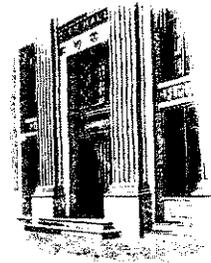




City of Quincy
City Hall
1305 Hancock Street
Quincy, Massachusetts 02169
Purchasing Department



Thomas P. Koch
Mayor

Kathryn R. Hobin
Purchasing Agent
Phone: (617) 376-1060
Fax: (617) 376-1074

“NOTIFICATION”
INVITATION TO BID
**“FURNISH & INSTALL TIMBER PILES AND HEAVY TIMBER PILE
CAP FOR OUTSHORE SUPPORT OF PIER AT BLACKS CREEK”**
DECEMBER 8, 2010 @ 11:00 a.m.

“DON'T FORGET TO CHECK FOR ANY ADDENDUM BEFORE SUBMITTING BID”

There is a non-mandatory pre-bid walk through scheduled for November 23, 2010 at 10:00 a.m. at the Park & Recreation Facility, 1, Merrymount Parkway, Quincy, MA 02170

All questions regarding this bid should be directed to Kathryn R. Hobin, Purchasing Agent through a fax: 617-376-1074 and email: khobin@quincyma.gov and cc to ktrillcott@quincyma.gov
Inquiries must be submitted no later than Friday, December 3, 2010 @ 4:00 p.m.

The Purchasing Department is requesting that if you have printed out a copy of this bid, please send a confirming email, so that we may be able to keep track of a plan holders list to send out addenda notices via email addresses, if necessary.

If you have received this bid from either the City of Quincy Website or through an email it is your responsibility to check for addenda (at www.quincyma.gov) before you turn in your proposal. The City of Quincy will not be responsible any bids received omitting addenda acknowledgement.

The Purchasing Department

Kathryn R. Hobin
Purchasing Agent
khobin@quincyma.gov

Kim R. Trillcott
Assistant Contract Supervisor
ktrillcott@quincyma.gov

Meredith A. Marini
Assistant Contract Coordinator
mmarini@quincyma.gov

Franca DeVito
Principal Clerk
fdevito@quincyma.gov



INVITATION TO BID

CITY OF QUINCY, MASSACHUSETTS
PURCHASING DEPARTMENT
1305 HANCOCK STREET, QUINCY, MA 02169

The City of Quincy invites sealed bids/proposals for furnishing and delivering to the City of Quincy:

PARK DEPT.

DECEMBER 8, 2010 @ 11:00 A.M.

FURNISH & INSTALL TIMBER PILES & HEAVY TIMBER PILE CAP FOR OUTSHORE SUPPORT OF PIER

Detailed specifications are on file at the office of the Purchasing Agent, Quincy City Hall, 1305 Hancock Street, Quincy, Massachusetts, 02169, between the hours of 8:30^{AM} and 4:30^{PM}. A non-mandatory pre-bid walk through is scheduled for November 23, 2010 at 10:00 a.m. at the Park & Recreation Facility, 1 Merrymount Pkwy. Quincy, MA. 02170.

Detailed specifications are available on-line at the City of Quincy's website, www.quincyma.gov and also available at the office of the Purchasing Agent, Quincy City Hall, 1305 Hancock Street, Quincy, Massachusetts, 02169, between the hours of 8:30^{AM} and 4:30^{PM} for a non-refundable printing charge of \$25.00

Bids must state exceptions, if any, the delivery date and any allowable discounts. Bids/Proposals must be in a sealed envelope. The outside of the sealed envelope is to be clearly marked "**BID ENCLOSED**" with time/date of bid call.

Firm bid prices will be given first consideration. Bids/Proposals will be received at the office of the Purchasing Agent until the time and date stated above, at which time and date they will be publicly opened and read. Late Bids/Proposals, delivered by mail or in person, will be rejected.

If applicable, bids shall be in accordance with M.G.L. Chapter 30B, Chapter 149 as amended, and Chapter 30, Sections 39A, 39B and 39F-R.

The successful bidder will be required to conform to the payment of Prevailing Wage Rates, as determined by the Commissioner of Labor & Industries under the provision of M.G.L. Chapter 149, Section 26 to 27D as amended

The right is reserved to reject any or all bids or to accept any part of a bid or the one deemed best for the City and waive any informality in the bidding if it is in the best interest of the City to do so.

Thomas P. Koch, Mayor

Kathryn R. Hobin, Purchasing Agent



CITY OF QUINCY, MASSACHUSETTS
PURCHASING DEPARTMENT
1305 HANCOCK STREET, QUINCY, MA 02169

DETAILED SPECIFICATIONS AND REQUIREMENTS

ISSUE DATE: NOVEMBER 18, 2010
BID CALL: DECEMBER 8, 2010 @ 11:00 A.M.
DEPARTMENT: PARK DEPARTMENT
ITEM: FURNISH & INSTALL TIMBER PILES & HEAVY TIMBER PILE CAP FOR OUTSHORE SUPPORT OF PIER

1. A 5% certified check or bid bond is required.
2. A 100 % Payment and 100%Performance Bond is required.
3. The following forms, if contained in the bid documents, must be completed and signed:
 - √• Certificate of Non-Collusion
 - √• Tax Compliance Certificate
 - √• Certification Relating to Debarment and Suspension
 - √• Signature Authorization Form
 - √• Proposal Sheet 5 of 5 (Lines 28 – 39)
 - √• Certification of General/Sub-bidders on Public Construction Projects Regarding Health and Safety and Non-Collusion
 - Certification concerning Responsible Employer Ordinance (if contract is over \$100K)
 - Form for General Bid
 - Schedule of Participation Minority and Women Business Enterprise
4. Do not separate any sheets from this bid call.
5. All prices are to include delivery F.O.B. destination unless noted otherwise.
6. Wherever a manufacturer's name or model number is specified, it is to be clearly understood that the words "or approved equal" follow.
7. All vendors must acknowledge in writing receipt of any addenda.
8. The Purchasing Department shall accept questions in writing via facsimile up until 48 hours prior to the opening.

* TO THE EXTENT APPLICABLE THE FOLLOWING SECTIONS OF MASSACHUSETTS GENERAL LAWS ARE INCORPORATED HEREIN BY REFERENCE:

**M.G.L. CHAPTER 30B, CHAPER 30, SECTIONS 39A, 39B AND 39F-R AND
M.G.L. CHAPTER 149, AS AMENDED.**

In the event of any inconsistency between the bid, Information for Bidders, Bid Forms, Conditions or any other Contract Document or potential Contract Document and these statutes; or any other applicable statutes, by-laws or regulations existing on the date on which the bid is submitted, then the statute, by-laws or regulations shall govern. Such inconsistency shall not be grounds for invalidating this invitation to bid.

NOTICE TO BIDDERS

The successful bidder will be required to conform to the payment of Prevailing Wage Rates, as determined by the Commissioner of Labor & Industries under the provision of M.G.L., Chap. 149, Sect. 26 to 27D as amended.

LIABILITY, PROPERTY DAMAGE and WORKERS' COMPENSATION coverage is required of the successful bidder before any work can be started.

DATE: _____

BIDDER: _____

ADDRESS: _____

TELEPHONE: _____

EMAIL: _____



CITY OF QUINCY, MASSACHUSETTS
PURCHASING DEPARTMENT, CITY HALL

INFORMATION AND INSTRUCTIONS TO BIDDERS

I. INVITING BIDS

(a) Sealed bids are invited for furnishing to the City of Quincy, Massachusetts, the described materials, commodities or services all in accordance with the specifications and conditions attached hereto and made a part thereof.

(b) Form of proposal to be used and copies of specifications and conditions are available at the Purchasing Agent's office, 1305 Hancock Street.

(c) All bids must be filed with the Purchasing Agent of the City of Quincy, Massachusetts, at or before the hour of time set forth in the legal and published advertisement, a copy of which is here attached, also at the definite place so stated, and on the forms furnished by the Purchasing Agent. Each bid shall be accompanied by bid bond or a certified check on, or a treasurer's or cashier's check issued by, a responsible bank or trust company, payable to the City of Quincy, Massachusetts. The amount of such cash or check shall be not less than five percent (5%) of the value of the proposed work, as estimated by the awarding authority, but in no event less than one hundred dollars nor more than fifty thousand dollars. This deposit above mentioned shall be as a guarantee that the bidder will enter into the proposed contract, if awarded to him. This requirement shall become effective unless stated to the contrary or deleted under "Detailed Specifications and Requirements." This certified check will be returned after the awarded contracts have been completely signed and proper delivery made, together with any performance bond if required in the bid form.

(d) This proposal is genuine and not collusive or made in the interest of or in behalf of any person not herein named, and that the bidder has not directly, or indirectly, induced or solicited any other bidder to put in a sham bid or any other person, firm or corporation to refrain from bidding, and that the bidder has not in any manner sought by collusion to secure for himself an advantage over any other bidder. Any bid made in violation thereof, shall not be considered. This agreement in detail shall be found under paragraph XVIII (18) entitled "Affidavit and/or Agreement."

(e) The successful bidder shall, within ten (10) days after the award, enter into a written contract with said City in accordance with the draft of contract furnished by the City Solicitor for furnishing the described materials, commodities or services and execute as a part of said contract, a satisfactory performance bond in the amount of (100%) one hundred percent of the aggregate amount of the contract unless otherwise stated in the "Detailed Specifications and Requirements," and shall be continued for the faithful performance of the contract and executed by the Contractor and a responsible surety company.

(f) The right is reserved to reject any and all bids or to accept any bid or to accept any part of a bid or the one deemed best for the City.

II. FORM OF PROPOSAL AND SIGNATURE

The proposal must be made on this form provided for that purpose, unless otherwise stated, enclosed in a sealed envelope and plainly marked: "Bid Enclosed - Date: and Time of bid opening, (envelope provided,) and addressed to the Purchasing Agent, 1305 Hancock Street, Quincy, Massachusetts. If the bid is made by an individual it must be signed by the full name of the bidder, whose address must be given; if it is made by a firm - (partnership) - it must be signed with the co-partnership name and by a member of the firm, and the name and residential address of each member of the firm must be given. If made by a corporation it must be signed by the proper officer in the corporate name, and the corporate seal must be attached to such signature. A certificate under oath authorizing the proposal or contract signature as legal and binding upon the corporation must be submitted with the proposal, especially before a contract is issued. No telegraphic or telephonic proposal will be considered or accepted.

III. PROPOSALS

Blank spaces in the proposal must be properly filled in, using ink, indelible pencil or typewriter. Alterations by erasure or interlineation must be explained or noted in the proposal over the signature of the bidder. Unless otherwise stated bids will be received on one or more or all items, and the bidder may name a lump sum conditional on two or more items being awarded to him. Bidders are invited to be present at the opening of proposals. Bidders must specifically quote on units as shown on specification sheet. In case of error in extension of prices, the unit price will govern.

IV. QUANTITIES

The quantities given are approximate, meaning more or less and are herein given and attached and are a Part of the bid and/or proposal.

1. V. QUOTATION OFFERED:

2. (a) Firm price bids will be given first consideration. The city desires to have the advantage of any general
3. price decrease effective during the life of the contract, Will you, if the successful bidder, so grant?

4. (b) All quotations must be properly and correctly extended against each unit price offered.

5. (c) Every quotation sheet must be labeled at the bottom right hand section with the bidder's firm name, This
6. identification shall not be considered as a signature.

7. (d) Upon signing and offering his or their bid to the City, it shall be considered that he has seen, read and
8. had in his possession a full and complete bid call, all forms and information pertaining thereto.

9. VI. SAMPLES

10. Whenever samples are required, and so stated in specifications, all samples will be received at sender's risk
11. and expense. However, if samples are used by or retained as City Property, other than those considered as gift or
12. free or so stated in proposal, they will be paid for at the quoted unit price as offered in the proposal. Otherwise, all
13. samples will be returned with postage paid by the City. All samples must be properly marked or tagged with
14. complete identification and to also include: (1) firm name, (2) firm address, (3) catalogue number, and (4) quoted
15. price.

16. VII. PRODUCT

17. (a) The product shall meet the requirements and satisfaction of the City of Quincy and the using and/or
18. ordering department, Bidders must state and identify the product offered, such as manufacturer's name, trade
19. name, brand name and quality under each item on which they bid. If brand names are not given under each item, it
20. shall be considered "NO BID." WE MUST KNOW WHAT HAS BEEN OFFERED.

