready-Mixed Concrete
ASTM D2000	(2012) Standard Classification System for Rubber Products in Automotive Applications
ASTM F436	(2011) Hardened Steel Washers
ASTM F593	(2002; R 2008; E 2012) Stainless Steel Bolts, Hex Cap Screws, and Studs
ASTM F594	(2009; E 2011) Standard Specification for Stainless Steel Nuts

PRECAST/PRESTRESSED CONCRETE INSTITUTE (PCI)

PCI MNL-116	(1999) Manual for Quality Control for Plants and Production of Structural Precast Concrete Products, 4th Edition
PCI MNL-120	(2004; Errata 2007) PCI Design Handbook - Precast and Prestressed Concrete, 6th Edition

1.2 MODIFICATIONS TO REFERENCES

In the ACI publications, the advisory provisions shall be considered to be mandatory, as though the word "shall" has been substituted for "should" wherever it appears; reference to the "Building Official," the "Structural Engineer" and the "Architect/Engineer" shall be interpreted to mean the Owner.

1.3 SUBMITTALS

Owner's approvals is required for submittals with a "O" designation. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Concrete Float System Manufacturer's Qualifications; O

Concrete Float System Manufacturer's Warranty; O

SD-02 Shop Drawings

Drawings of Precast Float System; O

SD-03 Product Data

Concrete Float System catalogs, illustrations, and brochures; O

Mooring Hardware; O

Fender Elements; O

SD-05 Design Data

Precast Concrete Float System Design Calculations; O

Concrete Mix Design; O

SD-06 Test Reports

Contractor-Furnished Mix Design; O

Submit copies of test reports showing that the mix has been successfully tested to produce concrete with the properties specified and will be suitable for the job conditions. Obtain approval before concrete placement.

Contractor Furnished Performance Reports; O

Submit copies of performance reports indicating that the as-built system conforms to the performance criteria under dead load conditions at initial installation and one year later.

Concrete Field and Lab Test Reports; O

Chloride Ion Penetration Test Results; O

Submit chloride ion penetration test results.

SD-07 Certificates

Fabrication; O

Submit quality control procedures established in accordance with PCI MNL-116 by the precast manufacturer.

Granite Anchor Block, O

SD-08 Manufacturer's Instructions

Handling and Concrete Float System Installation Instructions; O

Operation and Maintenance Data; O

Concrete float system operations and maintenance data package

1.4 MANUFACTURERS'S EXPERIENCE AND WARRANTY

The work includes the provision of precast, non-prestressed concrete float modules herein referred to as precast floats, and all other items relating to the Concrete Float system. Precast floats shall be the product of a manufacturer specializing in the production of concrete floating structures with a minimum of ten (10) years experience in the manufacture of precast concrete float systems. Submit manufacturer's qualifications.

Submit manufacturer's warranty that the Concrete Float System will be free of defects in materials, workmanship, design, or fabrication, and will meet the criteria specified for a period of three (3) years. Such warranty shall start upon final acceptance of the work or the date the Owner takes possession, whichever is earlier. If the manufacturer's standard warranty exceeds the requirements of this specification their standard warranty shall apply in full.

1.5 DESIGN CRITERIA

1.5.1 Concrete Float Design

ACI 318, ACI 318M and the PCI MNL-120. Design precast floats (including connections) for a 25-year design life for the design load conditions specified herein. Design precast floats for handling without cracking in accordance with the PCI MNL-120.

1.5.2 Float Loading

Design Concrete Float system and its mooring connections to withstand and transmit all expected loads over its design life with regard to environmental conditions and including, but not necessarily limited to vertical dead and live loads, horizontal forces due to environmental conditions acting on float and moored vessels, berthing impact from vessels and stresses in float due to wave action as described in the following subsections. Design Concrete Float to withstand maximum shear, moment and torsional stresses in accordance with allowable working stress design, except for maximum wave height which shall be below yield stress levels.

1.5.3 Design Environmental Conditions

Wind: 74 mph, 30 second duration at 33 feet above sea level from any direction.

Current: 2 knot current applied normal to the long axis of the dock.

Waves: 3 foot design wave height with a peak period of 3 seconds resulting in maximum top, bottom and torsional stresses parallel to long direction of Concrete Float. Wave direction from parallel to float long axis to 45 degrees either side of long axis.

Vertical Loads: Dead load to include Concrete Float system self weight plus all permanently attached hardware and equipment including mooring hardware and fender system and pile guides. Live load of 50 psf uniformly distributed over entire float deck plus 400 lb. concentrated load as specified.

Horizontal Loads: Sum of loads due to design environmental conditions including wind plus current plus waves and not to be less than 200 plf acting horizontally at deck level along entire length of float.

Cleat Loads: 3,000 lb horizontal mooring line load applied in any direction and up to 45 degrees vertically.

1.5.4 Performance

Precast float shall be sized so that a single module (excluding walers if required) is used to attain the indicated dock width. The use of more than one module connected side by side to attain dock width is unacceptable.

Freeboard under dead load only shall not be less than 17 inches nor exceed 24 inches. Precast floats shall be designed to float level under dead load only. Maximum out of level tolerance for transverse slope is 1 inch per 10 feet. Freeboard under dead and live load shall not be less than 8 inches.

1.6 QUALITY CONTROL

1.6.1 Product Quality Control

PCI MNL-116 for PCI enrolled plants. Where precast floats are manufactured by specialists in plants not currently enrolled in the PCI "Quality Control Program," provide a product quality control system in accordance with PCI MNL-116 and perform concrete and aggregate quality control testing using an approved, independent commercial testing laboratory. Submit concrete field and lab test reports to the Owner.

1.7 DELIVERY AND STORAGE

Lift and support precast floats at the lifting and supporting points indicated on the shop drawings. Store precast floats off the ground. Separate stacked precast floats by battens across the full width of each bearing point. Protect from weather, marring, damage, and overload.

1.8 FACTORY INSPECTION

At the option of the Owner, precast floats shall be inspected by the Engineer prior to being transported to the job site. The Contractor shall give notice 14 days prior to the time the units will be available for plant inspection. Neither the exercise nor waiver of inspection at the plant will affect the Owner's right to enforce contractual provisions after units are transported or erected.

1.9 QUALITY ASSURANCE

1.9.1 Manufacturer's Publications

Submit the following:

a. Concrete Float System catalogs, illustrations, and brochures commonly published for distribution.

b. Handling and Concrete Float System Installation Instructions.

c. Operation and Maintenance Data.

1.9.2 Drawing Information

Submit drawings indicating complete information for the fabrication, handling, and erection of the precast float system. Drawings shall not be reproductions of contract drawings. Design drawings of precast float system (including connections) shall be prepared and sealed by a registered professional engineer, and submitted for approval prior to fabrication. The drawings shall indicate, as a minimum, the following information:

a. Concrete Float System Layout

b. Marking of floats for assembly

c. Connections between floats, if applicable

d. Location and anchorage of mooring fittings

e. Reinforcing details

f. Material properties of all materials used

g. Lifting and assembly inserts and embedded items

h. Dimensions and surface finishes of each float

i. Erection sequence and handling requirements

j. All loads used in design (such as environmental, handling, and erection)

k. Bracing/shoring required

l. Cleats

m. Fenders

1.9.3 Design Calculations

Submit calculations reflecting design conforming to requirements of paragraph entitled "Design Criteria". Design calculations of precast float systems (including connections) shall be prepared and sealed by a registered professional engineer, and submitted for approval prior to fabrication.

1.9.4 Concrete Mix Design

Thirty days minimum prior to concrete placement, submit a mix design for each strength and type of concrete. Include a complete list of materials including type, brand, source and amount of cement and admixtures, applicable reference specifications and past performance history. Submit all material testing including cement, aggregates and admixtures.

1.9.5 Chloride Ion Penetration Test Results

Submit chloride ion penetration test results in accordance with ASTM C1202. Chloride ion penetration test results for specimens of similar concrete mix shall be below 1500 Coulombs tested at 56 days. Test results may be waived if corrosion inhibitor admixture is provided as stated in Subparagraph, "Corrosion Inhibitor."

PART 2 PRODUCTS

2.1 CONTRACTOR-FURNISHED MIX DESIGN

ACI 211.2, using weight method. The minimum compressive strength of concrete at 28 days shall be 5000 psi per ASTM C94/C94M. Mix shall contain a corrosion inhibitor and air-entraining admixtures at the mixer. The use of foaming agents is prohibited.

2.2 PRECAST FLOAT MATERIALS

2.2.1 Cement

ASTM C150/C150M, Type II, cement. Type III cement may be used if the Tri-Calcium Aluminate of the cement is certified by the manufacturer to be between five (5) and eight (8) percent, and alkali content (Na20) and (K20) is less than 0.6 percent. The water cement ratio shall be as recommended by ACI for a severe marine cold weather environment.

2.2.2 Water

Water shall be fresh, clean, and potable.

2.2.3 Aggregates

2.2.3.1 Aggregates Selection

ASTM C330/C330M or ASTM C33/C33M. Obtain aggregates for exposed concrete surfaces from one source. Aggregates shall not contain any substance which may be deleteriously reactive with the alkalies in the cement. Aggregate shall be pea gravel with a maximum aggregate size of 1/2".

2.2.4 Admixtures

2.2.4.1 Air-Entraining

ASTM C260/C260M. Air-Entraining shall be as recommended by ACI for a severe freeze thaw environment.

2.2.4.2 Accelerating

ASTM C494/C494M, Type C or E, as required.

2.2.4.3 Water Reducing

ASTM C494/C494M, Type A, E, or F, as required.

2.2.4.4 Corrosion Inhibitor

Provide a minimum dosage of chloride protection admixture (calcium nitrite based), ASTM C494/C494M, at a dosage rate recommended by the manufacturer's

printed literature. The calcium nitrite shall be furnished in solution containing not less than 29 percent calcium nitrite solids.

2.2.5 Reinforcement

2.2.5.1 Reinforcing Bars

ASTM A615/A615M, ASTM A706/A706M, Grade 60 and shall be epoxy coated, ASTM A775/A775M, or Galvanized ASTM A123/A123M or ASTM A153/A153M.

2.2.5.2 Welded Wire Fabric

ASTM A185/A185M or ASTM A497/A497M and shall be hot dipped galvanized or epoxy coated, ASTM A123/A123M. Provide flat sheets of welded wire fabric, rolled fabric is not acceptable. Maximum fabric grid is 2 inches by 2 inches.

2.2.6 Metal Accessories

Provide ASTM A123/A123M or ASTM A153/A153M, hot-dipped galvanized coating to metal accessories stated herein (except to stainless steel).

2.2.6.1 Inserts

ASTM A47/A47M, Grade 32510 or 35018, or ASTM A27/A27M Grade U-60-30.

2.2.6.2 Structural Steel

ASTM A36/A36M.

2.2.6.3 Bolts and Rods

ASTM A307, ASTM A325, or ASTM F593 Type 316. Minimum ASTM A449 rod diameter of 3/4 inch. All rods shall be placed within PVC sleeves.

2.2.6.4 Nuts

ASTM A563 or ASTM F594.

2.2.6.5 Heavy Duty Washers

ASTM F436 washers.

2.2.6.6 Mooring Hardware

Cleats shall be of the sizes (length over horns) as called out on the drawings, galvanized and cast steel. Cleat anchorage shall consist of galvanized or stainless steel hardware in accordance with manufacturer's recommendation.

2.2.7 Foam Core

Closed cell, expanded polystyrene (EPS), ASTM C578. Foam core laminations shall be glued with a low solvent glue. Core shall not be made from more than four laminated sections. Horizontal laminations in the upper 10 in are not permitted. Core shall be strapped to prevent delamination during transportation and handling. Core shall not contain more than 10 percent reground EPS foam material.

Unit Weight: 0.9 - 2.0 PCF

Water absorption (ASTM C272/C272M): 3 percent (by volume)

Dimensional tolerance: plus or minus 1/8 inch

2.3 FABRICATION

PCI MNL-116 unless specified otherwise.

2.3.1 Precast Floats

Precast float modules shall be cast monolithically, cold joints of any type are not acceptable. Modules shall have a minimum deck and wall thickness of 2 inches. The bottom shall be encased in concrete or alternate approved material that fully encases the concrete and will ensure the minimum 25 year service life. Precast float decks shall be constructed to drain freely and there shall be no floodable enclosed spaces.

2.3.2 Forms

Brace forms to prevent deformation. Forms shall produce a smooth, dense surface. Chamfer exposed edges of floats 1/2 inch, unless otherwise indicated. Form dimension shall be within 1/8 inch of dimensions indicated on shop drawings. When measured diagonally, floats more than 1/2 inch out of square shall be rejected.

2.3.3 Reinforcement Placement

ACI 318 for placement and splicing. Reinforcement may be preassembled before placement in forms. Use plastic chairs.

2.3.4 Concrete

2.3.4.1 Concrete Mixing

ASTM C94/C94M. Mixing operations shall produce batch-to-batch uniformity of strength, consistency, and appearance.

2.3.4.2 Concrete Placing

ACI 304R, ACI 305R for hot weather concreting , ACI 306.1 for cold weather concreting, and ACI 309R, unless otherwise specified. Concrete shall be vibrated internally and/or externally to assure a smooth, dense finish.

2.3.4.3 Concrete Curing

Commence curing immediately following the initial set and completion of surface finishing. Provide wet curing procedures to keep the temperature of the concrete between 50 and 160 degrees F. When accelerated curing is used, apply heat at controlled rate and uniformly along the casting beds. Monitor temperatures at various points in a product line in different casts. Cover and wet cure for a minimum of seven days prior to transporting, launching and assembly.

2.3.5 Surface Finish

Precast floats containing hairline cracks which are larger than 0.005 inches shall be repaired by epoxy injection or an approved penetrating

epoxy provided it does not result in a slippery surface. Precast floats which contain cracks greater than 0.04 inches in width may be rejected by the Owner. Any precast float that is structurally impaired or contains honeycombed section deep enough to expose reinforcing shall be rejected.

2.3.5.1 Unformed Surfaces

Provide a steel troweled and broomed finish for dock deck surface. Slip resistant broomed deck finish shall be transverse to dock orientation. All deck edges shall have a 3/8 inch tooled radius with a minimum 1 1/2 inch wide, smooth, hard steel finished face.

2.3.5.2 Formed Surfaces

PCI MNL-116 (Appendix A - Commentary), Chapter 3, for grades of surface finishes. Provide a standard grade surface finish for both exposed and unexposed areas.

2.3.6 Float Identification

All precast floats are to be clearly identified on one side and one end, between the bottom of the waler and the waterline. Identification shall include name of manufacturer, date of manufacture, specific float type, and job number.

2.3.7 Handling and Storage

Contractor shall avoid damage to floats during form removal, storage, assembly, and installation. Storage of floatation units shall be on level surfaces. Any damaged units shall be rejected and removed from the assigned job.

2.4 TIMBER AND WOOD PRODUCTS

All timber shall have preservative treatment in accordance with AWPA for the marine environment.

2.5 GRANITE ANCHOR BLOCK

Granite anchor blocks shall be solid granite wieghing 3.5 tons each. Block dimensions shall match drawings.

2.6 FENDER ELEMENTS

System shall include D-fenders. D-fender system shall be a continuous 6 inch hollow D-shaped cross section extruded rubber fendering attached along all edges indicated in the drawings. Fendering shall be an EPDM rubber compound, resistant to ozone and ultraviolet deterioration that will not mark the hull of the vessel. The rubber compound shall conform to ASTM D2000 (3BA 620 A_{14}, B_{13}, C_{12}, EA_{14}, F_{17}, G^{A}_{11}). A-6_{11} Acceptance requirement is 250 ppi, minimum.

PART 3 EXECUTION

3.1 SURFACE DEFECTS

Precast floats shall be free of damage, such as cracking, spalling, and honeycombing. As directed by the Owner, precast floats that do not meet the surface finish requirements specified in Part 2 in paragraph entitled

"Surface Finish" shall be repaired or removed and replaced with new precast floats.

3.2 LAUNCH AND ASSEMBLY

Precast floats shall be launched after the concrete has attained the specified compressive strength, unless otherwise approved by the precast manufacturer. Assemble in accordance with the approved shop drawings. PCI MNL-116 and PCI MNL-120 (Chapter 8), for tolerances. Brace precast floats, unless design calculations submitted with the shop drawings indicate bracing is not required. Follow the manufacturer's recommendations for maximum construction loads.

3.3 ANCHORAGE

Provide anchorage for fastening work in place. Conceal fasteners where practicable. Make threaded connections up tight and nick threads to prevent loosening.

3.4 WELDING

AWS D1.4/D1.4M for welding connections and reinforcing splices; AWS D1.1/D1.1M for welding steel. Protect the concrete and other reinforcing from heat during welding. Weld continuously along the entire area of contact. Grind smooth visible welds in the finished installation. Welding of epoxy-coated reinforcing is not allowed.

3.5 OPENINGS

Holes or cuts requiring reinforcing to be cut, which are not indicated on the approved shop drawing, shall only be made with the approval of the Owner and the precast manufacturer. Drill holes less than 12 inches in diameter with a diamond tipped core drill.

3.6 GALVANIZING REPAIR

Repair damage to galvanized coatings using ASTM A780/A780M zinc rich paint for galvanized surfaces damaged by handling, transporting, cutting, welding, bolting, or acid washing. Do not heat surfaces to which repair paint has been applied.

3.7 GROUTING

Clean and fill indicated areas, solidly with nonshrink grout or cementitious grout. Provide reinforcing where indicated. Remove excess grout before hardening.

3.8 FREEBOARD PERFORMANCE

Submit freeboard measurements reflecting that the as-built system conforms to the specifications under dead load conditions. Performance reports must be submitted upon completion of the initial installation.

-- End of Section --

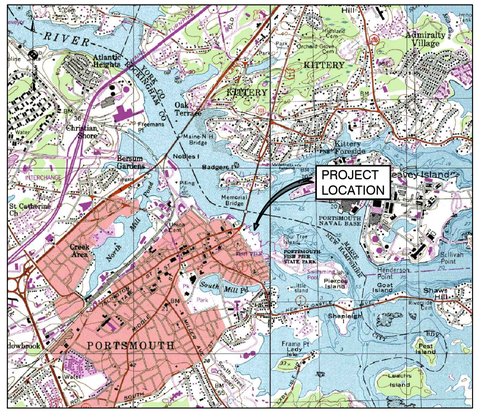
CITY OF PORTSMOUTH

PORTSMOUTH, NH

ROCKINGHAM COUNTY

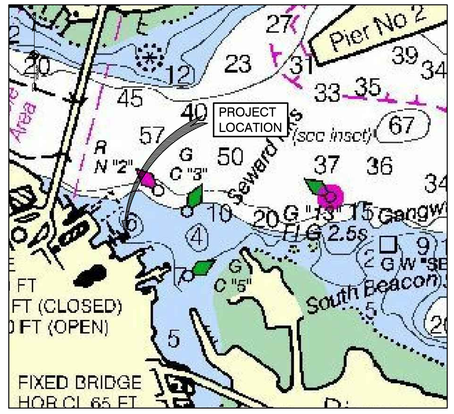
SOUTH FLOATING DOCK REPLACEMENT

MAY 2014



VICINITY MAP
NTS

LIST OF DRAWINGS



LOCATION MAP
NTS

ELEVATION, SECTION OR DETAIL SYMBOLS

SHEET NUMBER WHERE ELEVATION IS SHOWN — A4 / C-201 — INDICATES REFERENCE QUADRANT ON DESTINATION SHEET

EXTERIOR ELEVATION/SECTION

SHEET NUMBER WHERE SECTION IS SHOWN — A4 / C-201 — INDICATES REFERENCE QUADRANT ON DESTINATION SHEET

INTERIOR ELEVATION/SECTION

SHEET NUMBER WHERE DETAIL IS SHOWN — A4 / C-201 — INDICATES REFERENCE QUADRANT ON DESTINATION SHEET

DETAIL

TIDAL DATA:

	MLLW (FEET) DATUM
TOP OF DECK	= 14.50
HIGH OBSERVED WATER LEVEL (01/02/2010)	= 12.27
MEAN HIGHER HIGH WATER (MHHW)	= 9.40
MEAN HIGH WATER (MHW)	= 8.97
NORTH AMERICAN VERTICAL DATUM (NAVD88)	= 4.99
MEAN SEA LEVEL (MSL)	= 4.69
MEAN TIDE LEVEL (MTL)	= 4.66
MEAN LOW WATER (MLW)	= 0.34
MEAN LOWER LOW WATER (MLLW) (1983–2001 TIDAL EPOCH)	= 0.00
LOWEST OBSERVED WATER LEVEL (03/21/2007)	= –2.56

REFERENCE:
NOAA/NOS TIDE STATION ID. 8423898, FORT POINT,
NEWCASTLE ISLAND, NEW HAMPSHIRE
PUBLICATION DATE: 06/18/2010

LEGEND

APPROX	APPROXIMATE	MISC	MISCELLANEOUS
℄	CENTERLINE	MLLW	MEAN LOWER LOW WATER
CY	CUBIC YARD	MLW	MEAN LOW WATER
DEG	DEGREE	NTS	NOT TO SCALE
DIA	DIAMETER	ℙ	PLATE
EL	ELEVATION IN FEET	PCF	POUNDS PER CUBIC FOOT
GALV	GALVANIZE	POC	POINT OF CONTACT
HDG	HOT DIPPED GALVANIZE	PSF	POUNDS PER SQUARE FOOT
LBS	POUNDS	SCH	SCHEDULE
LF	LINEAR FEET	SF	SQUARE FEET
MAX	MAXIMUM	SS	STAINLESS STEEL
MHW	MEAN HIGH WATER	STD	STANDARD
MHHW	MEAN HIGHER HIGH WATER	TYP	TYPICAL
MIN	MINIMUM	UON	UNLESS OTHERWISE NOTED

REVISIONS

REVISION	DATE	DESCRIPTION	BY
–	–	–	–

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amei@appledoremarine.com

SUBMITTED BY: (SIGNED) DATE

ROBERT M. SNOVER No 6380 — STATE OF NEW HAMPSHIRE — PROFESSIONAL ENGINEER

(SEAL)

CITY OF PORTSMOUTH
PORTSMOUTH, NEW HAMPSHIRE
PRESCOTT PARK
PORTSMOUTH, NH
SOUTH FLOATING DOCK REPLACEMENT
COVER

PROJECT No.: 5122
CAD DWG FILE: 5122A-FLOAT DRAWINGS.dwg
DESIGNED BY: LBL
DRAWN BY: DLM
CHECKED BY: RMS
SCALE: AS SHOWN

G-001

SHEET 1 OF 10

DRAWING NAME: 5122A-FLOAT DRAWINGS.dwg Date Plotted: May 23, 2014 – 12:48pm Plotted By: LLEBEL

GENERAL NOTES:

1. THE SPECIFICATIONS FORM A PART OF THE CONTRACT DOCUMENTS AND ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS AND THE DRAWINGS. A COPY OF THE CONTRACT DOCUMENTS SHALL BE KEPT ON SITE AT ALL TIMES DURING THE WORK.