21. (b) Unless otherwise stated in writing under "Detailed Specifications" all products, material,
22. commodities, supplies or articles herein called for must be brand new, unused and the latest product manufactured
23. in the current year of any name and nature, whenever offered. Used or rebuilt or shopworn materials will not be
24. acceptable, unless otherwise stated in writing by the City.

25. VIII. BRAND NAMES

26. Wherever brand names are given or their particular specifications are mentioned or referred to, it is not the
27. City's intent to limit competition, but merely to indicate to the bidder the general type of commodity to be supplied.
28. The City invites bids on comparable commodities in all cases. All specifications and its basis are: "Or Equal."

29. IX. TERMS

30. The cash discount period shall not be less than twenty (20) days. All prices quoted or offered shall be net
31. and delivered F.O.B. using or ordering department. The cash discount will not be considered for a deciding factor
32. when determining the low bidder.

33. X. DELIVERY

34. All deliveries shall be as required and requested according to the using and/or ordering department. All
35. goods must be delivered in first class condition, if otherwise, they are subject to rejection. All deliveries shall con-
36. form in every respect with all laws applicable to the Federal Government and/or the Commonwealth of
37. Massachusetts and/or the City of Quincy.

38. The contractor shall be responsible for the delivery of the full net weight or count at the point of delivery for
39. which payment is made. Check weighing may be made by the City or any authorized representative at the point of
40. delivery or at any other point the City may elect. All original sworn certificates of weights at origin shall be attached
41. to the contractor's certificate of weight at time and place of delivery. The same shall be surrendered to the City of
42. Quincy.

43. Should the successful bidder fail to make delivery within a reasonable time after receipt of order, the City
44. Reserves the right to make the purchase on such orders at the open market and charge any excess over contract price
45. to the account of the successful bidder, who shall pay the same.

46. XI. TAXES

47. A tax exemption certificate will be issued in lieu of any refundable tax. It is desired that all prices be
48. quoted, exclusive of any tax applicable to this transaction. Such tax or taxes should be itemized and shown as a
49. separate rare item, preferably in dollars and cents, in both the proposal and on the invoices covering deliveries on a
50. contract. If the tax is applicable to this transaction, and is not definitely shown in the bidder's quotation, then such
51. quotation will be considered to be exclusive of such tax.

1. XII. INVOICING

2. Every commodity invoiced must be identified with the item number opposite such commodity shown and
3. Given on our bid form. All unit prices must be shown against each commodity invoiced; if not, invoice will be
4. returned for such information. This information will expedite the payment of all invoices. Invoices which do not
5. carry a cash discount period shall be rendered once a month. All invoices shall be rendered in triplicate to the
6. Purchasing Department, 1305 Hancock Street, Quincy, Massachusetts 02169.

7. XIII. PAYMENTS

8. Complete or partial payment on the contract will be made in approximately thirty days from date of
9. delivery or completion and acceptance, unless otherwise provided for in bidder's proposal or under "Detailed
10. Specifications."

11. XIV. FORCE MAJEURE CLAUSE

12. (a) The contractor will be excused from the performance of the contract in whole or in part, only by reason
13. of the following causes:

14. 1. When such performance is prevented by operation of law.
15. 2. When such performance is prevented by an irresistible super human cause.
16. 3. When such performance is prevented by an act of the public enemies of the Commonwealth of
17. Massachusetts, or of the United States of America, or by strike, mob violence, fire, delay in transportation beyond
18. the control of the contractor, or unavoidable casualty.

19. 4. When such performance is prevented by the inability of the contractor to secure necessary materials,
20. supplies or equipment by reason of:

21. (a) Appropriation or use thereof by the Federal Government; or

22. (b) Regulations imposed by the Federal Government.

23. (b) No other Force Majeure Clause or conditions may pertain to or become a part of this bid; and any
24. changes in the conditions stated herein will cause the bid to be rejected.

25. XV. ERRORS AND OMISSIONS

26. The contractor shall not be allowed to take advantage of any errors and/or omissions in these specifications
27. or in the contractor's specifications submitted with his proposal. Full instructions will always be given when such
28. errors or omissions are discovered.

29. XVI. PATENT RIGHTS

30. The contractor agrees to save, keep, bear harmless and fully indemnify the City and any of its officers or
31. agents from all damages, costs, or expenses in law or equity that may at any time arise or to be set up for any
32. infringement of the patent rights of any person or persons in consequence of the use of the City, or by any of its
33. officers or agents, of articles supplied under this contract, and of which the contractor is not the patentee or
34. assignee, or which the contractor is not lawfully entitled to sell.

35. XVII. DEFINITIONS

36. The following meanings are attached to the defined words when used in these specifications and the
37. contract:

38. (a) The word "City" means The City of Quincy, Massachusetts.

39. (b) The word "Bidder" means the person, firm or corporation submitting a bid on these specifications or
40. any part thereof.

41. (c) The word "Contractor" means the person, firm or corporation with whom the contract is made by
42. carrying out the provisions of these specifications and the contract.

43. (d) The words "Firm Price" shall mean a guarantee against price increase.

44. (e) Additional definitions may appear hereinafter under "Detailed Specifications."

45. XVIII. AFFIDAVIT and/or AGREEMENT

46. In all instances, the Affidavit terms and agreement contained herein shall become a part of the bid, and/or
47. proposal and/or contract in fact and without any reservation or secret evasion whatsoever.

48. The bidder named in the proposal and who has signed the same and who submits herewith to THE CITY
49. OF QUINCY, MASSACHUSETTS, the attached proposal states and agrees:

50. That he, she or they is (are) the person(s) whose name(s) is (are) signed to there hereto attached proposal; that
51. said proposal is genuine; that the same is not sham or collusive; that all statements of fact therein are true; that
52. such proposal was not made in the interest of behalf of any person, partnership, company, association, organization
53. or corporation not therein named or disclosed.

1. Affiant further deposes and says: That the bidder has not directly or indirectly by agreement,
2. communication or conference with anyone attempted to induce action prejudicial to the interest of the public body
3. which is to award the contract, or of any other bidder, or anyone else interested in the proposed contract; that the
4. bidder has not in any manner sought by collusion to secure for himself, itself, themselves, an advantage over any
5. other bidder.

6. Affiant further deposes and says that prior to the public opening and reading of bids the said bidder:

7. (a) did not, directly or indirectly, induce or solicit anyone else to submit a false or sham bid;

8. (b) did not, directly or indirectly, collude, conspire, connive or agree with anyone else that said bidder or
9. anyone else would submit a false or sham bid, or that anyone should refrain from bidding or withdraw his bid;

10. (c) did not, in any manner, directly or indirectly, seek by agreement, communication or conference with
11. anyone to raise or fix the bid price of said bidder or of anyone else, or to raise or fix any overhead, profit or cost
12. element of his, its, their price or that of anyone else;

13. (d) did not, directly or indirectly, submit his, its, their bid price or any breakdown thereof, or the
14. contents thereof, or divulge information or data relative thereto, to any corporation, partnership, company,
15. association, organization, bid, depository, or to any member or agent thereof, or to any individual or group of
16. individuals, except to the awarding authority or to any person or persons who have a partnership or other financial
17. interest with said bidder in his, its, their business.

18. Bidder shall strike out words not appropriate to his bid and initial same.

19. XIX. INSURANCE

20. An approved and satisfactory bona fide certificate of insurance in effect, to protect the insured, the con-
21. tractor and the City of Quincy resulting from this agreement, must be submitted to the City of Quincy through the
22. Purchasing Agent before any work of any name or nature can be started. This insurance must cover workmen's
23. compensation, public liability and property damage. The certificate of insurance must clearly state thereon that it
24. is a Certificate of Insurance, name of the insured and his or their address, kind of policies in effect, number of the
25. policy in effect for identification purposes, expiration date of said policy, limits of liability expressed in dollar value
26. for one person, for one accident, also the aggregate for each person and each accident, description of operations or
27. work covered and in what State or Commonwealth. There must also be a statement under signature to the effect
28. that, "in the event of cancellation of the said policies the company will mail notice thereof to the City of Quincy
29. Purchasing Agent, at 1305 Hancock Street, Quincy, Massachusetts at whose request this certificate is issued." This
30. certificate must be properly dated and legally signed by an authorized agent for the insurance company. This
31. certificate must state the name of the insurance company as underwriter and its home office address. All insurance
32. must satisfy all legal requirements as set forth in the laws, rules and regulations of the Commonwealth of
33. Massachusetts.

34. XX. CONTRACT

35. (a) The bidder to whom the award is made will be required to enter into a written contract with the City of
36. Quincy, in the form approved by the City Attorney. All materials or services given or supplied by the Contractor
37. shall conform to the applicable requirements of the City Charter, City Ordinances, or Commonwealth of
38. Massachusetts laws covering Labor, Wages, Insurance, Safety and all other legal requirements of any name or
39. Nature, as well as conforming to the specifications contained herein. In case of default by the Contractor, the City
40. reserves the right to procure the articles or services from other sources and to hold the Contractor responsible for
41. any and all excess costs occasioned by the City thereby.

42. (b) The period to be covered by the contract will be found under "Detailed Specifications."

43. (c) The City makes no guarantee as to the quantities to be delivered under the terms of the contract.

44. (d) The City reserves the right to order small quantities at the quoted prices prior to the execution of the
45. contract, as samples, testing, trial orders otherwise without any liability or commitment on the part of the City
46. whatsoever.

47. (e) Any qualifications or special information can be listed on a separate sheet and attached hereto with
48. signature.

49. (f) Any and all city purchases made as samples, testing, trial orders or of similar nature shall not be
50. considered a breach of contract or give cause for any legal action or litigation.

51. (g) Specifications, conditions, and Information and Instructions to Bidders are here attached and are a
52. part of the bid and/or proposal.

PROPOSAL TO CITY OF QUINCY, MASSACHUSETTS

1. To the Purchasing Agent
2. City of Quincy, Massachusetts

3. Date offered: _____ 20 _____

4. Gentlemen:

5. The undersigned hereby proposes to furnish the City of Quincy, complete or any part thereof, the listed services,
6. articles, commodities and materials, all in accordance with the attached list, conditions, specifications and the Information
7. and Instructions to Bidders made a part hereof.

8. The undersigned furthermore agrees that he will execute the necessary and satisfactory bond together with
9. necessary contract in sextuplicate within ten (10) days from the date when he shall have been notified that his proposal
10. has been accepted in whole or in part by the City of Quincy.

11. The undersigned furthermore agrees that, in case of default in executing such contract, with necessary bond, that
12. the check accompanying this bid, and the money payable thereon, shall be fortified thereby to and remain the property
13. of the City of Quincy.

14. This offer and/or proposal has been given after having had the complete bid call to work from and considered
15. the same.

16. This offer and bid has been made and given all in accordance with Article and Paragraph Number Eighteen
17. (XVIII) and made a part hereof.

18. TERMS:

- 19. (a) The discount period shall not be less than twenty (20) days.
- 20. (b) The City will receive the benefit of any general price decrease effective during the life of the contract.
- 21. (c) The City will be notified of all price decreases.
- 22. (d) This is a *firm price* meaning guarantee against price increase.
- 23. (e) Delivered F.O.B. to using department, as directed.

24. (f) This offer to be accepted on or before _____ 20 _____

25. Delivery Offered: _____

26. Priority Required: _____

27. Firm Name: _____

28. Signed by: _____ Corporate Seal or LS.
Signature and Title

29. Address: _____

30. Signature of Partners: 1. _____ 2. _____

31. " " " 3. _____ 4. _____

32. Name of Corporation President: _____

33. Name of Corporation Secretary: _____

34. Corporation organized under State of: _____ Date: _____

35. Partner's Residential Address:

36. 1. _____

37. 2. _____

38. 3. _____

39. 4. _____



CITY OF QUINCY
Purchasing Department
1305 Hancock Street, Quincy, MA 02169

Phone: 376-1060

Fax: 376-1074

TAX COMPLIANCE CERTIFICATE

MASS. GENERAL LAWS, CH. 62C, S: 49A(b)

I hereby certify that I have complied with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding of child support.

Signed under the pains and penalties of perjury.

(1) Individual Contractor

(Contractor's Name and Signature)

Social Security Number

(2) Corporation, Association
or Partnership

(Contractor's Name)

Federal Tax ID Number, or
Social Security Number

By:

(Authorized Signature)

Note to Contractor: Please sign at (1) or (2), whichever applies.

CHAPTER 62C. ADMINISTRATIVE PROVISIONS RELATIVE TO STATE TAXATION

Chapter 62C: Section 49A Certification of compliance with tax laws as prerequisite to obtaining license or governmental contract

Section 49A. (a) Any person applying to any department, board, commission, division, authority, district or other agency of the commonwealth or any subdivision of the commonwealth, including a city, town or district, for a right or license to conduct a profession, trade or business, or for the renewal of such right or license, shall certify upon such application, under penalties of perjury, that he has complied with all laws of the commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support. Such right or license shall not be issued or renewed unless such certification is made.

(b) No contract or other agreement for the purposes of providing goods, services or real estate space to any of the foregoing agencies shall be entered into, renewed or extended with any person unless such person certifies in writing, under penalties of perjury, that he had complied with all laws of the commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

(c) Any such agency, which has been notified by the commissioner pursuant to section forty-seven A that a person who holds a license or certificate of authority issued by such agency or who has agreed to furnish goods, services or real estate space to such agency has neglected or refused to file any returns or to pay any tax required under this chapter and that such person has not filed in good faith a pending application for abatement of such tax or a pending petition before the appellate tax board contesting such tax or has been penalized pursuant to section 9 of chapter 62E for failure to comply with the provisions under said chapter 62E relating to reporting of employees and contractors, or has been penalized pursuant to paragraph (3) of subsection (f) of section 12 of chapter 119A for failure to comply with the provisions under said chapter 119A relating to withholding and remitting child support, shall refuse to reissue, renew or extend such license, certificate of authority, contract or agreement until the agency receives a certificate issued by the commissioner that the person is in good standing with respect to any and all returns due and taxes payable to the commissioner as of the date of issuance of said certificate, including all returns and taxes referenced in the initial notification or, if the licensee has been penalized for failure to comply with the provisions relating to reporting of employees and contractors under chapter 62E or withholding and remitting child support under chapter 119A, a certificate issued by the commissioner that the licensee is in compliance with said provisions.

(d) Any person who owns or leases a motor vehicle or trailer that is required to be registered in the commonwealth under chapter 90 and improperly registers the motor vehicle or trailer in another state or misrepresents the place of garaging of the motor vehicle or trailer in another city or town, shall be considered in violation of laws of the commonwealth relating to taxes under chapter 60A, chapter 64H or chapter 64I. The right, license or contract provided for in subsections (a) and (b) shall not be issued or renewed until the person or business entity has paid all taxes due at the time of application for such right, license or contract.

(e) Any person who, for the purpose of evading payment of a tax pursuant to chapters 59 to 64J, inclusive, willfully makes and subscribes any return, form, statement or other document pursuant to subsection (a), (b) or (d) that contains or is verified by a written declaration that is made under the penalties of perjury, and that contains information that he does not believe to be true and correct as to every matter material to his compliance with all laws of the commonwealth relating to taxes, shall be subject to section 73.



CITY OF QUINCY
Purchasing Department
1305 Hancock Street, Quincy, MA 02169

Phone: 376-1060

Fax: 376-1074

SIGNATURE AUTHORIZATION

At a duly authorized meeting of the Board of Directors of the

(NAME OF CORPORATION)

held on _____, at which all the Directors were present or waived notice, it was
(DATE)

VOTED, that:

(NAME)

(OFFICER)

of this company, be and he/she hereby is authorized to execute Contracts and Bonds in the name and behalf of said Company, and affix its Corporate Seal thereto, and such execution of any Contract or obligation in this Company's name on its behalf by such _____ under seal of the Company, shall be valid
(OFFICER)

and binding upon this Company. It was further voted that the City of Quincy may rely on such authorization of future Contracts until notified to the contrary.

A true copy,

ATTEST: _____
(CLERK'S SIGNATURE)

PLACE OF BUSINESS: _____

DATE OF THIS CONTRACT: _____

I hereby certify that I am the Clerk of the:

_____ that _____ is the
(COMPANY) (NAME)

duly elected _____ of said Company, and that the above VOTE has not been
(TITLE)

amended or rescinded and remains in full force and effect as of the date of this Contract.

_____ CORPORATE SEAL

CERTIFICATE OF NON – COLLUSION

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union committee, club, or other organization, entity, or group of individuals.

(Name of person signing bid or proposal)
(Please print)

(Signature required)

(Name of business)

CERTIFICATION RELATING TO DEBARMENT AND SUSPENSION

The undersigned contractor certifies to the City of Quincy that neither it nor its principals, officers or any affiliated entities has been debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction in accordance with the requirements of OMB Circular A-87 and with Executive Order 12549, "Debarment and Suspension."

Furthermore, the contractor certifies that it shall not make any subcontract or permit any subcontract to be made with any party which is debarred or suspended or is otherwise excluded in accordance with said OMB Circular and with Executive Order 12549.

This certification shall be for the benefit of the City of Quincy and its successors and/or assigns and is binding upon the contractor, its successors and assigned.

Executed under seal this _____ day of _____, _____.

Contractor Name
By its duly authorized agent,

Contract Number _____

(Authorized Signature)

**CERTIFICATION OF GENERAL BIDDERS ON PUBLIC CONSTRUCTION
PROJECTS**

I. CERTIFICATION REGARDING HEALTH AND SAFETY

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least ten hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations application to awards made subject to section 44A.

II. CERTIFICATION REGARDING NON-COLLUSION AND DEBARMENT

The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Date: _____

Name of General Bidder

By _____
Signature

Print name and title

Business Address

Street Address City and State

**CERTIFICATION OF SUB- BIDDERS (IF ANY) ON PUBLIC CONSTRUCTION
PROJECTS**

I. CERTIFICATION REGARDING HEALTH AND SAFETY

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupation Safety and Health Administration that is at least ten hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards of subcontracts subject to section 44F.

II. CERTIFICATION REGARDING NON-COLLUSION AND DEBARMENT

The undersigned further certifies under penalties of perjury that this subbid is in all responses bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Date _____

Name of Sub-bidder

By _____
Signature

Print Name and Title

Business Name

Street Address, City and State

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BID DOCUMENTS

PROPOSED TIMBER PIER SYSTEM

BLACK'S CREEK BOATING FACILITY

QUINCY, MASSACHUSETTS

October 21, 2010

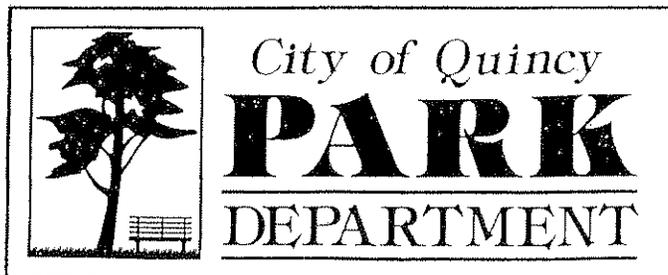
PREPARED BY:



Ronald R. Bourne, P.E. - *President*

Bourne Consulting Engineering

*3 Bent Street
Franklin, MA 02038*



Richard J. Koch Family Park and Recreation Complex
One Merrymount Parkway, Quincy, MA 02170
(617) 376-1251 Fax: (617) 376-1259

PROPOSED TIMBER PIER SYSTEM

BLACK'S CREEK BOATING FACILITY

QUINCY, MA

SUMMARY of WORK

BASE BID: Work in this contract, as described in the attached plans and specifications, consists of:

1. Furnish and install round timber piles and heavy timber pile cap for outshore support of proposed pier.
2. Construct a poured-in-place concrete abutment to position and support the inshore end of the proposed pier. Include excavation and backfilling, crushed stone base, rebar, concrete and additional materials, equipment and labor required. **TIMBER PILES ARE NOT REQUIRED TO SUPPORT THE CONCRETE ABUTMENT.**
3. Install the 10-foot by 40-foot prefabricated, pre-engineered bridge as supplied by the Quincy Park Department. Contractor will fasten the bridge to the above-mentioned inshore and outshore supports to create a fixed pier. The prefabricated bridge will be supplied and delivered to the boathouse parking lot.

ALTERNATE #1: Furnish (delivered, and not installed) two timber floating docks per plans and specifications to include treated lumber superstructure and decking, foam-filled polyethylene floats, hinge connections between floats, anchoring points to match old floats, mooring cleats, bumpers, and toe rails.

**Proposed Timber Pier System
Black's Creek Boating Facility
BCE Project No. 30781**

LIST OF SPECIFICATIONS

- 01300 SUBMITTALS
- 01600 PRODUCTS
- 02200 EARTHWORK
- 02317 ROUND TIMBER PILES AND HEAVY TIMBER PILE CAPS
- 02400 TIMBER FLOATS
- 02921 ENGINEERED TIMBER PIER ASSEMBLY AND INSTALLATION
- 03300 CAST-IN-PLACE CONCRETE
- 05200 STRUCTURAL ALUMINUM
- 05600 MISCELLANEOUS METALS
- 06310 TIMBER TREATMENT

SECTION 01300
SUBMITTALS

1. GENERAL

1.1 SHOP DRAWINGS, MANUFACTURERS' SPECIFICATIONS AND INSTALLATION INSTRUCTIONS, SAMPLES, ETC.

A. The Contractor shall review and approve all submittals prior to submittal to the Owner. Each submittal shall be numbered serially and marked with the approval of the Contractor.

1. The Contractor shall submit to the Owner for approval, **three copies** plus as many copies as required to be returned, all Shop Drawings as called for under the various headings of these specifications.
2. The Contractor shall submit all Shop Drawings to the Owner in sufficient time for checking and processing. Shop Drawings shall be of sufficient clarity so that copies thereof will be legible.
3. All Shop Drawings submitted by subcontractors for approval shall be sent directly to the Contractor for his approval. The Contractor shall be responsible for their submission to the Owner at the proper time so as to prevent delays in delivery of materials.
4. All details on Shop Drawings submitted for approval shall show clearly the relation of the various parts of the work, and where correct fabrication of the work depends upon field measurements, such measurements shall be made and shall be noted on the Shop Drawings before being submitted for approval.
5. All submissions shall be referenced properly to indicate clearly the location, service and function of each particular item and the specification paragraph under which it is being furnished.
6. Submittals that are related to or affect each other shall be forwarded simultaneously as a package to facilitate coordinated review. Uncoordinated submittals will be rejected.
7. The Owner reserves the right to require submittals in addition to those called for in individual sections.
8. The term "Shop Drawings" includes drawings, diagrams, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by Contractor to explain in detail specific portions of the work required by the Contract.
9. The Contractor shall stamp each sheet of each submission with a rubber stamp stating that he has examined and checked the submission as above, and shall date and sign each. Any submission, which, upon examination by the Owner, shows evidence of not having been thoroughly checked will be returned to the Contractor for completion of checking before it will be considered for review.
10. Each submittal shall be numbered with the project name (abbreviated), specification section and submittal number in consecutive order (Ex NAME-02550-#). Where resubmission is required a letter shall be assigned to designate each resubmission (Ex NAME-02550-#A, NAME-2550-#B, etc.)

- B. Approval by the Owner shall not relieve Contractor from responsibility for any errors or omissions in such drawings nor from responsibility for complying with requirements of this Contract, except with respect to variations described and approved in accordance with Paragraph D below.
- C. If shop drawings show variations from Contract requirements, Contractor shall describe such variations in writing, separate from the drawings, at time of submission. All such variation must be approved by the Owner.
- D. The Contractor shall distribute approved submittals to job site and record documents files and to suppliers and subcontractors as required.
- E. Samples required by the specifications shall be submitted after the award of the Contract to the Owner. No material for which samples are required shall be fabricated or delivered to the site for use until representative samples of same have been approved in writing by the Owner. Such samples shall be furnished and delivered by the Contractor without charge.
 - 1. Each sample shall be labeled to designate the material or product, the name of its producer, the name of the Contractor, and the name and number of the project; and each submission shall be accompanied by a certificate describing each sample submitted for approval, certifying that the material, equipment or accessory submitted complies with Contract requirements, and including the name and brand of product, the name and address of manufacturer, the name of the Contractor and the name of the project.
 - 2. Approved samples, unless incorporated in the work or otherwise specified, shall be kept on file (and accessible for inspection by the Owner until final acceptance of the project. If return on the samples is not requested within thirty (30) days after the acceptance of the project, they will be considered unclaimed material and disposed of by the Owner.
 - 3. Such samples as may be required for check tests shall be furnished by the Contractor without extra charge. Check tests will be made on materials delivered for use only as frequently as the Owner considers necessary to ensure compliance of materials used with Contract requirements. The cost of testing materials, or equipment, or accessories to check for compliance with specification requirements shall be borne by the Contractor.