2. ELEVATIONS AND SOUNDINGS ARE IN FEET BASED ON MEAN LOWER LOW WATER (MLLW) PROJECT DATUM FOR THE 1983–2001 TIDAL EPOCH.

3. ALL EXISTING DIMENSIONS, ELEVATIONS AND CONDITIONS RELATING TO THE WORK SHALL BE FIELD VERIFIED. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER BEFORE ORDERING MATERIALS AND STARTING THE WORK.

4. THE SIZE AND LOCATION OF ALL EXISTING UTILITIES IMPACTED BY THE WORK SHALL BE FIELD VERIFIED AND PROTECTED. RELOCATE UTILITIES TO ACCOMMODATE CONSTRUCTION AS APPROVED BY THE OWNER, AT NO ADDITIONAL COST TO THE OWNER.

5. DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE FACILITIES. ERECT, MAINTAIN AND REMOVE TEMPORARY SHORING TO COMPLETE THE WORK. ALL PROPOSED STAGING AREAS SHALL BE COORDINATED WITH THE OWNER BEFORE STARTING THE WORK.

6. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE DONE TO STRUCTURES AND VESSELS OR INJURIES TO THE PUBLIC AND FACILITY PERSONNEL DURING THE PERFORMANCE OF THE WORK.

7. PROVIDE AND MAINTAIN ENVIRONMENTAL CONTROLS AS REQUIRED BY FEDERAL, STATE AND LOCAL REGULATIONS AND PERMITS.

8. FOLLOW ALL APPLICABLE FEDERAL, STATE AND MUNICIPAL REGULATIONS, INCLUDING THE FEDERAL DEPARTMENT OF LABOR, SAFETY, HEALTH ACT, U.S. ARMY CORPS OF ENGINEERS, STATE/LOCAL WETLANDS CONTROL, AND PERMITS.

9. STORAGE, FUELING AND LUBRICATION OF EQUIPMENT AND MOTOR VEHICLES SHALL BE CONDUCTED IN A MANNER THAT AFFORDS THE MAXIMUM PROTECTION AGAINST SPILL AND EVAPORATION. FUEL, LUBRICANTS AND OIL SHALL BE MANAGED AND STORED IN ACCORDANCE WITH ALL FEDERAL, STATE, REGIONAL, AND LOCAL LAWS AND REGULATIONS. THERE SHALL BE NO STORAGE OF FUEL ON THE PROJECT SITE. FUEL MUST BE BROUGHT TO THE PROJECT SITE AS NEEDED.

SURVEY:

1. EXISTING BATHYMETRIC SURVEY WAS CONDUCTED BY APPLEDORE MARINE ENGINEERING INC. ON 29, JULY 2011. BATHYMETRY IS IN FEET, REFERENCED TO MEAN LOWER LOW WATER (MLLW). THE INFORMATION SHOWN INDICATES THE EXISTING CONDITIONS AT THAT TIME.

2. EXISTING SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM CITY OF PORTSMOUTH TOPOGRAPHIC MAP SHEET NO. 69, DATED 05-03-94.

3. CONTOURS DEPICTED HERE WERE GENERATED FROM SHOALEST OBSERVED SOUNDINGS OBSERVED AROUND MARINA.

4. HORIZONTAL CONTROL:
GRID SYSTEM IS IN FEET AND HEREIN AREA BASED ON THE NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM, NAD83.

5. VERTICAL BENCHMARK:
DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER BASED ON NOAA/NOS TIDE STATION ID. 8423898, FORT POINT, NEWCASTLE ISLAND, NEW HAMPSHIRE

DEMOLITION:

1. PROVIDE CONTROL MEASURES AS REQUIRED BY ENVIRONMENTAL REGULATIONS AND AS REQUIRED TO PREVENT DEBRIS FROM ENTERING THE HARBOR. UNDERWATER INSPECTIONS MAY BE CONDUCTED BY THE OWNER TO ENSURE THAT ALL DEMOLITION AND CONSTRUCTION DEBRIS HAS BEEN REMOVED FROM THE HARBOR.

2. ALL MATERIAL REMOVED AND NOT REUSED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED DAILY FROM THE PROPERTY OR PROPERLY STORED IN AN APPROVED LOCATION ON SITE. REMOVED MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS.

3. PROTECT EXISTING UTILITIES AND WORK WHICH ARE TO REMAIN IN PLACE, BE REUSED, OR REMAIN THE PROPERTY OF THE OWNER.

4. EXISTING TIMBER CONTAINS PRESERVATIVE MATERIALS.

5. EXISTING UTILITIES SHOWN ARE BASED ON AVAILABLE ARCHIVE PLANS AND MAY NOT BE INDICATIVE OF ALL EXISTING UTILITY LOCATIONS. LOCATE EXISTING UTILITIES. ALL DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.

CONCRETE FLOAT SYSTEM:

1. FLOATING DOCKS SHALL BE CONSTRUCTED OF PRECAST CONCRETE.

2. FLOATING DOCK WILL BE ERECTED IN A SEVERE WAVE AND CURRENT ENVIRONMENT AND CONTRACTOR SHALL ANALYZE, DESIGN AND CONSTRUCT ACCORDINGLY. DESIGN LOADS ARE AS FOLLOWS.

3. WIND: 74 MPH, 30 SECOND DURATION AT 33 FEET ABOVE SEA LEVEL FROM ANY DIRECTION.

4. WAVES: 3 FOOT DESIGN WAVE WITH 3 SECOND PERIOD RESULTING IN MAXIMUM TOP AND BOTTOM AND TORSIONAL STRESSES PARALLEL TO LONG DIRECTION OF FLOATING DOCK.

5. CURRENT = 2 KTS

6. VERTICAL LOADS:
   a. DEAD LOAD TO INCLUDE FLOATING DOCK SYSTEM SELF WEIGHT PLUS ALL PERMANENTLY ATTACHED HARDWARE AND EQUIPMENT INCLUDING MOORING HARDWARE, FENDER SYSTEM, MOORING CHAIN AND GANGWAY DEAD LOAD REACTION.
   b. LIVE LOAD OF 50 PSF UNIFORMLY DISTRIBUTED OVER ENTIRE FLOAT DECK PLUS GANGWAY LIVE LOAD REACTION FORCE (50 PSF); OR 400 LB. CONCENTRATED LOAD AS SPECIFIED.

7. HORIZONTAL LOADS: SUM OF LOADS DUE TO DESIGN ENVIRONMENTAL CONDITIONS INCLUDING:
   a. DESIGN VESSEL SHALL BE 40 FT LOA RECREATIONAL MOTOR VESSEL WITH BEAM= 15'.
   b. WIND PLUS WAVES PLUS CURRENT ACTING ON DOCK PLUS DESIGN VESSEL.
   c. BERTHING IMPACT OF THE VESSEL
   d. NOT LESS THAN 150 PLF ACTING HORIZONTALLY AT DECK LEVEL ALONG ENTIRE LENGTH OF MAIN FLOAT, T FLOAT, AND FINGERS.
   e. DESIGN VESSEL LENGTH SHALL MATCH PROVIDED SLIP LENGTHS.

8. CLEAT LOADS: 3,000 LB. HORIZONTAL MOORING LINE LOAD APPLIED IN ANY DIRECTION AND UP TO 45 DEGREES VERTICALLY.

ANCHORAGE SYSTEM:

1. ALL ANCHOR CHAIN SHALL BE CAST STEEL OR DROP FORGED STEEL ABS (AMERICAN BUREAU OF SHIPPING) GRADE 2, CONFORMING TO ABS STANDARDS.
   a. STUD LINK CHAIN SHALL BE ¾" OR 1-1/4" NOMINAL WIRE SIZE HAVING A MINIMUM BREAKING STRENGTH OF 47,600 LBS AND MINIMUM WEIGHT OF 5.3 LBS PER FOOT.

2. SHACKLES SHALL BE SUITABLY SIZED TO DEVELOP THE FULL STRENGTH OF THE CHAIN BEING CONNECTED. SHACKLES SHALL BE STAMPED OR EMBOSSED WITH THE NOMINAL TRADE SIZE AND ALLOWABLE WORKING LOAD. SHACKLES SHALL BE CHAIN-TYPE WITH BOLTS AND KEEPER PINS.

3. ANCHOR CONNECTION ON FLOATING DOCK SHALL BE PER MANUFACTURERS RECOMMENDATIONS.

4. ALL STEEL CONNECTION ELEMENTS SHALL BE GALVANIZED.

ANCHOR BLOCKS NOTES:

1. ANCHOR BLOCKS SHALL BE SOLID GRANITE BLOCKS. BLOCKS SHALL HAVE A MAXIMUM HEIGHT OF 2.5 FEET AND WEIGH 3.5 TONS'.

2. ANCHORS BLOCKS SHALL HAVE A 2" DIAMETER STEEL EYE THROUGH BOLT FOR CHAIN CONNECTION.

3. TOP OF INSTALLED ANCHOR BLOCKS SHALL BE AT SAME GRADE AS ADJACENT RIVER BOTTOM.

4. MATERIAL EXCAVATED DURING INSTALLATION OF ANCHOR BLOCKS SHALL BE PLACED IN VOIDS OF PREVIOUS ANCHOR BLOCK LOCATIONS.

5. ANY EXCESS MATERIAL EXCAVATED DURING INSTALLATION OF MOORING BLOCKS SHALL BE PROPERLY DISPOSED OF, BY THE CONTRACTOR, AT AN OFF SITE UPLAND LOCATION.