1.3 PROJECT RECORD DOCUMENTS

- A. Keep on file at job site one complete set of up-to-date Contract Documents, including drawings and specifications, addenda, shop drawings and manufacturer's data, testing data, change orders, field orders and other modifications. Documents shall be neatly and securely stored in files or on racks, clearly indexed by trade activity or specification section, and shall not be used for construction purposes.
- B. Legibly mark significant field changes such as the following, using colored pencils or felt-tipped pens:
 - 1. Drawings: locations of concealed utilities, field changes of dimension and detail, changes resulting from change order or field order, and details not on original drawings.

2. Specifications: manufacturer and model number of equipment actually installed.
 3. Shop Drawings and manufacturers' literature: changes made after the Owner's review.
- C. At completion of work, deliver completed record documents to the Owner. Final payment for project will not be made until the Owner reviews and approves these documents.

2. PRODUCTS (Not Applicable).

3. EXECUTION (Not Applicable).

4. MEASUREMENT AND PAYMENT (Not Applicable).

*** END OF SECTION ***

SECTION 01600
PRODUCTS

1. GENERAL

1.1 GENERAL DESCRIPTION

- A. Standards (ANSI, ASTM, Federal Specifications, etc.) referenced in specifications are latest edition as of date Contract Documents are issued for bidding. To the extent that more than one standard is referenced, the more stringent (in judgment of the Owner) shall govern. Where compliance with a standard is required, Contractor shall provide affidavit from subcontractor or manufacturer certifying compliance, if requested by the Owner.

1.2 ABBREVIATIONS

- A. Organizations and standards referenced in abbreviated form include the following:

AA	Aluminum Association
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGC	Associated General Contractors of America
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers' Association
AWS	American Welding Society
CDOT	State of Connecticut Department of Transportation
MDOT	State of Maine Department of Transportation
MHD	Massachusetts Highway Department
NYSDOT	New York State Department of Transportation
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration
SS	Standard Specifications For Highways and Bridges
UL	Underwriters' Laboratories
WWPA	Western Wood Products Association

1.3 SUBSTITUTIONS

- A. Products of a particular manufacturer are generally specified either on an "or equal" basis or with a list of acceptable alternative manufacturers. Contractor shall submit proposals to substitute products other than those specified in ample time before product is to be incorporated in Work, in order to allow for full investigation of proposal. Proposal shall be thoroughly documented with manufacturers' literature, shop drawings, and samples, as appropriate.
- B. Contractor warrants as part of his request that proposed substitution is comparable in size, operation, material and finish, to product specified. He shall be responsible for coordination of accepted substitution into Work and waives all claims for additional costs related to substitution which subsequently become apparent.

- C. The Owner retains absolute right of approval of any proposed substitution, and may reject same on any ground including function, operation, and appearance.

1.4 DELIVERY, STORAGE AND INSTALLATION

- A. Products shall be properly enclosed in containers, boxes, packages, etc., to prevent damage during transportation and handling. Deliver in original unopened containers with labels indicating brand names, model numbers, quality designations, fire-resistance rates, etc.
 - B. Store materials delivered to site under cover, in locations secure from vandalism and theft, in full conformance with manufacturer's recommendations. Carefully protect stored materials from mechanical damage, dampness, and extremes of temperature.
 - C. Products shall be installed, finished and cleaned in strict accordance with manufacturers' instructions, unless otherwise specified, by skilled workmen under adequate supervision. Foremen of installation crews shall have minimum of five years' experience installing that product.
 - D. Protect installed products until substantial completion by appropriate means including plastic or canvas sheeting, kraft paper, masking tape, or wood barricades. Remove name plates and other identifying markings from exposed surfaces of manufactured items installed in finished spaces, if requested by the Owner.
 - E. Materials shall be stored within the areas designated by the Owner.
- 2. PRODUCTS (Not Applicable).
 - 3. EXECUTION (Not Applicable).
 - 4. MEASUREMENT AND PAYMENT (Not Applicable).

*** END OF SECTION ***

SECTION 02200
EARTHWORK

1. GENERAL

1.1 DESCRIPTION

- A. Provide all labor, materials, equipment and supervision necessary to complete the work specified in this Section.
- B. Scope of work includes, but is not necessarily limited to the following:
 - 1. Excavation, filling, grading and subgrade preparation for foundations and walls.
 - 2. Preparation of granular base for all walls and abutments.
 - 3. Filling and compaction of specified fill material for retaining walls.
- C. Related work specified in other Sections:
 - 2. Construction of the Concrete Abutment under CAST-IN-PLACE CONCRETE, SECTION 03300
 - 3. Timber Pile Driving under ROUND TIMBER PILES, SECTION 02317

1.2 QUALITY ASSURANCE

- A. Excepted as noted, work shall conform to the latest editions of the following codes, specifications, and standards:
 - 1. American Society for Testing and Materials (ASTM)

1.3 SUBMITTALS

- A. Test reports on excavating, filling and grading:
 - 1. Submit copies of the following reports directly to the Owner from the testing services:
 - a. Test reports on borrow materials and crushed stone.
 - b. Verification of abutment subgrade.
 - c. Field density test reports.
 - d. One optimum moisture-maximum density curve for each type of soil encountered.

1.4 TESTING

- A. Testing during construction: Testing service must inspect and approve subgrades and fill layers before further construction work is performed thereon.
 - 1. Maximum soil density shall be the density at optimum moisture as determined by ASTM Standard Methods of Test for Moisture-Density Relations of Soil Using 10-

- lb. hammer and 18-in. Drop, Designation D 1557-78, using Method A, B, C, or D whichever is applicable.
 2. The in-place soil density shall be determined in accordance with ASTM Standard Method of Test for Density of Soil in Place by the Sand-Cone Method, Designation D 1556-64 or ASTM Standard Method of Test for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (shallow depth), Designation **D-2922-81**.
 3. Gradation Analyses shall be performed in accordance with the applicable sections of ASTM D422-63 Particle-Size Analysis of Soils.
- B. If, in the opinion of the Owner, based on reports of testing service and inspection, subgrade or fills which have been placed are below specified density, the Contractor shall provide additional compaction and testing at no additional expense to the Owner.

1.5 JOB CONDITIONS

- A. Site information: Data on indicated subsurface conditions are not intended as representations or warrants of continuity of such conditions between soil boring. It is expressly understood that the Owner will not be responsible for interpretations or conclusions drawn therefrom by the Contractor. Data is made available for the convenience of the Contractor.
1. Boring logs are included with bid package
 2. Additional test borings and other exploratory operations may be made by the Contractor at no cost to the Owner.
- B. Existing utilities: Locate existing underground utilities in the areas of work. If utilities are to remain in place, provide adequate means of protection during earthwork operations.
1. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult the Owner immediately for directions as to procedure. Cooperate with utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.
 2. Do not interrupt existing serving facilities occupied and used by others.
- C. Use of explosives:
1. Use of explosives is prohibited.
- D. Protection of persons and property: Barricade open excavations occurring as part of this work and post with warning lights. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
1. Protect structures, utilities, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

2. PRODUCTS

2.1 MATERIALS

- A. Gravel Fill: Gravel fill shall consist of inert material that is hard, durable stone and coarse sand, free of organic material, loam, trash, snow ice, frozen soil and other objectionable material and shall be well-graded within the following limits:

<u>Sieve</u>	<u>Percent Passing</u>
1/2 inch	50-85
No. 4	40-75
No. 50	8-28
No. 200	0-8

Maximum size of stone in gravel shall be as follows:

M1.03.0 Type A	6 inches largest dimension
M1.03.0 Type B	3 inches largest dimension
M1.03.0 Type C	2 inches largest dimension

- B. Ordinary Fill: Ordinary fill shall consist of well-graded mineral soil substantially free of organic materials, loam, wood, trash and other objectionable material which may be compressible or which cannot be compacted properly. Ordinary fill shall be unfrozen and shall not contain snow, ice, or frozen materials. Ordinary fill shall not contain stones larger than eight (8) inches in largest diameter. It shall have physical properties such that it can be readily spread and compacted during filling.
- C. Sand Fill: A washed, clean, hard durable, medium sand. Well-graded with a maximum diameter of 1/2".
- D. Crushed Stone: Crushed stone shall consist of one or the other of the following material:
1. Durable crushed rock consisting of the angular fragments obtained by breaking and crushing solid or shattered natural rock, and free from a detrimental quantity of thin, flat, elongated, or other objectionable pieces.*
 2. Durable crushed gravel stone obtained by artificial crushing or gravel boulders or fieldstone with a minimum diameter before crushing of 8 inches.
 3. The crushed stone shall be reasonably free from clay, loam or deleterious material and not more than 1.0% of satisfactory material passing a No. 200 sieve will be allowed to adhere to the crushed stone.
 4. Crushed stone shall be uniformly blended according to the following grading:

<u>Sieve Size</u>	<u>Percent Finer by Weight</u>
3"	100
2"	90-100
1-1/4"	25-50
3/4"	0-15
1/2"	0-5

* Thin or elongated pieces are defined as follows: Thin stones shall be considered to be such stones whose average width exceeds four (4) times their average

thickness. Elongated stones shall be considered to be such stones whose average length exceeds four (4) times their average width.

3. EXECUTION

3.1 EXCAVATION

- A. Excavation consists of removal and disposal of materials encountered when establishing required grade elevations.
- B. Perform all excavation of every description and of whatever substances encountered to the depths of extent indicated for the proper installation of the work.
- C. Excavate to the exact depth required for all foundations, structures, and utility systems.
- D. Earth excavation consists of removal and disposal of pavements and other obstructions visible on ground surface, underground structures and utilities indicated to be demolished and removed, material of any classification indicated in data on subsurface conditions.
- E. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of Owner.
 - 1. Backfill and compact unauthorized excavations as specified for authorized excavations of same classification, unless otherwise directed by Owner.
- F. Stability of excavations: Slope sides of excavations to comply with local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible either because of space restrictions or stability of material excavated.
 - 1. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.
- G. Shoring and bracing: Provide adequate shoring and bracing, such as sheet piling, uprights, stringers and cross-braces, in good serviceable condition.
 - 1. Trench shoring and bracing shall comply with local codes and authorities having jurisdiction.
 - 2. Maintain shoring and bracing in excavations, regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.
- H. Dewatering: Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area.
 - 1. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.

- I. Excavation for structures: Conform to elevations and dimensions shown within a tolerance of plus or minus 0.10', and extending a sufficient distance from foundations to permit placing and removal of concrete formwork, other construction required, and for inspection.
 - 1. In excavating for foundations, take care not to disturb bottom of excavation. Excavate by hand to final grade just before concrete is placed. Trim bottoms to required lines and grades to leave solid base to receive concrete.
- J. Demolition: Remove any existing concrete foundations, abandoned utility piping, pilings, timber and other debris encountered in areas of construction.
- K. Excavated materials which meet specification requirements for ordinary fill may be used as ordinary fill. Separate and stockpile suitable excavated materials away from unsuitable materials. Stockpiling location and details shall comply with project permits.
- L. Cold weather protection: Protect excavation bottoms against freezing when atmospheric temperature is less than 35 degrees F.

3.2 COMPACTION

- A. General: Control soil compaction during construction providing minimum percentage of density specified for each area classification. Tests of subgrades and fill layers will be taken as follows:
 - 1. Paved areas and slab subgrade: Make at least one field density test of subgrade for every 2,000 sq. ft. of paved area or slab, but in no case less than 3 tests.
 - 2. Open areas: Make at least one field density test of subgrade for every 4,000 sq. ft. of area, but in no case less than 3 tests. In each compacted fill layer, make one field density test for every 4,000 sq. ft. of area, but in no case less than 3 tests.
 - 3. Backfill around foundations: Make one field density test at each increment of 200 feet for each 3 foot change of elevation.
- B. Percentage of maximum density requirements: Provide not less than following percentages of maximum density of soil material compacted at optimum moisture content, for the actual density of each layer of soil material-in-place.
 - 1. Foundations: Compact to 95% maximum density.
 - 2. Pavements: Compact top 12" below the pavement base to 95%. Compact the remainder to 90%.
 - 3. Open areas: Compact to 90%.
 - 4. Subgrades: Compact to 90%.
- C. Moisture control: Where subgrade or layer of soil material must be moisture-conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material, as needed to obtain optimum moisture content.
 - 1. Remove and replace or scarify and air dry, soil material that is too wet to permit compaction to specified density. (**Above Elevation +4.0 only**).

3.3 BACKFILL AND FILL

- A. General: Place acceptable soil material in layers to required subgrade elevations, for each area classification listed below:
 - 1. Fill behind the retaining wall shall be gravel fill and ordinary fill as shown on the drawings.
- B. Backfill excavations as promptly as work permits, but not until completion of the following:
 - 1. Acceptance by the Owner of construction below finish grade.
 - 2. Inspection, testing, approval, and recording locations of underground utilities.
 - 3. Removal of concrete formwork.
 - 4. Removal of shoring and bracing, and backfilling of voids with satisfactory materials. Where temporary sheet piling is used cut off sheet piling driven below bottom of structures and remove in manner to prevent settlement of the structure or utilities, or leave in place if required.
 - 5. Removal of trash and debris.
- C. Ground surface preparation: Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface (above Elevation 0.0 Mean Low Water) prior to placement of fills.

3.4 PLACEMENT AND COMPACTION

- A. General: All compacted fill shall be placed in layers unless otherwise specified. Each layer shall be systematically compacted by a minimum of four coverages with the equipment described below, to the density specified herein before. Incidental compaction due to traffic by construction equipment, will not be credited toward the required minimum four coverages.
 - 1. Compaction equipment in open areas shall consist of fully-loaded ten-wheel dump trucks, tractor dozers weighing at least 30,000 pounds and operated at top speed, or by vibratory rollers or by other compaction equipment approved by the Owner.
 - 2. Compaction equipment in confined areas (in trenches and adjacent to walls) shall be accomplished by hand-operated vibratory equipment or mechanical tampers as approved by the Owner.
 - 3. In freezing weather, a layer of fill shall not be left in an uncompacted state at the close of a day's operations. Prior to terminating operations for the day, the final layer of fill, after compaction, shall be rolled with a smooth-wheeled roller to eliminate ridges of soil left by tractors, trucks and compaction equipment.
 - 4. The Contractor shall not place a layer of compacted fill on snow, ice or soil that was permitted to freeze prior to compaction. Removal of these unsatisfactory materials will be required as directed by the Owner.

- B. Backfill around foundation: gravel fill shall be placed in layers as required to achieve minimum compaction and maximum loose layer thickness shall not exceed 8 inches. Gravel fill shall be placed to the extent shown on the drawings.

3.5 GRADING

- A. General: Uniformly grade areas within limits of grading under this Section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
- B. Compaction:
 - 1. After grading, compact subgrade surfaces to the depth and percentage of maximum density for each area classification.

3.6 DUST CONTROL

- A. During the progress of the work, the Contractor shall conduct his operations and maintain the area of his activities, including sweeping a sprinkling of roads as necessary, so as to minimize the creation and dispersion of dust. If the Owner decides that it is necessary to use calcium chloride for more effective dust control, the Contractor shall furnish and spread the material, as directed, and without additional compensation

3.7 MAINTENANCE

- A. Protection of graded areas: Protect newly-graded areas from erosion, and keep free of trash and debris.
 - 1. Repair and re-establish grades in settled, eroded and rutted areas to specified tolerances.
- B. Reconditioning compacted areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape, and compact to required density prior to further construction.

3.8 DISPOSAL OF EXCESS AND WASTE MATERIALS

- A. Remove all waste materials, including unacceptable and/or excess excavated material, trash and debris, from the Owner's property and legally dispose of it.

*** END OF SECTION ***

SECTION 02317
ROUND TIMBER PILES AND HEAVY TIMBER PILE CAPS

1. GENERAL

1.1 DESCRIPTION

- A. Provide all labor, materials, equipment and supervision necessary to complete work specified in this Section.
- B. Scope of work includes, but is not necessarily limited to, furnishing and installing the following:
 - (2) 12" diameter outshore support piles
 - (2) 12" diameter outshore batter piles
 - (1) 12"x12" outshore timber pile cap
- C. Related work specified elsewhere includes:
 - 1. Fasteners, anchor bolts, bolts, lag bolts, and drift pins under MISCELLANEOUS METALS, SECTION 05600.
 - 2. Treatment under TIMBER TREATMENT (CCA), SECTION 06310.

1.2 QUALITY ASSURANCE

- A. Except as noted, work shall conform to the latest editions of the following codes, specifications and standards.
 - 1. American Society for Testing and Materials (ASTM)
 - 2. American Institute of Timber Construction (AITC).
 - 3. Southern Pine Inspection Bureau (SPIB)
 - 4. West Coast Lumber Inspection Bureau (WCLIB)
 - 5. Western Wood Products Association (WWPA)
 - 6. National Forest Products Association (NFPA)
 - 7. Commonwealth of Massachusetts State Building Code (CMSBC)

1.3 SUBMITTALS

- A. Submit for approval by Owner proposals for following items:
 - 1. Driving plan and schedule for installation of piles.
 - 2. Method of installation of piles including size and type of pile hammer.
 - 3. Templates and falsework to be used for support and layout of piles during driving
- B. AWPA quality stamp on each new treated pile and pile cap.
- C. Certification of timber pile and pile cap species.

1.4 PRODUCT HANDLING

- A. Timber members shall be handled with care to prevent damage. Damaged products will be rejected and replaced at no additional cost to the Owner. Timber products shall be stored with a space beneath them and situated to prevent being exposed to standing water.

2. PRODUCTS

2.1 MATERIALS

- A. Timber piles: Clean-peeled & treated West Coast Douglas Fir or Southern Yellow Pine, meeting ASTM D25-86 with a minimum circumference of 12 inches, 3 feet from the butt.
- B. Piles shall be free from any defects, which will impair their strength, or usefulness for the purpose intended or that will prevent proper driving.
- C. Tops of piles shall be covered with tar paper. Tar paper shall extend over the cut outs for the pile caps as shown on contract drawings. Tar paper shall be 15 # and meet ASTM D4869.
- D. 12" x 12" Pile cap: All timber to be used shall be No. 2 dense SR Southern Pine as graded by SPIB and with design values per NFPA National Design Specification or the equivalent for Douglas Fir as graded by WCLIB and WWPA.
- E. All timber shall be new and supplied with rough dimensions unless otherwise noted.

3. EXECUTION

3.1 DRIVING EQUIPMENT

- A. Pile hammers: Air, steam or diesel-powered, of a type approved by the Owner. The hammer furnished shall have a capacity at least equal to the hammer manufacturer's recommendation for the total weight of pile and character of subsurface material to be encountered. The minimum driving energy of the hammer shall be 6500 foot-pounds. For piles of any length, the maximum driving energy of the hammer shall be 15,000 foot-pounds. Diesel-powered hammers shall be operated at the rate recommended by the manufacturer throughout the entire driving period. Sufficient pressure shall be maintained at the hammer so that: (1) for double-acting hammer, the number of blows per minute during and at the completion of driving of a pile is equal approximately to that at which the hammer is rated; (2) for single-acting hammer, there is a full upward stroke of the ram; and (3) for differential-type hammer, there is a slight rise of the hammer base during each upward stroke.
- B. Driving helmets and cushion blocks: Use a driving helmet or cap including a cushion block or cap block of a design approved by the Owner between the top of the pile and the ram to prevent impact damage to the pile. The driving helmet or cap and cushion block combination shall be capable of protecting the head of the pile, minimizing energy absorption, and transmitting hammer energy uniformly and consistently during the entire driving period. The driving helmet or cap shall fit snugly on the top of the pile so that the energy transmitted to the pile is uniformly distributed over the entire surface of the pile head. Demonstrate to the Owner that the equipment to be used on the project performs the above functions. The cushion block may be a solid or laminated softwood block with the grain parallel to the pile

axis and enclosed in a close-fitting steel housing. The thickness of block shall be suitable for the length of pile to be driven and the character of subsurface material to be encountered. Generally, thicker blocks are required for longer piles and softer subsurface material. Replace cushion block if it has been damaged, split, highly compressed, charred or burned or has become spongy or deteriorated in any manner. Under no circumstances will the use of small wood blocks, wood chips, rope or other material permitting excessive loss of hammer energy be permitted.

3.2 HANDLING

- A. Inspect piles in the leads, and where the protective shell or treated wood is impaired, between cutoff and a point which will be not less than 10 feet below the ground, the piles shall be repaired as specified under Timber Treatment unless the pile is damaged to such an extent that it is rejected. Rejected piles will be replaced at no additional cost to the Owner. Support pile laterally during driving, but not unduly restrained from rotation in the leads. Where pile orientation is essential, take special care to maintain the orientation during driving. Take special care in supporting battered piles to prevent excess bending stresses in the pile. When necessary, place collars around the pile head to prevent brooming. Cant hooks shall not be used in handling treated piles. Cut piles by sawing or other means approved by the Owner. Holes for rebar shall be of a size that will ensure a driving fit.

3.3 DRIVING PILES:

- A. 1. All piles to be installed to at least the tip elevation specified on contract drawings. Jetting may be used. Discontinue jetting when the pile tip is 5 feet above the indicated pile elevation. Drive pile final 5 feet of penetration.
2. All piles shall be driven to 15 ton allowable load capacity and minimum penetration as shown on the drawings.
3. The allowable pile load shall be computed by means of the following driving formula:

$$R = 2E / (S + C)$$

where:

R = Allowable pile load in pounds

E = Energy per blow in foot-pounds

S = Penetration of last blow or average penetration of last few blows experienced in inches

C = Constant equal to 1.0 for drop hammer and 0.1 for steam or air hammer

- a. The value of "S" must be determined with the hammer operated at one hundred (100) percent of the rated number of blows per minute for which the hammer is designed.
- b. Any driving resistance developed in strata overlying the bearing material shall be discounted.

- c. If the driving of the pile has been interrupted for more than one (1) hour, the value of "S" shall not be determined until the pile is driven at least an additional twelve (12) inches, except when it encounters refusal.
- B. Tolerances in Driving: Butts shall be within 4 inches of the location indicated. Manipulation of piles to force them into position will not be permitted. Check all piles for heave. Redrive heaved piles to the required elevation. Piles damaged, mislocated, or driven out of alignment shall be replaced or additional piles driven as directed at no additional cost to the Owner.

3.4 INSTALLATION

- A. All piles shall be marked at a given distance from the bottom, which will show above the waterline after driving, so that the bottom elevation of each pile and its relation with adjacent piles can be recorded.
- B. If obstructions are encountered, contractor shall make reasonable effort to remove obstruction. Reasonable efforts shall include excavation if obstruction is shallow or probing with steel pile to remove or bypass the obstruction. This work shall be considered as part of the work associated with pile installation.
- C. Pile Cut-Offs: After completion of driving, tops of piles shall be cut off to remove damage caused by driving hammer. All cut offs shall be the property of the contractor for removal and disposal from the project site.
- D. Piles that split under driving or prove otherwise unsatisfactory shall be removed and replaced from the site at the sole expense of the Contractor and to the satisfaction of the Engineer.
- E. The driving of piles with followers shall not be permitted.
- F. Spudding, jetting, auguring or pre-drilling of piles to achieve the required penetration will not be permitted unless approved in writing by the design engineer.
- G. Any pile, which may be driven in the wrong position, shall be removed and driven in the correct position. Contractor will not be paid for the pile driven in a wrong position.
- H. Any pile which may prove too short after driving, or which has been split, broomed, upset, or otherwise damaged during driving, shall be rejected and another satisfactory pile shall be substituted and properly driven. The Contractor shall not be paid for pile work associated with the replacement of piles in the above category.
- I. Installation of pile cap shall be in accordance with the details and notes on the Drawings, the approved Shop Drawings, code requirements, and the best trade practices.
- J. Joints are to be square, tight and well-fastened with all members assembled in accordance with the Contract Drawings.
- K. Coat ends of field cut members as specified under TIMBER TREATMENT, SECTION 06310.
- L. Holes for bolts shall be drilled the same size as the bolt after galvanizing. Holes shall be swabbed with 2 coats of sealing compound as specified herein before installing the bolts.