GANGWAY:

1. GANGWAYS SHALL BE FABRICATED OF ALUMINUM ALLOY 6061-T6 AND SUITABLE FOR MARINE APPLICATIONS.

2. TRANSITION PLATES SHALL HAVE NON-SKID SURFACE.

3. GANGWAY ROLLER GUIDE ANGLES SHALL BE STAINLESS STEEL.

4. GANGWAY HANDRAIL SYSTEM SHALL NOT ALLOW A SPHERE GREATER THAN 4 INCHES IN SIZE PASS THROUGH ANY PLANE. (INCLUDING SPACE BETWEEN FENCE AND TOP OF GANGWAY)

SUMMARY OF WORK

BASE BID

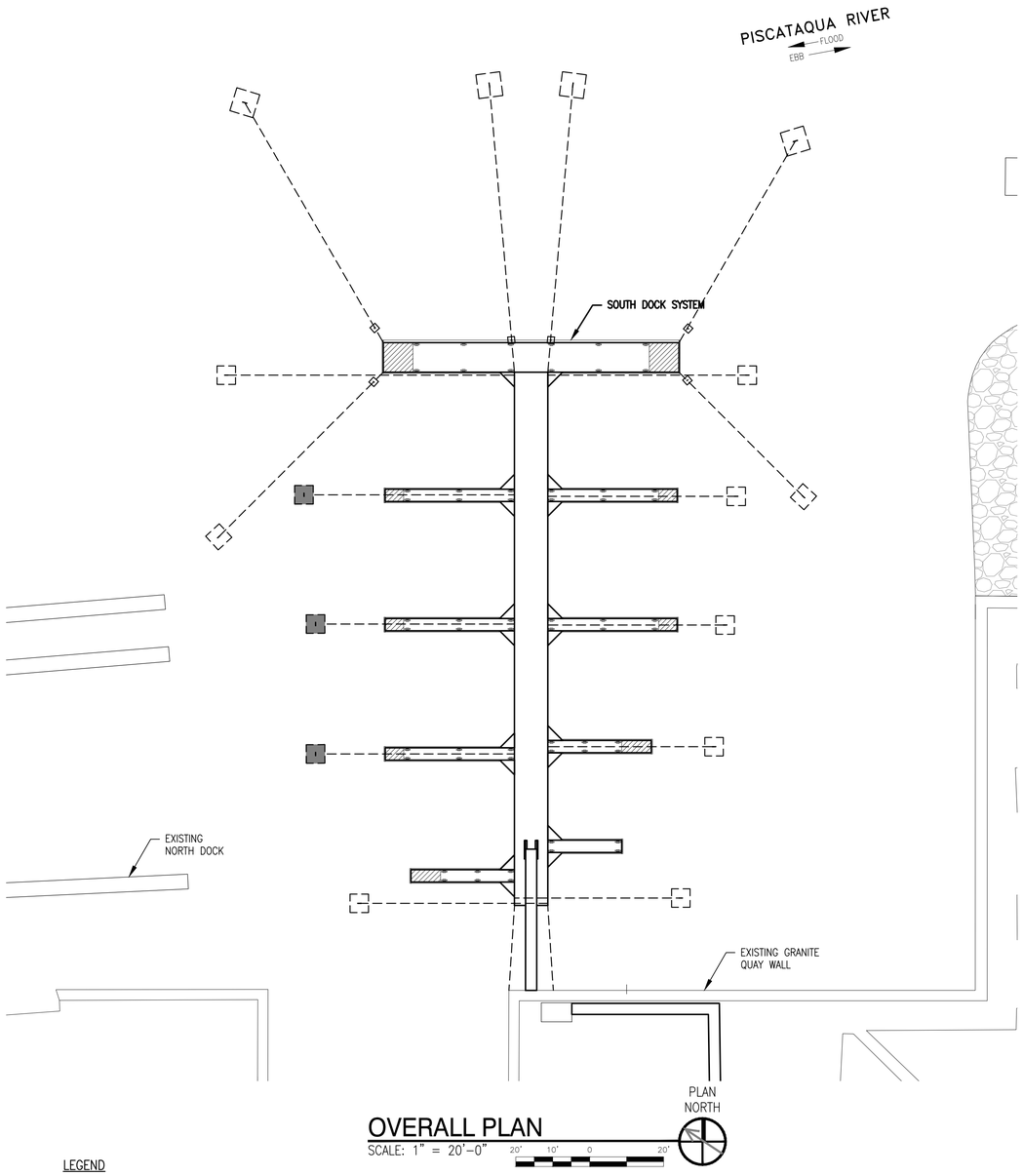
1. **REMOVE EXISTING FLOATING DOCK AND GANGWAY. PROVIDE FLOATING DOCK AND GANGWAY.**
2. **RELOCATE AND MODIFY EXISTING MOORING BLOCKS**
3. **PROVIDE AND INSTALL THREE ADDITIONAL MOORING BLOCKS**

BID OPTIONS

1. **PROVIDE EXPANDED FLOATING DOCK**
2. **UTILITY SYSTEM UPGRADES INCLUDING WATER AND ELECTRICAL**
3. **ADDITIONAL GRANITE BLOCKS ASSEMBLY**

NOTE

1. **THE ABOVE SUMMARY PROVIDES THE MAJOR TASKS OF THIS PROJECT BUT DOES NOT INCLUDE INCIDENTAL WORK THAT MAY BE REQUIRED**



OVERALL PLAN

SCALE: 1" = 20'-0"

20' 10' 0 20'

BY	DESCRIPTION	DATE	REVISION

REVISIONS

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amei@appledoremarine.com

SUBMITTED BY:

(SIGNED) DATE

TITLE

ROBERT M. SNOVER No. 6380 – STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER

(SEAL)

CITY OF PORTSMOUTH
PORTSMOUTH, NEW HAMPSHIRE

PRESCOTT PARK
SOUTH FLOATING DOCK REPLACEMENT
PORTSMOUTH, NH

NOTES AND OVERALL PLAN

PROJECT No.: 5122
CAD DWG FILE: 5122A-FLOAT DRAWINGS.dwg
DESIGNED BY: LBL
DRAWN BY: DLM
CHECKED BY: RMS
SCALE: AS SHOWN

G-002

SHEET 2 OF 10

DRAWING NAME: 5122A-FLOAT DRAWINGS.dwg Date Plotted: May 23, 2014 – 12:48pm Plotted By: LLEBEL

PISCATAQUA RIVER

EBB — FLOOD

T-HEAD PIER

66'±

SOUTH DOCK SYSTEM
TO BE REMOVED

3

NORTH PIER

NORTH DOCK

142'±

4

ANCHOR BLOCK (TYP)

MOORING CHAIN (TYP)

2

EXISTING GANGWAY
5 **TO BE REMOVED**

QUAY WALL

CHAIN LINK FENCE

FLOAT SWITCH (MOUNTED TO QUAY WALL)
TO BE REMOVED

1

DOCK MASTER HUT

ELECTRICAL PANEL LOCATED APPROXIMATELY 200FT SOUTH OF DOCK

9

LEGEND:

- 1 FT CONTOUR
- 5 FT CONTOUR
- INDICATES EXTENT OF REMOVALS
- 1 PHOTO, ARROW INDICATES DIRECTION TAKEN

PLAN NORTH

EXISTING CONDITIONS AND REMOVALS PLAN

SCALE: 1" = 20'-0"

20' 10' 0 20'

BY	DESCRIPTION	DATE	REVISION
–	REVISIONS	–	–

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(SEAL)

CITY OF PORTSMOUTH
PORTSMOUTH, NEW HAMPSHIRE

PRESCOTT PARK — PORTSMOUTH, NH

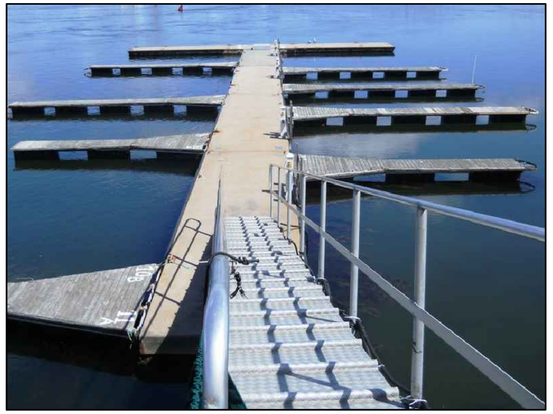
SOUTH FLOATING DOCK REPLACEMENT

EXISTING CONDITIONS AND REMOVAL PLAN

PROJECT No.: 5122
CAD DWG FILE: 5122A-FLOAT DRAWINGS.dwg
DESIGNED BY: LBL
DRAWN BY: DLM
CHECKED BY: RMS
SCALE: AS SHOWN

C-101

SHEET 3 OF 10



1 EXISTING FLOATING DOCK OVERALL

2 EXISTING MAIN FLOAT

3 EXISTING FLOATING DOCK CONNECTION

4 EXISTING FINGER PIER

5 EXISTING GANGWAY

6 ELECTRICAL PANEL

DRAWING NAME: 5122A-FLOAT DRAWINGS.dwg Date Plotted: May 23, 2014 – 12:48pm Plotted By: LLEBEL

REVISIONS			
BY	DESCRIPTION	DATE	REVISION
–	–	–	–

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(SEAL)

(SIGNED) TITLE DATE

CITY OF PORTSMOUTH
PORTSMOUTH, NEW HAMPSHIRE

PRESCOTT PARK
PORTSMOUTH, NH

SOUTH FLOATING DOCK REPLACEMENT

SITE PHOTOS

PROJECT No.: 5122
CAD DWG FILE: 5122A-FLOAT DRAWINGS.dwg
DESIGNED BY: LBL
DRAWN BY: DLM
CHECKED BY: RMS
SCALE: AS SHOWN

C-901

SHEET 4 OF 10

ANCHOR BLOCK AND CHAIN SUMMARY

ANCHOR BLOCK DESIGNATION	DISTANCE FROM CHAIN CONNECTION ON FLOAT TO ANCHOR LOCATION (FT)	APPROXIMATE LOCATION ON CHAIN FOR SINKER BLOCK (MEASURED FROM THE CHAIN CONNECTION ON FLOAT) (FT)	THEORETICAL LENGTH OF CHAIN * (FT)
1	51	–	63
2	54	–	66
3	54	–	66
4	57	–	69
5	63	7	75
6	78	–	91
7	75	10	88
8	78	6	91
9	78	6	91
10	63	5	75
11	54	–	66
12	48	5	60
13	51	–	63
14	48	–	60
15	45	–	57
16	45	–	57
17	23	–	26
18	23	–	26