- M. Bolts shall be tightened to provide a solid connection. No more than 1 washer shall be installed under the bolt head or nut. Bolt threads shall project no more than 2" beyond the nut.
- N. All timber shall be cut and fit in such a manner as to have full bearing over the entire contact surface.
- I. All piles shall have approved pile point. Pile point to be attached to pile in an approved manner.

3.5 RECORDS

- A. A complete and accurate record of each pile shall be furnished by the Contractor. The record shall indicate the pile location, diameter, length, hammer (make and model), number of blows per 6" for the final 36 inches of penetration, all other pertinent information.

END OF SECTION

SECTION 02921
ENGINEERED TIMBER PIER ASSEMBLY AND INSTALLATION

I. GENERAL

I.1 DESCRIPTION

- A. Provide all labor, materials, equipment and supervision necessary to complete work specified in the Section.
- B. Scope of work includes, but is not necessarily limited to the following:
 - 1. Inspection of all components prior to acceptance and identification of any and all deficiencies.
 - 2. Assembly and Installation of Engineered Timber Bridge System to include:
 - a. Site assembly and installation of complete bridge including all components
 - b. Site assembly and installation of railing systems on bridge
 - c. Bridge to abutment and pile cap connections
- C. The following materials will be supplied by the Owner:
 - 1. Timber bridge beams, crossbeams, decking, railings and assembly hardware
 - 2. Steel brackets and hardware for securing bridge to concrete abutment and timber outshore support.
 - 3. Contractor shall include supply and installation of all other work as shown on the drawings.

I.2 QUALITY ASSURANCE

- A. Except as noted, work shall conform to the latest editions of the following codes specifications and standards
 - 1. American Society for Testing and Materials (ASTM)
 - 2. American Welding Society (AWS)
 - 3. American Institute of Steel Construction (AISC)
 - 4. American Institute of Timber Construction (AITC)
 - 5. American Concrete Institute (ACI)
 - 6. American Wood-Preservers Association (AWPA)
- B. Bridge will be designed and furnished by EnWood Structures, LLC, Morrisville, NC, or equal. Manufacturers shall meet the following minimum requirements:
 - 1. Have a minimum of 5 years experience in the design, production, and installation of timber bridge/ pier systems.
 - 2. Warrant the product for a minimum of two years
 - 3. Life of the product is to be a minimum of 15 years with minor maintenance
- C. Quality control shall be provided in accordance with ANSI/AITC A190.1- latest edition and AITC inspection manual, AITC 200. AITC quality marks shall be used for identification. An AITC certificate of conformance shall be furnished upon request.

I.3 SUBMITTALS

- A. Submit for approval by the Owner the following items
 - I. Schedule and method for installation of the system.

1.4 PRODUCT HANDLING

- A. All bridge components to be supplied by the Owner will be delivered and unloaded at the project site.
- B. System components shall be handled and stored with care to prevent damage. Any components damaged after acceptance by the Contractor will be rejected and shall be replaced at no additional cost to the Owner. The Contractor is responsible for protection of materials after acceptance on site. If materials are stored temporarily, they should be placed on blocks well off the ground and separated with wood strips so air can circulate between members. Cover top and bottom with moisture resistant paper. Use non-marring slings when handling the materials.

PART 2 - PRODUCTS

2.1 PIER LAYOUT

- A. The proposed pier system is shown on the accompanying drawing(s). Noted are locations and sizes of the support piles and concrete abutment.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Prior to installing the system, the Owner shall be contacted by the Contractor for inspection of all components.
- B. Prior to installing the system the Contractor shall inspect the site and all other work affecting the installation.

3.2 INSTALLATION

- A. The system shall be installed as shown on submitted plans or as agreed upon by the Owner and Contractor.
- B. Connection of the system to the anchoring system shall be done according to submitted plans or as agreed upon by the Owner and Contractor.

3.3 DEFECTIVE WORK

- A. Any damaged portions shall be replaced as directed by the Owner at no additional cost to the Owner.
- B. Any improperly installed components shall be removed and replaced or corrected as directed by the Owner at no additional cost to the Owner.

*** END OF SECTION ***

SECTION 03300
CAST-IN-PLACE CONCRETE

1. GENERAL

1.1 DESCRIPTION

- A. Provide all labor, materials, equipment and supervision necessary to complete work specified in this section.
- B. Scope of work includes, but is not necessarily limited to, furnishing and installing the following:
 - 1. Cast-in-place concrete as needed
 - 2. Forms and falsework for forms
 - 3. Reinforcing steel including epoxy coated
 - 4. Reinforcement Accessories (Ties, Chairs, etc.)
 - 5. Grout for bedding and setting of anchor pins or dowels
 - 6. Tremie Concrete
 - 7. Cutting and patching
 - 8. Expansion and/or Control Joints

1.2 QUALITY ASSURANCE

- A. Except as noted, work shall conform to the latest edition of the following code specifications and standards:
 - 1. American Society for Testing and Materials (ASTM)
 - 2. American Concrete Institute (ACI):
 - a. "Building Code Requirements for Reinforced Concrete", ACI 318.
 - b. "Specifications for Structural Concrete for Buildings", ACI 301.
 - c. "Recommended Practice for Measuring, Mixing, and Placing Concrete", ACI 304.
 - d. "Recommended Practice for Cold (Hot) Weather Concreting", ACI 305 and ACI 306.
 - e. "Guide to Formwork for Concrete ", ACI 347.
 - 3. Concrete Reinforcing Steel Institute (CRSI):
 - a. Design of Reinforced Concrete Structures - "A Manual of Standard Practice".
 - b. "Placing Reinforcing Bars".
 - c. "Field Handling Techniques for Epoxy-Coated Reinforcing Bar".
 - 4. Massachusetts State Building Code

1.3 SUBMITTALS

- A. Shop Drawings
 - 1. Reinforcing steel shop drawings
 - a. Shall be of such detail and completeness that all fabrication and placement at the site can be accomplished without the use of Contract Drawings for reference.
 - b. Shall include number of pieces, sizes, and grade of reinforcing steel, accessories, and any other information required for fabrication and placement.
 - c. Shall show joint layout and design.

2. Contractor shall check structural, and site drawings for anchor bolts, anchors, inserts, conduits, sleeves, and any other items which are required to be embedded in concrete, and shall make necessary provisions as required so that reinforcing steel will not interfere with the placement of such embedded items.
- B. Concrete mix designs.
- C. Grout / manufacturer/design mix
- D. Name and address of Testing Laboratory for approval by Owner

1.4 TESTING OF CONCRETE

A. Quality Control

1. Test Specimens: The Contractor will be required to make, cure and have tested a minimum of one set of four test specimens from the concrete of each day's pour and for each fifty cubic yards of concrete cast in accordance with ASTM Designations C172, C31 and C39. One cylinder shall be broken after seven days and three cylinders after twenty-eight day.
 2. Slump: A slump test shall be made for each truckload of concrete in accordance with ASTM Designation C143. Slumps greater than design mix limit will be grounds for rejection of the concrete.
 3. Air Content: The Contractor shall make an air content test from each day's pour of concrete by the pressure method in accordance with ASTM Designation C231. Air contents above or below the limits specified will be grounds for rejection of the concrete.
 4. Testing: All personnel and laboratories testing concrete shall be licensed by the State of Massachusetts.
 5. Test Failures: In the event the compressive strength of the cylinders, when tested, is below the specified minimum, the Owner may require test cores of the hardened structure to be taken by the Testing Laboratory in accordance with ASTM C-42. If such test indicates that the core specimen is below the required strength, the concrete in question shall be removed and replaced without cost to the Owner. Any other work damaged as a result of this concrete removal shall be replaced with new materials to the satisfaction of the Owner at no additional cost to the Owner. The cost of coring will be deducted from the Contract amount. Where core cylinders have been taken by the Testing Laboratory and the concrete proves to be satisfactory, core holes shall be filled in a manner satisfactory to the Owner at no additional cost to the Owner.
- B. The Contractor shall coordinate the date and location of tests with the Owner before any concrete work is started.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Reinforcing steel shall be transported to the site, stored, and covered in a manner which will ensure that no damage shall occur to it from moisture, dirt, grease, or any other cause that might impair bond to concrete or chip protective epoxy coating. A sufficient supply of approved reinforcing steel shall be stored on the site at all times to ensure that there will be no delay of the work. Identification of steel shall be maintained after bundles are broken.

2. PRODUCTS

2.1 MATERIALS

- A. Portland Cement: ASTM C 150, Type II of U.S. manufacture. Only one brand of cement shall be used on the project.
- B. Aggregates:
1. Fine aggregate. ASTM C 33, clean and graded from 1/4 inch to fines.
 2. Coarse aggregate. ASTM C 33, clean and graded from 1/4 inch to maximum sizes hereinafter specified.
- C. Air Entraining Agent:
- Conforming to ASTM C 260 for Air-Entraining Admixtures for Concrete.
- D. Water Reducing Agent:
- Conforming to ASTM C 494 Type A for Chemical Admixtures for Concrete.
- E. Microsilica Admixture:
- Packaged in easily dispersing form.
- F. Water:
- Clean and potable free of impurities detrimental to concrete.
- G. Reinforcing Bars:
- New, deformed billet steel bars, conforming to ASTM A 615, Grade 60, with Epoxy-Coating conforming to ASTM A775/A775M.
- H. Accessories:
- Reinforcement accessories, consisting of spacers, chairs, ties, and similar items shall be provided as required for spacing, assembling, and supporting reinforcement in place. All accessories shall be dielectric coated steel or approved plastic accessories, conforming to the applicable requirements of the CRSI Standards herein before specified.
- I. Tie wire for reinforcement shall be 16 gauge or heavier dielectric coated steel or approved plastic accessories, conforming to the applicable requirements of ASTM A-82.
- J. Form Ties and Spreaders:
- Standard metal form clamp assemble and plastic cone, of type acting as spreaders and leaving no metal with 1 inch of concrete face. Inner tie rod shall be left in concrete when forms are removed. No wire ties or wood spreaders will be permitted. Use 1/2" x 1" C.T. plastic cones for sinkages.

K. Form Coatings:

Non-grain raising and non-staining type that will not leave residual matter on surface of concrete or adversely affect proper bonding of subsequent application of other material applied to concrete surface, "Nox-Crete Form Coating" as manufactured by Nox-Crete Company, or approved equal. Coating containing mineral oils or the nondrying ingredients will not be permitted.

L. Grout:

A high-strength, non-shrink grout with saltwater resistance, such as Five Star Special Grout 120 or equivalent.

2.2 CONCRETE STRENGTHS AND PROPORTIONS

- A. Cast-in-place concrete shall have the following minimum compressive strength at 28 days and shall be proportioned within the following limits:

Class	Minimum Strength at 28 days	Maximum Size of Aggregate	Water Cement Ratio	Pounds of Cement/Cubic Yard
A	5000 psi	3/4"	0.40	Per ACI 318 Except Max slag 25%

- B. Air-Entrainment: The air content in all concrete shall be maintained at 5 to 7 percent.
- C. The exact proportions for the mix, including amounts of admixture (if any), and water, shall be determined by the concrete supplier.
- D. The proportions of aggregate to cement for any concrete shall be such as to produce a mixture which will work readily into the corners and angles of the forms and around reinforcement with the method of placing employed on the work, but without permitting the materials to segregate or excess free water to collect on the surface.

3 EXECUTION

3.1 CAST-IN-PLACE CONCRETE

A. Falsework for Forms

1. The Contractor shall build and maintain necessary falsework for the forms.

B. Construction of Forms

1. Wood forms shall be constructed of sound material, shall be of the correct shape and dimensions, mortar tight, of sufficient strength, and so braced and tied together that the movement of men, equipment, materials, or placing and vibrating the concrete will not throw them out of line or position.

2. Embedded Items

- a. Provisions shall be made for pipes, sleeves, anchors, inserts, reglets, anchor slots, nailers, waterstops, and other features. No wood other than necessary nailing blocks shall be embedded in concrete. Complete cooperation shall be extended to suppliers of embedded items in their installation. Secure information for embedded items from other trades as required. All embedded items shall be securely anchored in correct location and alignment prior to placing concrete.

3. Openings for Items Passing Through Concrete

- a. Contractor shall establish exact locations, sizes, and other conditions required for openings and attachment of work specified under other sections. Contractor shall be held responsible for proper coordination of all work of this nature in order that there will be no unnecessary cutting and patching of concrete. Any cutting and repairing to concrete required as a result of failure to provide for such openings shall be paid for by the Contractor at no additional expense to the Owner.

C. Removing Forms and Falsework

1. Wood forms shall not be removed for at least 48 hours after concrete has been placed.
2. Forms shall not be removed until the concrete has attained sufficient strength to insure stability.

D. Reinforcing Steel

1. Reinforcing steel shall be placed in accordance with the drawings and approved shop drawings and the applicable requirements of the "Codes and Standards" herein before specified. Install reinforcement accurately and secured against movement, particularly under the weight of workmen and the placement of concrete.

2. Reinforcing Steel Supports

Bars shall be supported on approved plastic or dielectric-coated metal chairs or spacers, accurately placed and securely fastened to forms or steel reinforcement in place. Additional bars shall be supplied, whether specifically shown on the drawings or not, where necessary to securely fasten reinforcement in place. Support legs of accessories in forms without embedding in form surface. Spacing of chairs and accessories shall conform with CRSI's "Recommended Practice for Placing Bar Support". Hooping and stirrups shall be accurately spaced and wired to the reinforcement. No wood will be permitted inside forms. Lifting of welded wire fabric into proper position while concrete is being poured rather than supporting fabric on chairs will not be permitted.

3. Placing and Tying:

All reinforcement shall be set in place, spaced, and rigidly and securely tied or wired with tie wire at all splices and at all crossing points and intersections in the positions shown, or as directed. Rebending of bars on the job to accommodate existing

conditions will not be permitted without the written approval of the Owner. Point ends of wire ties away from forms.

4. Spacing:

Minimum center to center distance between parallel bars shall be in accordance with the details on the drawings, or, where not shown, the clear spacing shall be 2 times the bar diameter but in no case less than 1-1/2 inches or less than 1-1/2 times the maximum size aggregate.

5. Splices shall be in accordance with the following:

- a. Maximum 50% of steel spliced occurring within lap length.
- b. Top bars shall be 1.4 times values given in 3.D.5.c.
- c. Splice lengths

#6 bars and smaller	30 bar diameter
#7	36 bar diameter
#8	40 bar diameter

6. Protective Concrete covering

- a. Except where shown otherwise on drawings, the minimum concrete coverage for steel reinforcement shall conform with the applicable revisions of the "Codes and Standards" herein before specified.

E. Mixing of Concrete

- 1. All concrete shall be ready-mixed concrete, and shall be mixed and delivered in accordance with the "Specification for Ready-Mixed Concrete", ASTM C-94. The batch plant of the concrete producer shall be certified for compliance with the standards established by the National Ready-Mixed Concrete Association.
- 2. In the event concrete is mixed at a central batching plant, the delivery shall be arranged so that intervals between batches are kept to a minimum, and in any event not more than thirty (30) minutes. Trucks shall be in first class condition and kept in constant rotation during delivery.
- 3. Concrete shall be placed within 90 minutes after cement has been mixed with aggregate or 45 minutes after addition of water and admixtures.
- 4. No admixtures, except those mentioned in paragraph 2.1 shall be used. Calcium chloride will not be permitted.
- 5. Truck delivery slips of all concrete delivered to the job shall indicate the quantity and quality of concrete, additives, date and time of batching and delivery, and the location of placement. Delivery slips shall be forwarded to the Owner at the end of each week.

F. Cold Weather Requirements:

- 1. Concrete shall not be mixed or placed when the temperature is below 40 degrees F., or when conditions indicate that the temperature will fall below 40 degrees F. within 72 hours unless precautions are taken to protect the concrete.

2. Concrete temperature shall be maintained, when deposited, at not less than 60 degrees F. Reinforcement, forms, and ground which concrete will contact must be completely free of frost.
3. Concrete and formwork must be kept at a temperature of not less than 50 degrees F. for not less than 96 hours after placing.
4. Calcium chloride shall not be used.
5. Contractor shall provide heating and/or insulation to formwork as required to comply with these minimum temperature requirements.

G. Hot Weather Requirements:

1. The maximum temperature of the concrete, when deposited, shall be 85 degrees F. If the weather causes the placing temperature to exceed 85 degrees F., the mix shall be cooled by appropriate methods if approved by the Owner.
2. No concrete shall be deposited when the air temperature is greater than 90 degrees F.

H. Conveying and Placing Concrete

1. Notification: Contractor shall notify Owner's Representative at least 48 hours in advance of any placement of concrete.
2. Form Preparation: Before placing concrete, forms shall be thoroughly inspected. All chips, dirt, etc., shall be removed, all temporary bracing and cleats taken out, all openings for pipes, etc., properly boxed, all forms properly secured in their correct position and made tight, all reinforcement, anchors, and embedded items secured in their proper places. Concrete which may be on the forms or reinforcement, and which is set and dry, shall be cleaned off, and the forms and steel washed off before proceeding. Remove all foreign matter from forms and excavations.
3. Excess Water: Water shall be removed from place of deposit before concrete is placed unless otherwise permitted by the Owner. Any flow of water into an excavation shall be diverted through proper side drains into a sump, or shall be removed by other approved methods which will avoid washing away the freshly deposited concrete.
4. Soil on which concrete will be poured shall be thoroughly wetted (except in freezing weather).
5. Anchors and Embedded Items
 - a. Anchors, bolts, sleeves, inserts, wood blocking, and any other items to be embedded in concrete shall be accurately secured in position before the concrete is placed. Aluminum shall not be embedded in concrete.
6. Handling and Depositing
 - a. Before any concrete is placed, the Contractor shall notify all whose work is in any way connected with or influenced by the concrete work, and give them reasonable time to complete all portions of their work that must be completed before concrete is deposited.

- b. Immediately before concrete is placed, the Contractor shall inspect all forms to be sure that they are in proper position, sufficiently rigid, thoroughly clean, properly oiled and free from foreign materials and that all reinforcement is in proper position.
 - c. Concreting, once started, shall be carried on as a continuous operation until the section of approved size and shape is completed.
 - d. Concrete shall be conveyed as rapidly as practicable from the mixer to the place of final deposit by methods, which prevent the separation or loss of ingredients. It shall be deposited, as nearly as practicable, in its final position to avoid rehandling or flowing.
 - e. Concrete shall not be dropped freely where reinforcement will cause segregation, nor shall it be dropped freely more than six (6) feet. Concrete shall be deposited to maintain a plastic surface approximately horizontal.
 - f. Concrete that has partially hardened shall not be deposited in the work.
7. Tremie Concrete
- a. Tremie concrete shall be placed from the bottom of the area to be filled to the top. At no time shall the concrete be allowed to be deposited through the water, only through the tremie pipe. The Contractor may modify the tremie mix proportions to facilitate placement with the Owner's approval.
 - b. Tubes and hoses shall be watertight, consisting of a tube constructed in sections with flange couplings fitted with gaskets or flexible hose, and the inside diameter shall be sufficiently large to permit a free flow of concrete.
 - c. For the tremie operations, the discharge end shall be closed at the start of the work to prevent water from entering the tube or hose and shall be kept entirely sealed at all times and the tremie tube or hose kept full during the depositing of the concrete. During placement of concrete, the tremie tube or hose shall be slightly raised, but not out of the concrete at the bottom.
8. Pumping
- a. Concrete may be placed by pumping if first approved in writing by the Owner for the location proposed.
 - b. Equipment for pumping shall be of such size and design as to ensure a practically continuous flow of concrete at the delivery end without separation of materials.
 - c. The concrete mix shall be designed to the same requirements as herein before specified, and may be richer in lubricating components in order to allow proper pumping.
 - d. Concrete shall not be pumped through aluminum pipes.
 - e. All pumping operations must have full-time inspection by a recognized testing laboratory approved by the Owner and paid for by the Contractor. The cost of this full-time inspection shall be included in the Contractor's bid proposal if the option of pumping is elected.
9. Vibrating and Compacting

- a. All concrete shall be thoroughly consolidated and compacted by suitable means during the operation of placing, and shall be thoroughly worked around reinforcement, embedded items, and into the corners of the forms. All concrete against forms shall be thoroughly spaded. Internal vibrators shall be used under experienced supervision, and shall be kept out of contact with reinforcement and wood forms. Vibrators shall not be used in a manner that forces mortar between individual form members.
 - b. Vibrators shall be flexible electric type or approved compressed air type, adequately powered and capable of transmitting to the concrete not less than seven thousand (7,000) impulses per minute. Vibration shall be sufficiently intense to cause the concrete to flow or settle readily into place without separation of the ingredients. A sufficient number of vibrators shall be employed so that complete compaction is secured throughout the entire volume of each layer of concrete. At least one (1) vibrator shall be kept in readiness as a spare for emergency use. Vibrators shall be such that the concrete becomes uniformly plastic with their use.
 - c. Vibration shall be close to the forms but shall not be continued at one spot to the extent that large areas of grout are formed or the heavier aggregates are caused to settle. Care shall be taken not disturb concrete which has its initial set.
 - d. Where conditions make compacting difficult, or where the reinforcement is congested, batches of mortar containing the same proportions of cement to sand as used in the concrete shall first be deposited in the forms, to a depth of at least one inch.
 - e. The responsibility for providing fully filled out, smooth, clean, and properly aligned surfaces free from objectionable pockets shall rest entirely with the Contractor.
- I. Construction Joints: Construction joints shall be located a maximum of 40 feet apart. If, for any reason, the Contractor feels a change is necessary, he shall prepare a placing plan and submit it to the Owner for approval. Where a joint is to be made, the surface of the concrete shall be sandblasted or thoroughly picked, thoroughly cleaned, and all laitance removed. In addition to the foregoing, joints shall be thoroughly wetted, but not saturated, and slushed with a coat of grout immediately before the placing of new concrete. Approved keys shall be used at all joints, unless detailed otherwise. Forms shall be retightened before placing of concrete is continued. There shall be an interval of at least 48 hours between adjacent pours.
 - J. Expansion Joints: Expansion joints shall be located as shown on Contract Drawings. The joint shall include a joint filler, a bond breaker and joint sealant and installed as indicated on Contract Drawings.
 - K. Patching: Immediately after stripping forms, patch minor defects, form-tie holes, honeycombed areas, etc., before concrete is thoroughly dry. Repair gravel pockets by cutting out to solid surface, form key, and thoroughly wet before placing patching mortar consisting of 1 part cement to 2 parts fine sand; compact into place and neatly finish. Honeycombed areas or gravel pockets which, in the Owner's opinion are too large and

unsatisfactory for mortar patching as described above, shall be cut out to solid surface, keyed, and packed solids with matching concrete to produce firm bond and surface.

1. The Contractor shall do the entire cutting as required by himself or other trades. All such work shall be of the minimum size required. No excessive cutting will be permitted, nor shall any structural members or reinforcement be cut.
2. The Contractor shall do all patching after work by other trades has been installed, where required, using Portland Cement Mortar 1:2 mix.

L. Protection and Curing

1. Protect concrete from injurious action of the elements and defacement of any nature during construction operations.
2. Keep concrete in a thoroughly moist condition from the time it is placed until it has cured, for at least (7) days.
3. Carefully protect exposed concrete corners from damage.
4. Allow no slabs to become dry at any time until curing operations are complete. In general, slabs shall be cured with non-staining curing paper, hosing or fog spray; vertical surfaces shall be curing with Burlene or fog spray or an approved curing compound. Protect fresh concrete from drying winds, rain, damage, or spoiling. Curing paper shall be lapped 4 inches minimum at joints and sealed with waterproof tape.