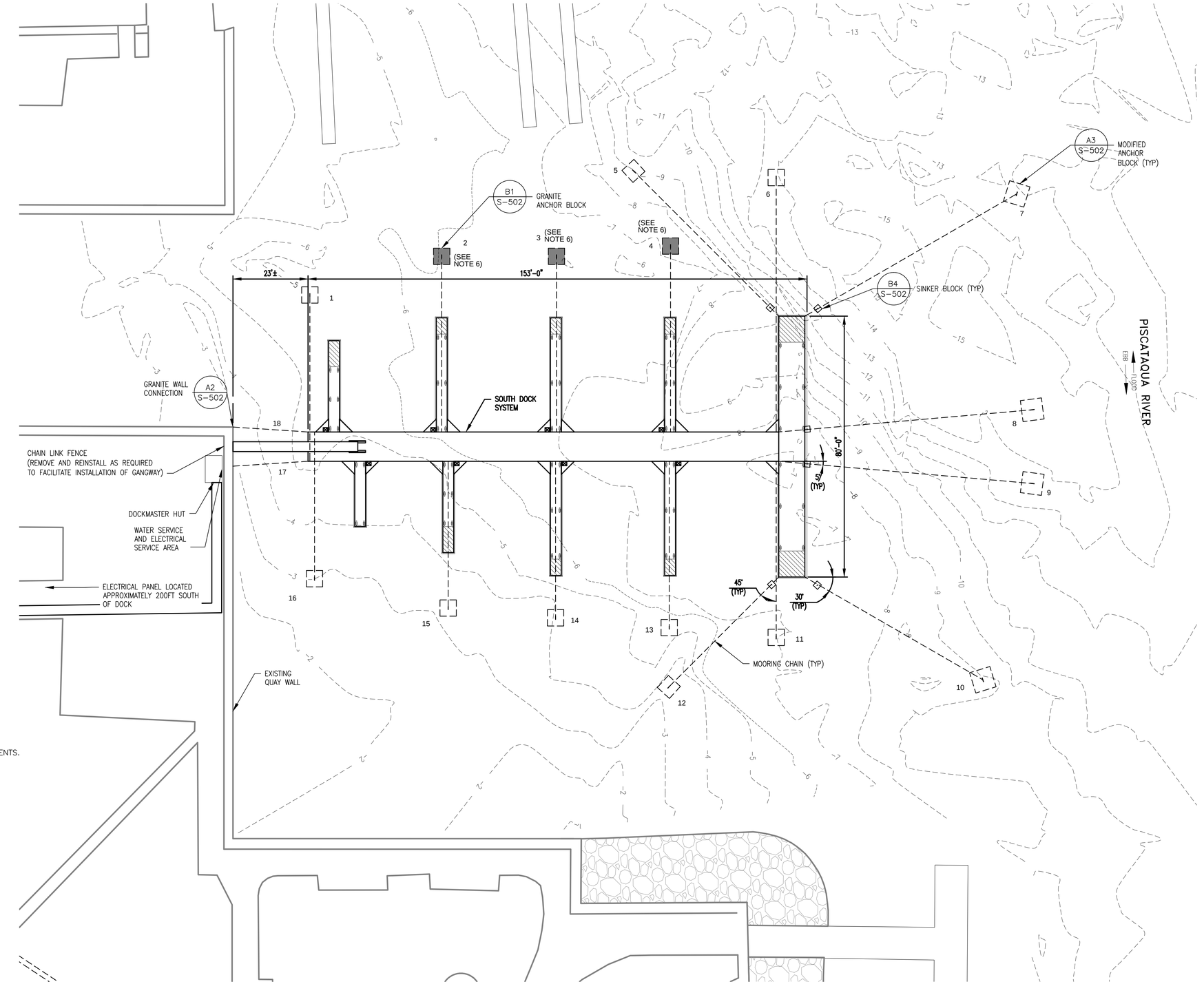
* NOT INCLUDING A MINIMUM OF 5 FEET ADDED TO ALL CHAINS FOR FIELD ADJUSTMENTS.

NOTES:

1. ALL CHAINS SHALL HAVE 15 FEET OF 1¼" DIA GALVANIZED CHAIN CONNECTED TO THE ANCHOR BLOCK OR GRANITE WALL. THE REMAINING SHALL BE ¾" DIA.
2. CHAIN LENGTHS SHALL BE FIELD ADJUSTED TO PROVIDE EQUAL TENSION AT EACH FLOAT MODULE UNDER CALM SLACK WATER CONDITIONS NEAR TIME OF HIGH TIDE AND WITHOUT GANGWAYS INSTALLED.
3. CHAINS SHALL BE SYSTEMATICALLY ADJUSTED UNTIL THE FLOATING DOCK SYSTEM REMAINS AT REST IN A STRAIGHT LINE AND ON STATION. FREEBOARD ALONG ANY GIVEN FLOAT MODULE SHALL BE WITHIN A 1–INCH TOLERANCE.
4. THE TOTAL LOAD IN EACH CONNECTION BRACKET SHALL BE APPROXIMATELY 5000 LBS AT MEAN HIGHER HIGH WATER FOR ALL ANCHORS.
5. RELOCATE EXISTING CONCRETE ANCHOR BLOCKS IN ACCORDANCE WITH THIS PLAN.
6. ANCHOR BLOCK LOCATIONS 2, 3, AND 4: PROVIDE AND INSTALL GRANITE ANCHOR BLOCKS.

LEGEND:

- 1 FT CONTOUR
- 5 FT CONTOUR
- MODIFIED EXISTING CONCRETE MOORING BLOCK
- GRANITE MOORING BLOCK



ANCHOR BLOCK PLAN
SCALE: 1" = 16'–0"

PLAN NORTH

NO.	REVISION	DATE	DESCRIPTION	BY
–	–	–	–	–

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(SEAL)

CITY OF PORTSMOUTH
PORTSMOUTH, NEW HAMPSHIRE

PRESCOTT PARK
PORTSMOUTH, NH

SOUTH FLOATING DOCK REPLACEMENT

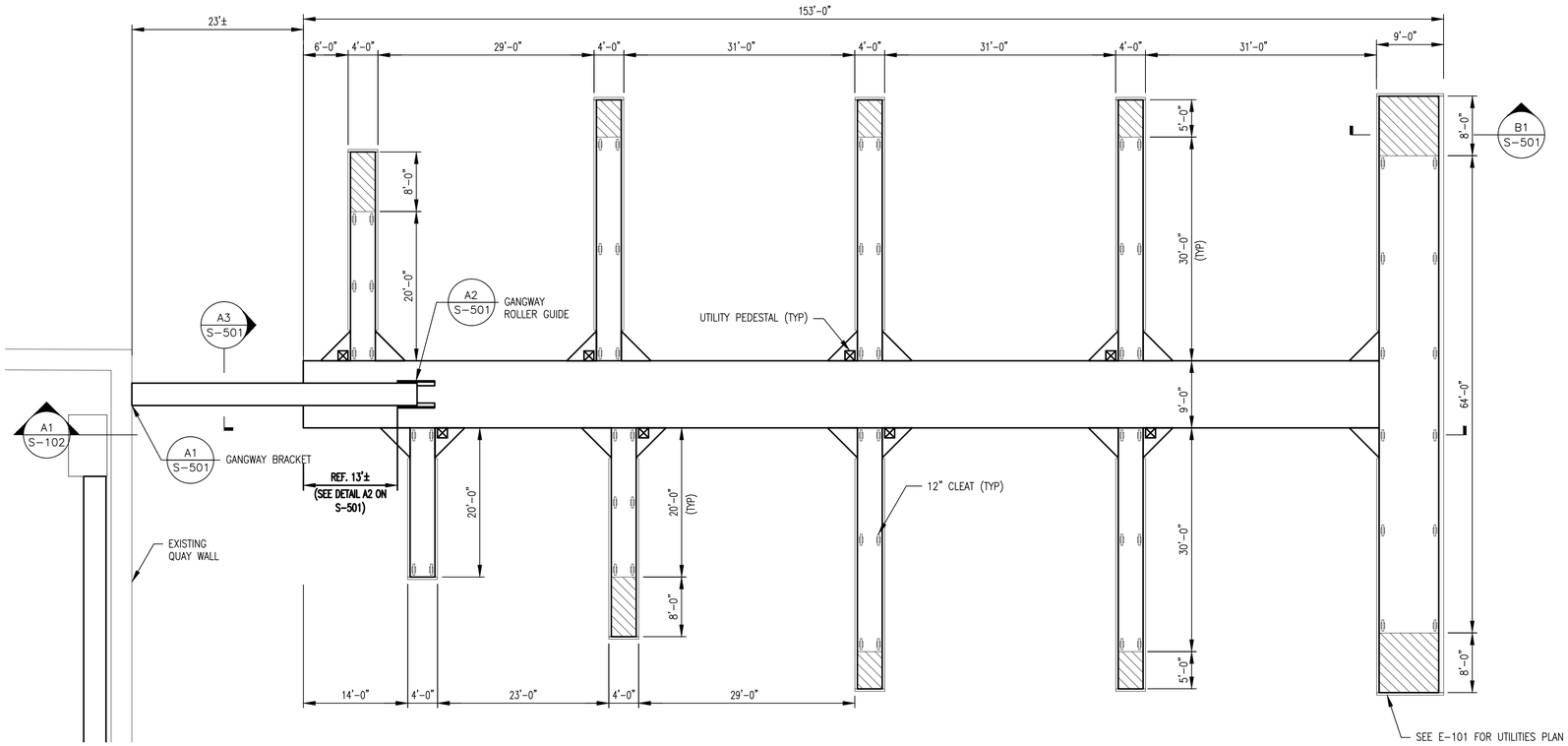
ANCHOR BLOCK PLAN

PROJECT No.: 5122
CAD DWG FILE: 5122A–FLOAT DRAWINGS.dwg
DESIGNED BY: LBL
DRAWN BY: DLM
CHECKED BY: RMS
SCALE: AS SHOWN

S–101

SHEET 5 OF 10

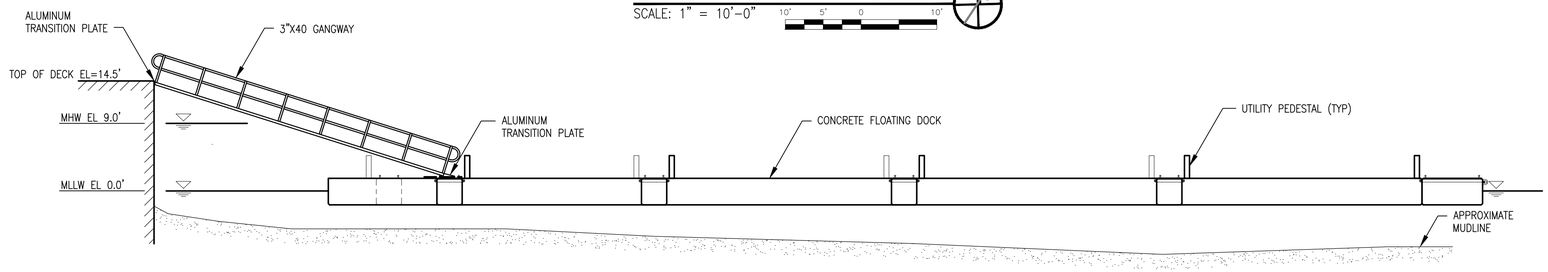
DRAWING NAME: 5122A–FLOAT DRAWINGS.dwg Date Plotted: May 23, 2014 – 12:48pm Plotted By: LLEBEL



FLOATING DOCK PLAN

SCALE: 1" = 10'-0"

PLAN NORTH



FLOAT SECTION

SCALE: 1"=10'

A1
S-102

NOTE:

FLOATING DOCK MANUFACTURER TO PROVIDE ADDITIONAL BUOYANCY AS NECESSARY TO COUNTERACT EFFECTS OF GANGWAY.

LEGEND

BID OPTION 1 AREA (CLEATS TO BE INSTALLED 1' FROM END OF FLOAT)

NO.	REVISION	DATE	DESCRIPTION	BY
–	–	–	–	–

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(SEAL)

CITY OF PORTSMOUTH
PORTSMOUTH, NEW HAMPSHIRE

PRESCOTT PARK
PORTSMOUTH, NH
SOUTH FLOATING DOCK REPLACEMENT

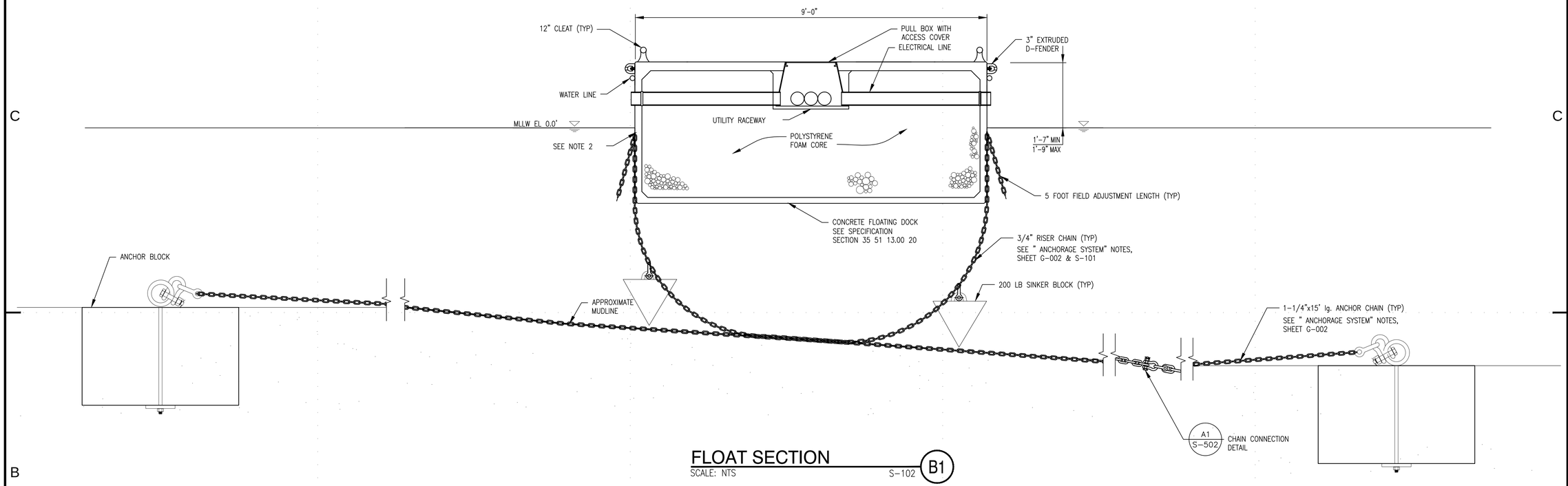
FLOATING DOCK PLAN

PROJECT No.: 5122
CAD DWG FILE: 5122A-FLOAT DRAWINGS.dwg
DESIGNED BY: LBL
DRAWN BY: DLM
CHECKED BY: RMS
SCALE: AS SHOWN

S-102

SHEET 6 OF 10

DRAWING NAME: 5122A-FLOAT DRAWINGS.dwg Date Plotted: May 23, 2014 – 12:48pm Plotted By: LLEBEL

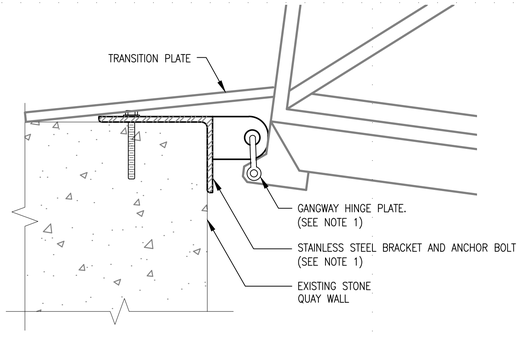


FLOAT SECTION

SCALE: NTS — S-102 — B1

NOTES:

1. SEE "CONCRETE FLOATING SYSTEM" NOTES, SHEET G-002.
2. FLOATING DOCK MANUFACTURER TO DESIGN MOORING CHAIN ATTACHMENT POINTS FOR MINIMUM 5000LB CHAIN LOAD FOR ALL ANCHORS.

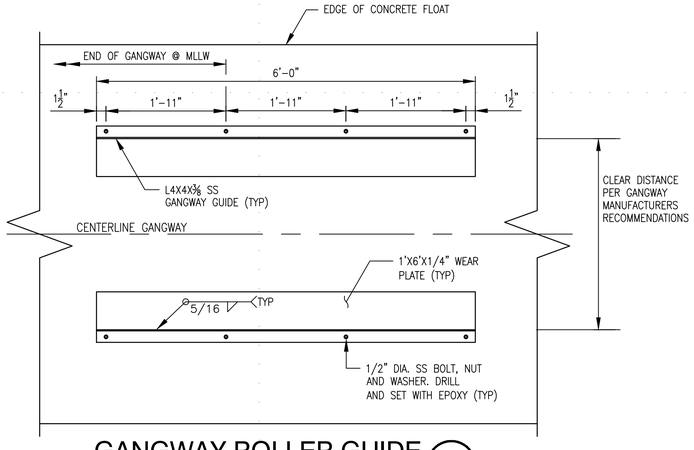


GANGWAY BRACKET

SCALE: 1½"=1'-0" 0 1/2' 1' 1 1/2' — S-102 — A1

GANGWAY BRACKET AND HINGE PLATE NOTES:

1. ENTIRE CONNECTION OF THE GANGWAY TO THE EXISTING STONE QUAY WALL TO BE DESIGNED BY CONTRACTOR'S NH LICENSED ENGINEER TO ACCOMMODATE DIMENSIONS OF GANGWAY AND DESIGN LOADING AS OUTLINED IN THE SPECIFICATIONS.
2. SUBMIT CALCULATIONS AND SHOP DRAWINGS FOR APPROVAL.

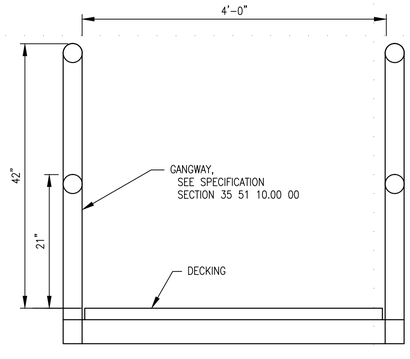


GANGWAY ROLLER GUIDE

SCALE: 1½"=1'-0" 0 1/2' 1' 1 1/2' — S-102 — A2

NOTES:

1. SIZE AND ATTACH GANGWAY GUIDE ANGLES AND WEAR PLATE PER FLOATING DOCK MANUFACTURER'S RECOMMENDATIONS. SET GUIDE ANGLES AND WEAR PLATE CENTERED AT MID-TIDAL RANGE.
2. ALL STEEL COMPONENTS AND FASTENERS TO BE STAINLESS STEEL.



GANGWAY SECTION

SCALE: 1½"=1'-0" 0 1/2' 1' 1 1/2' — S-102 — A3

NOTES:

1. UTILITIES NOT SHOWN FOR CLARITY.

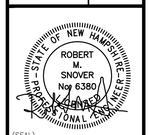
NO.	DESCRIPTION	DATE	BY
–	–	–	–

REVISIONS

Appledore Marine Engineering Inc.
600 State St. Suite E
Portsmouth New Hampshire 03801
603.766.1870
amei@appledoremarine.com

SUBMITTED BY: (SIGNED) DATE

TITLE



(SEAL)

CITY OF PORTSMOUTH
PORTSMOUTH, NEW HAMPSHIRE

PRESCOTT PARK — PORTSMOUTH, NH

SOUTH FLOATING DOCK REPLACEMENT

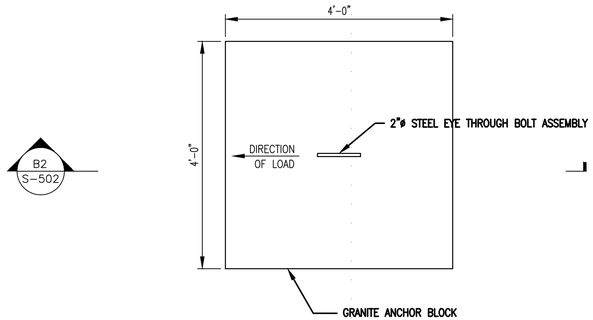
FLOATING DOCK DETAILS - 1

PROJECT No.: 5122
CAD DWG FILE: 5122A-FLOAT DRAWINGS.dwg
DESIGNED BY: LBL
DRAWN BY: DLM
CHECKED BY: RMS
SCALE: AS SHOWN

S-501

SHEET 7 OF 10

DRAWING NAME: 5122A-FLOAT DRAWINGS.dwg Date Plotted: May 23, 2014 - 11:14pm Plotted By: LLEBEL

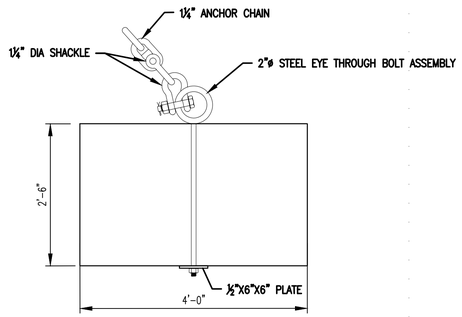


GRANITE ANCHOR BLOCK PLAN B1

SCALE: ¾"=1'-0" 0 1' 2' 3' S-101

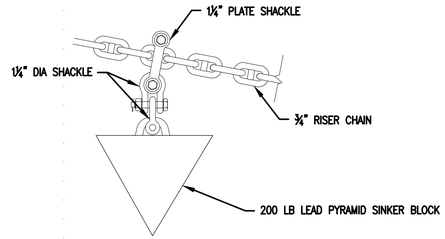
NOTES:

1. GRANITE DIMENSIONS SHOWN ARE APPROXIMATE.
2. ANCHOR BLOCKS SHALL BE SOLID GRANITE BLOCKS. BLOCKS SHALL HAVE A MAXIMUM HEIGHT OF 2.5 FEET AND WEIGH 3.5 TONS.



GRANITE ANCHOR BLOCK SECTION B2

SCALE: ¾"=1'-0" 0 1' 2' 3' S-502

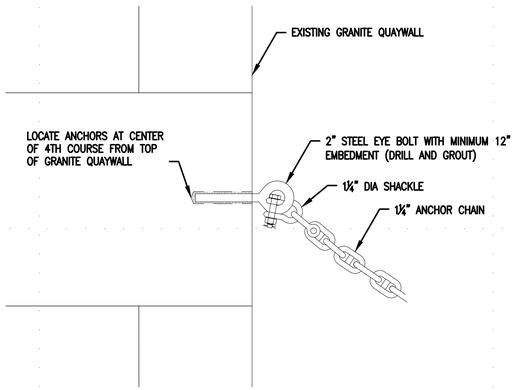


SINKER BLOCK DETAIL B4

SCALE: ¾"=1'-0" 0 1' 2' 3' S-501

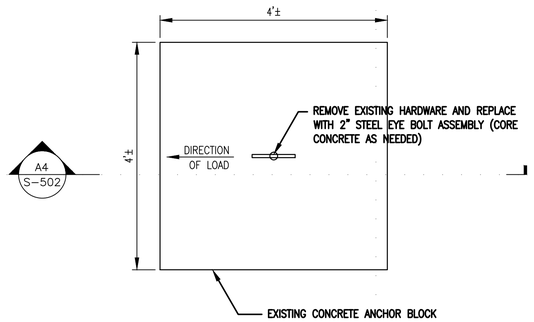
NOTES:

1. SINKER BLOCK SHALL BE OFF THE BOTTOM DURING ALL TIDES.



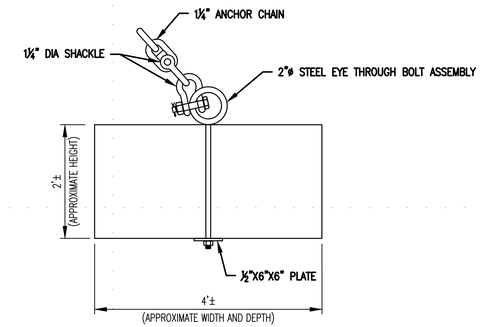
GRANITE WALL CONNECTION A2

SCALE: ¾"=1'-0" 0 1' 2' 3' S-101



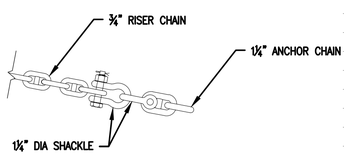
MODIFIED CONCRETE ANCHOR BLOCK ASSEMBLY PLAN A3

SCALE: ¾"=1'-0" 0 1' 2' 3' S-101



MODIFIED CONCRETE ANCHOR BLOCK ASSEMBLY SECTION A4

SCALE: ¾"=1'-0" 0 1' 2' 3' S-502



CHAIN CONNECTION DETAIL A1

SCALE: ¾"=1'-0" 0 1' 2' 3' S-501

REVISIONS				
REVISION	DATE	DESCRIPTION	BY
–	–	–	–

Appledore Marine Engineering Inc.
600 State St. Suite E
Portsmouth New Hampshire 03801
603.766.1870
amie@appledoremarine.com

SUBMITTED BY: (SIGNED) DATE

ROBERT M. SNOVER No. 6380 – STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER

(SEAL)

CITY OF PORTSMOUTH
PORTSMOUTH, NEW HAMPSHIRE

PRESCOTT PARK
SOUTH FLOATING DOCK REPLACEMENT
PORTSMOUTH, NH

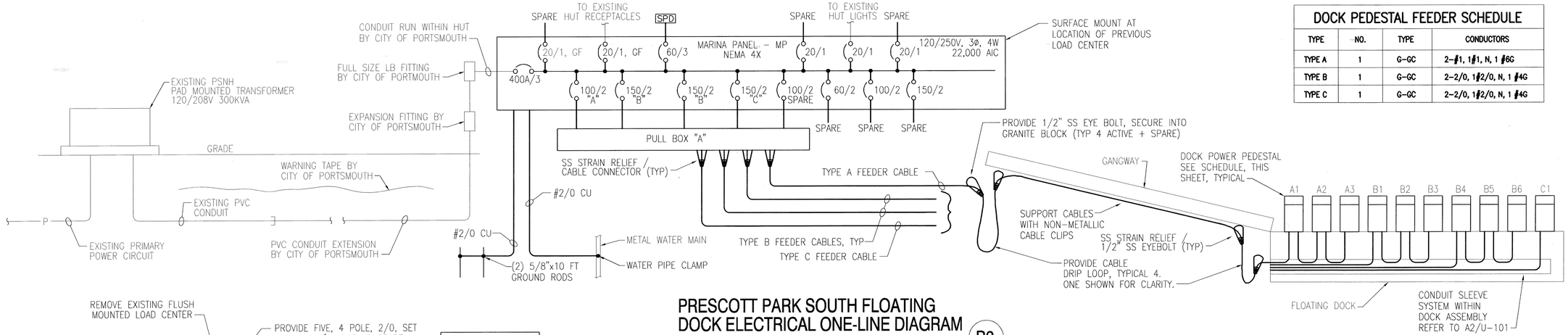
FLOATING DOCK DETAILS - 2

PROJECT No.: 5122
CAD DWG FILE: 5122A-FLOAT DRAWINGS.dwg
DESIGNED BY: LBL
DRAWN BY: DLM
CHECKED BY: RMS
SCALE: AS SHOWN

S-502

SHEET 8 OF 10

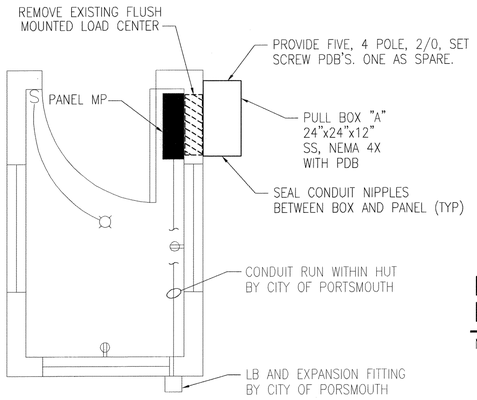
DRAWING NAME: 5122A-FLOAT DRAWINGS.dwg Date Plotted: May 23, 2014 – 12:48pm Plotted By: LLEBEL



PRESCOTT PARK SOUTH FLOATING DOCK ELECTRICAL ONE-LINE DIAGRAM B3

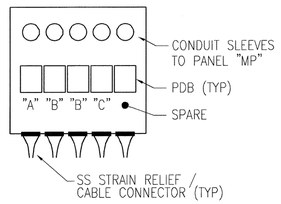
NOT TO SCALE E101

DOCK PEDESTAL FEEDER SCHEDULE			
TYPE	NO.	TYPE	CONDUCTORS
TYPE A	1	G-GC	2-#1, 1#1, N, 1 #6G
TYPE B	1	G-GC	2-2/0, 1#2/0, N, 1 #4G
TYPE C	1	G-GC	2-2/0, 1#2/0, N, 1 #4G



DOCKMASTER HUT ELECTRICAL PLAN B1

SCALE: 1/2"=1'-0" 2' 1' 0 2' E101

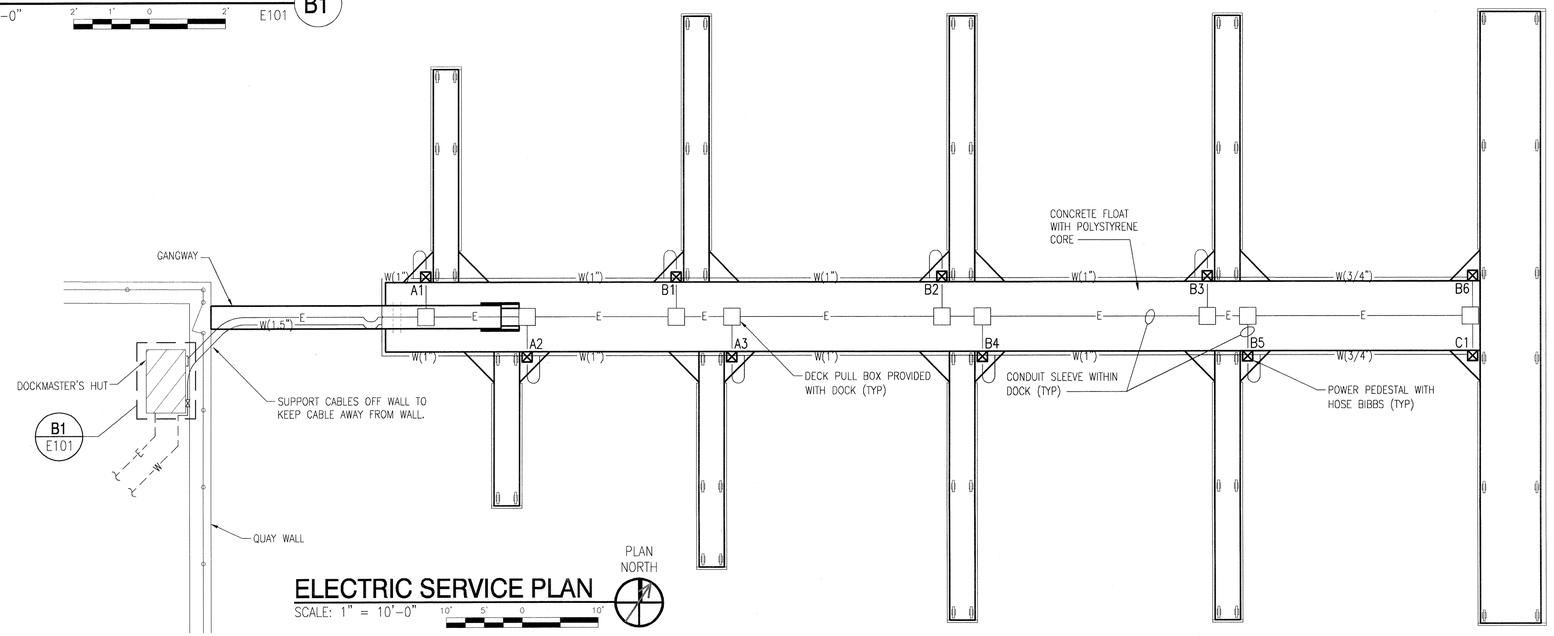


PULL BOX "A" ELEVATION B2

NOT TO SCALE E101

GENERAL NOTES:

1. ELECTRICAL INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE (NEC), NFPA, AND STATE AND LOCAL CODES.
2. WORK SHALL BE COORDINATED WITH DOCK INSTALLER, STRUCTURAL AND CIVIL TRADES.
3. ELECTRICAL EQUIPMENT, COMPONENTS AND ASSEMBLIES, AND WIRING SHALL BE NEW AND UL LISTED UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND DIMENSIONS AND REPORT DISCREPANCIES TO THE OWNER. THE CONTRACTOR SHALL PROCEED WITH THE WORK ONLY AFTER THE DISCREPANCIES HAVE BEEN RESOLVED.
5. JUNCTION BOXES SHALL BE MARINE-GRADE, WATERTIGHT, CORROSION RESISTANT STAINLESS STEEL WITH PERMANENTLY INSTALLED TERMINAL BLOCKS.
6. UTILITY POWER CENTERS SHALL BE INTERNATIONAL DOCK PRODUCTS MODEL SPB-41-4A. WITH PHOTOCELL CONTROLLED LED LIGHTING, 2 HOSE/CABLE HOLDER, 2 HOSE BIBS AND HUBBELL MARINE GRADE RECEPTACLES/CONNECTORS, AS SCHEDULED.
7. MOLDED Y ADAPTER'S SHALL BE HUBBELL MARINE GRADE TO PERMIT USE OF 2-30AMP, 125V, CABLE SETS FROM 1-50AMP, 125/250V RECEPTACLE.
8. CHECK GRAPHIC SCALES BEFORE USING.
9. STRAIN RELIEF BASIS OF DESIGN: KELLUMS.
10. PDB BASIS OF DESIGN: ILSCO PDB.
11. TYPE G CABLE BASIS OF DESIGN: SOUTHWIRE.



ELECTRIC SERVICE PLAN

SCALE: 1" = 10'-0" 10' 5' 0 10'

ELECTRICAL ABBREVIATIONS

A, AMP	AMPERE
CU	COPPER
FT	FOOT
G	GROUND; GROUND FAULT CIRCUIT INTERRUPTER
GF	GROUND FAULT
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NO, #	NUMBER
ø	PHASE
PVC	POLYVINYL CHLORIDE
PDB	POWER DISTRIBUTION BLOCK
SS	STAINLESS STEEL
TYP	TYPICAL
V	VOLT
W	WIRE

DOCK ELECTRICAL POWER PEDESTAL SCHEDULE

TYPE	POWER RECEPTACLES	LED LIGHT /PC CONTROL
A	2-30 AMP, 125V RECEPTACLES 2-20 AMP, 125V STRAIGHT-BLADE GFCI CONVENIENCE RECEPTACLES	YES
B	2-50 AMP, 125/250V TWIST LOCK RECEPTACLES 2-MOLDED Y ADAPTERS TO ALLOW TWO 30 AMP 125V CABLE SET	YES
C	1-50 AMP, 125/250V TWIST LOCK RECEPTACLE 1-100 AMP, 125/250V PIN AND SLEEVE RECEPTACLE	YES

DOCK POWER PEDESTAL NOTES:

1. PROVIDE DOCK PEDESTALS WITH FEED THROUGH (LOOP FEED) BUS ARRANGEMENT.
2. REFER TO ELECTRICAL ONE LINE DIAGRAM FOR FEEDER LOOPS.
3. COORDINATE MOUNTING AND ACCESS SPACING FOR DOCK POWER PEDESTALS WITH FLOATING DOCK SYSTEM SHOP DRAWINGS.
4. CONTRACTOR TO ROUTE FEEDER CABLES THROUGH DOCK SYSTEM CONDUIT PATHWAYS, CONDUIT SLEEVES AND DOCK DECK PULL BOXES.
5. PEDESTALS TO BE 22,000 AIC RATED.
6. PROVIDE PEDESTALS WITH CABLE CLAMPS FOR TWO, 3 WIRE- 2/0, TYPE G CABLES.
7. PROVIDE PEDESTALS WITH TWO HOSE/CABLE HOLDERS, TWO HOSE BIBS, AND HUBBELL MARINE GRADE RECEPTACLES / CONNECTORS.

LEGEND

⊠	POWER PEDESTAL WITH HOSE BIBBS
—W(1")—	WATER LINE (PIPE SIZE AS NOTED)
—E—	ELECTRIC LINE
□	PULL BOX WITH ACCESS COVER
SPD	SURGE PROTECTION DEVICE

LINE TYPE LEGEND

- - - - - - - - - - - -	REMOVE ITEMS
_____	EXIST ITEMS TO REMAIN, ITEMS BY CITY OF PORTSMOUTH
_____	PROVIDE ITEMS

BID OPTION #2

REVISIONS			
REVISION	DATE	DESCRIPTION	BY

OAK POINT ASSOCIATES
ARCHITECTURE ■ ENGINEERING ■ PLANNING
85 Middle Street, Portsmouth, NH 03801 (T) 603.431.4640 (F) 603.431.1970
www.oakpoint.com

WAYNE R. WHIPPIE No. 07665 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 9-25-13 (SEAL)

CITY OF PORTSMOUTH, JOSIE F. PRESCOTT TRUST
PORTSMOUTH, NEW HAMPSHIRE
PRESCOTT PARK
PORTSMOUTH, NH
SOUTH FLOATING DOCK REPLACEMENT
ELECTRIC SERVICE PLANS AND DIAGRAM

PROJECT No.: 5122
CAD DWG FILE: E-101
DESIGNED BY: WRW
DRAWN BY: RSW
CHECKED BY: WRW
SCALE: AS SHOWN

E-101

SHEET 9 OF 10

25 Sep, 2013 - 3:27pm
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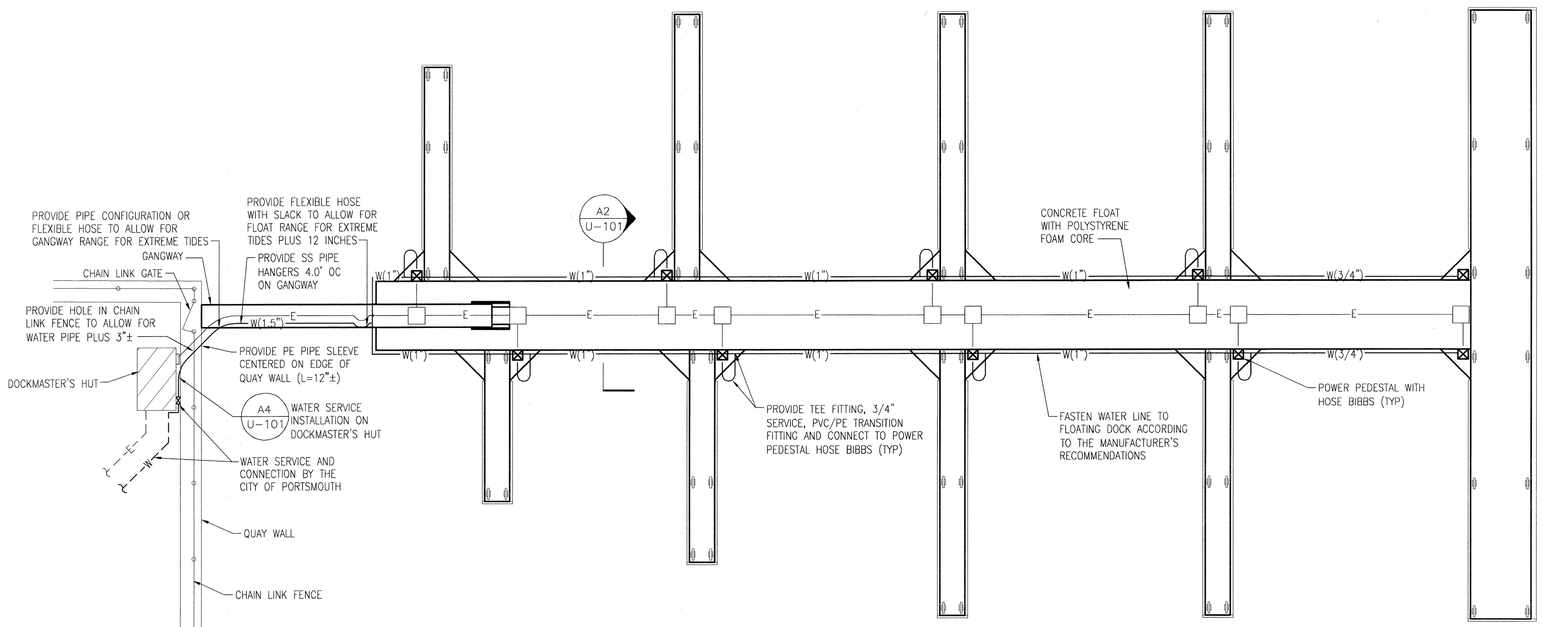
LEGEND

⊠	POWER PEDESTAL WITH HOSE BIBBS
—W(1")—	WATER LINE (PIPE SIZE AS NOTED)
⋈	BALL VALVE
——E——	ELECTRIC LINE
□	PULL BOX WITH ACCESS COVER

ABBREVIATIONS

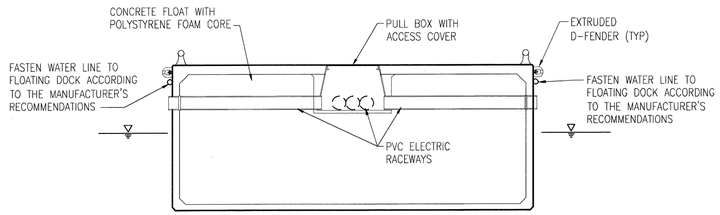
CU	COPPER
L	LENGTH
MIN	MINIMUM
OC	ON CENTER
PE	POLYETHYLENE
PVC	POLYVINYL CHLORIDE
SS	STAINLESS STEEL
TYP	TYPICAL



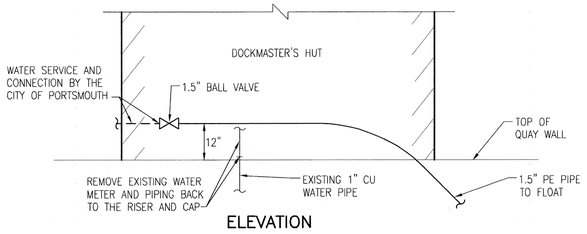
PLAN NORTH

WATER SERVICE PLAN

SCALE: 1" = 10'-0"



SECTION



ELEVATION

NOTES:
1. FASTEN WATER LINE TO THE DOCKMASTER'S HUT WITH SS TWO-HOLE CLAMPS AND SCREWS.

WATER SERVICE INSTALLATION ON FLOAT

SCALE: NOT TO SCALE — U-101 — A2

WATER SERVICE INSTALLATION ON DOCKMASTER'S HUT

SCALE: NOT TO SCALE — U-101 — A4

NOTES:

1. REFER TO SHEET E-101 FOR ELECTRIC SERVICE INFORMATION.
2. CONNECT THE WATER SERVICE TO THE POWER PEDESTAL ACCORDING TO THE POWER PEDESTAL MANUFACTURER'S RECOMMENDATIONS.
3. WATER SERVICE PIPE SHALL BE POLYETHYLENE, COPPER TUBE SIZE (CTS) WITH A PRESSURE RATING OF 160 PSI AND BUTT FUSED JOINTS, UNLESS INDICATED OTHERWISE.
4. PROVIDE STAINLESS STEEL PIPE CLAMPS, HANGERS AND FASTENERS.
5. COORDINATE BACTERIOLOGICAL SAMPLING AND TESTING WITH THE CITY OF PORTSMOUTH.

BID OPTION #2

REVISIONS			
REVISION	DATE	DESCRIPTION	BY

OAK POINT ASSOCIATES
ARCHITECTURE ■ ENGINEERING ■ PLANNING
85 Middle Street, Portsmouth, NH 03801 (T) 603.431.4849 (F) 603.431.1870
www.oakpoint.com

THE STATE OF NEW HAMPSHIRE — STEVEN E. SARGENT No.9222 LICENSED PROFESSIONAL ENGINEER — 9-25-13

CITY OF PORTSMOUTH, JOSIE F. PRESCOTT TRUST
PORTSMOUTH, NEW HAMPSHIRE
PRESCOTT PARK
SOUTH FLOATING DOCK REPLACEMENT
WATER SERVICE PLAN AND DETAILS

PROJECT No.:	5122
CAD DWG FILE:	U-101
DESIGNED BY:	SES
DRAWN BY:	SES
CHECKED BY:	SES
SCALE:	AS SHOWN

U-101

SHEET 10 OF 10

C:\Dfile\2130418-U101.dwg 9/25/2013 9:05:19 AM EDT