M. Concrete Finishes

1. Unexposed Surfaces
 - a. All unexposed surfaces shall have any form finish, at the Contractor's option.
2. Wearing Surface Finish
 - a. The wear surface shall receive a monolithic steel trowel finish. Surfaces shall be finished with a screed, float or steel trowel. Trowel shall be vigorously used at an angle under pressure by the finisher until troweling gives evidence of shine or gloss as required to make a smooth, hard, dense, impervious surface, free of defects. Finishers shall work from kneeboards laid flat upon the surface. Mechanical troweling machines may be used if the desired finish and level tolerances can be obtained by their use, but finishing shall be by hand troweling.
 - b. Where directed, finish surfaces by scoring in parallel lines with a fine hair stable broom, perpendicular to the direction of traffic or as indicated on the drawings.
3. Exposed Surfaces
 - a. Surfaces exposed to view shall be finished. Within 48 hours after the forms have been removed and form ties cut back from the face of the concrete, all voids and cavities shall be filled with a stiff mortar of the same composition and air-entrainment as the mortar in the original concrete mix. The same brand and color of cement, and the same kind and color of aggregate as was

used in the original concrete mix shall be used in this mortar. The mortar for filling shall have been mixed and let set for 30 minutes and then remixed before placing in the work. The surface film of all such pointed surfaces shall be carefully removed before setting of the mortar occurs.

- b. If the Owner determines these surfaces as prepared do not present a uniformly smooth, clean surface of even texture and appearance, the surface shall be treated and rubbed to obtain a satisfactory finish. The Owner shall be the sole judge of the amount of rubbing which will be required.
 - c. If rubbing is required, the rubbing will start within 48 hours of notification that the rubbing is required, the surface should be wetted with clean water and rubbed with a No. 16 carborundum brick or other abrasive of equal quality until even and smooth and of uniform appearance, without applying any cement or other coating. If additional finishing is necessary it shall be obtained by a thorough rubbing with a No. 10 carborundum brick or other abrasive of equal quality. Subject to approval by the Owner, rubbing may be performed by use of satisfactory power equipment and tools, providing that the operational procedures shall be the same as those outlined above for hand rubbing.
 - d. Rubbing will be kept to a minimum found necessary to produce smooth, even surfaces of uniform appearance. Rubbing will not be required to fill very small surface air bubble holes.
 - e. Patches required for form ties, if carefully and properly done, may not necessitate rubbing. If however, the work is done in such a way that the patches are conspicuous, the entire exposed face on which they occur shall be rubbed.
 - f. After the final rubbing is completed, and the mortar has set up, the surface shall be thoroughly drenched and kept wet with clean water for a period of five days, unless otherwise directed.
 - g. No rubbing will be permitted when the air temperature is below 40 °F.
4. Addition of Material
- a. The addition of cement, sand, water, or mortar to any surface while finishing concrete is strictly prohibited unless approval has been obtained from the Engineer.

N. Defective Work

1. The following concrete work shall be considered defective and may be ordered by the Owner to be removed and replaced at Contractor's expense:
 - a. Incorrectly formed.
 - b. Not plumb or level.
 - c. Not specified strength.
 - d. Containing rock pockets, voids, honeycomb, or cold joints.

- e. Containing wood or foreign matter.
- f. Otherwise not in accordance with the intent of the Drawings and Specifications.

*** END OF SECTION ***

SECTION 05200
STRUCTURAL ALUMINUM

1. GENERAL

1.1 DESCRIPTION

- A. Provide all labor, materials, equipment and supervision necessary to complete the specified work in this section.
- B. The work in this section includes but is not necessarily limited to the following:
 - 1. Supply, fabrication and installation of aluminum gangway .
- C. The aluminum gangways, ramps and platforms shall be fabricated by a company specializing in the fabrication of these items with a minimum of 5 years documented experience.

1.2 QUALITY ASSURANCE

- A. Except as noted, work shall conform to the latest editions of the following codes specifications and standards:
 - 1. Aluminum Association Specifications for Aluminum Structures - Allowable Stress Design.
 - 2. Americans with Disabilities Act Accessibility Guidelines (ADAAG).
 - 3. Massachusetts Architectural Access Board (MAAB).
 - 4. American Welding Society AWS D1.2 Structural Welding Code - Aluminum.
- B. The Contractor shall ensure the system provided works over the extreme tide range; Elevation -1.0 to Elevation +6.0 (NGVD).
- C. The Contractor shall warrant the product for a minimum of two years.
- D. Life of the product is to be a minimum of 15 years with minor maintenance.
- E. Welders shall be currently certified to weld the various materials to be incorporated in the work. Copies of the certification shall be furnished to the Owner.
- F. Welding procedures shall be in accordance with AWS D1.2 - Structure Welding Code, Aluminum and Aluminum Construction Manual, Section 5 as applicable. Surfaces of parts to be welded shall be free from scale, paint, grease or other foreign matter. Welds shall be sufficient size and shape to develop the full strength of the parts connected by the welds. Welds shall transmit stress without permanent deformation or failure when the parts connected by the weld are subject to proof and service loading. Contractor shall obtain the services of an independent testing laboratory, satisfactory to the Engineer, to perform weld inspection utilizing visual, ultrasonic or other techniques applicable to aluminum welding. Deficiencies revealed by this inspection shall be repaired at Contractor's expense. Inspection reports and deficiency correction reports shall be submitted to the Engineer.

1.3 SUBMITTALS

- A. Prior to fabrication, submit for approval documentation providing proof that the Contractor has a minimum of five (5) years of experience in the design/ installation/fabrication of similar systems.
- B. Calculations: Contractor shall submit design calculations of all structural components and connections that differ from Contract Drawings in accordance with the design loads shown on the Contract Documents. Design calculations and shop drawings, acceptable to the Owner, shall be complete with the signature and seal of a Registered Professional Engineer, licensed in the Commonwealth of Massachusetts, responsible for the work.
 - 1. The aluminum fabrications are to be designed for the following loads in accordance with AASHTO "Guide Specifications for Design of Pedestrian Bridges" (latest edition):
 - A. Dead load of structure.
 - B. Pedestrian live load of 100 pounds per square foot across the clear distance between handrails for the length of the gangway.
 - C. Wind load for 100 mph wind per Section 1.2.2 of the AASHTO Guide.
 - D. Allowable deflection equal to the length divided by 360 ($L/360$).
 - E. AASHTO Guide Section 1.3.4 Minimum Thickness of Metal is not applicable to aluminum design.
 - F. Railing shall be designed for 50 plf uniform load or a 200 lb concentrated load applied in any direction.
- C. Material Data: Submit material data.
- D. Shop Drawings: Prior to fabrication, submit for approval all information necessary for the fabrication of the component parts, including but not limited to the following:
 - 1. Shop drawings for all shop fabricated items shall be submitted to and approved by the Engineer before beginning fabrication. Submittal shall include overall plan, cross-section, and details of the proposed structures.
 - 2. Indicate size, thickness and weight of members, type, details and location of shop and field connections; and the type, size and extent of all welds, and welding sequences. Use American Welding Society welding symbols.
- E. Submit field and fabrication shop AWS D1.2 welding procedures to the Engineer for review prior to the start of welding.
- F. Submit field AWS D1.2 welder qualifications to the Engineer for verification of current certification.
- G. Submit field in process and final welding inspection reports performed by an American Welding Society (AWS) Certified Welding Inspector (CWI).

- H. Upon completion of this portion of the work, and as a condition of its acceptance, the Contractor shall deliver to the Engineer a letter signed by an official of the aluminum fabricating firm or firms certifying that all fabricated aluminum has been fabricated in complete accordance with the Contract Documents.
- I. Approval of shop drawings will be for size and arrangement of principal and auxiliary members and strength of connections. Any errors in dimensions shown on shop drawings shall be the responsibility of the Contractor.
- J. Shop drawings shall be submitted in accordance with requirements as specified hereinafter. Corrections or comments will be made on the shop drawings during the review, but it does not relieve the Contractor from compliance with requirements of the drawings and specifications. The checking procedure is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The Contractor is responsible for confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; performing his work in a safe and satisfactory manner.

1.4 PRODUCT HANDLING

- A. All materials shall be delivered, stored and handled with care to prevent damage to any material or material coating. Material damaged or with damaged coating will be rejected and replaced at no additional cost to the Owner.

1.5 DESIGN REQUIREMENTS

- A. Design shall be in accordance with the latest edition of the following codes, regulations and specifications:
 - 1. Massachusetts State Building Code
 - 2. Massachusetts Architectural Access Board (MAAB)
 - 3. Architectural Barriers Act Accessibility Standard (ABAAS)
- B. Gangways deck surfaces shall be continuous, nonslip and without tripping hazard or gaps in excess of 1/8 inch.

2 PRODUCTS

2.1 MATERIALS

- A. Material and components used shall be new and shall be free from defects which would adversely affect the performance or maintainability of individual components or of the overall assembly or structure. Materials not specified herein shall be of the same or higher quality used for the intended purpose in commercial practice.
- B. All aluminum assemblies shall be fabricated from aluminum alloy 6061-T6.
- C. All welded connections shall be Gas Metal Arc Welded (GMAW, also known as "MIG" welding) in accordance with AWS standards.

- D. The decking for the gangways shall be non-skid with either a raised rib profile with the ribs no higher than 1/4" and perpendicular to the flow of traffic, or covered with a uniform carborundum surface. Surfaces capable of having a slope of 1:33 or greater shall have a static coefficient of friction of 0.8 or greater when wet. Surfaces where the slope will always be less than 1:22 shall have a static coefficient of friction of 0.5 or greater when wet.

2.2 CONNECTION HARDWARE

- A. All bolts, hex cap screws and studs shall be stainless steel ASTM F593, Alloy Group 2 (alloy 316).
- B. All nuts and washers shall be stainless steel ASTM F594, Alloy Group 2 (alloy 316).
- C. All nuts shall be self-locking or provide double nuts on each bolt.
- D. The gangway connection pins and sleeves shall be stainless steel ASTM F593, Alloy Group 2(alloy 316).
- E. All dissimilar metals shall be separated by plastic separation sheets or bushings not less than 1/16 inch thick. The separation sheets shall be Nylatron-GS, plastic sheet conforming to Military Specification MIL-P-15035 or other suitable material for precluding galvanic corrosion.

3. EXECUTION

3.1 PREPARATION/INSTALLATION

- A. Fabricate and install in accordance with the Aluminum Association Specifications for Aluminum Structures and American Welding Society Standards.
- B. Inspection of all field and shop fabrication welding shall be performed by an AWS CWI. CWI shall be present at the start of each day's welding to perform in process inspection of welding activities. CWI shall also perform final inspection on 100% of complete welds.
- C. Field, in process and final welding inspection reports shall be provided to the Engineer.
- D. No on site welding will be permitted for site assembly of aluminum system.
- E. Fabricated aluminum system shall have no gaps between vertical members greater than 4" where a vertical drop of more than 2'-6" exists. This includes between platforms, ramps and/or gangways.
- F. Test assembly of components should be performed to the degree necessary to ensure satisfactory fit and operation of all components.
- G. The Contractor shall supply layout and assembly plans as required for field assembly and installation. Components shall each be tagged with durable but removable identifying mark to indicate location and orientation in assembled system.

- H. Aluminum fabrications shall be supplied with all necessary fasteners, connectors and hardware to make a complete, secure and fully operable system.

3.2 DEFECTIVE WORK

- A. Any damaged portions of the aluminum shall be replaced as directed by the Owner at no additional cost to the Owner.
- B. Any improperly installed components shall be removed and replaced or corrected as directed by the Owner at no additional cost to the Owner.

*** END OF SECTION ***

SECTION 05600
MISCELLANEOUS METALS

1 GENERAL

1.1 DESCRIPTION

- A. Provide all labor, materials, equipment and supervision necessary to complete the work specified in this Section.
- B. Scope of work includes:
 - 1. Machine bolts and washers
 - 2. Anchor and expansion bolts
 - 3. S.S. pins
 - 4. Eye bolts
 - 5. Chain and shackles
 - 6. Fabricated steel elements
 - 7. All other hardware not specified elsewhere
- C. Related work specified elsewhere:
 - 1. Concrete under CAST IN PLACE CONCRETE, SECTION 03300.
 - 2. Aluminum under STRUCTURAL ALUMINUM, SECTION 05200.
 - 3. Timber Piles under SECTION 02317, ROUND TIMBER PILES AND HEAVY TIMBER PILE CAPS

1.2 QUALITY ASSURANCE

- A. Except as noted elsewhere, work shall conform to the following codes and standards:
 - 1. American Society for Testing and Materials (ASTM).
 - 2. American Welding Society (AWS).
 - 3. American Institute of Steel Construction (AISC).
 - 4. State of Massachusetts Department of Transportation:
Specifications: Standard Specifications for Highways and Bridges

1.3 SUBMITTALS

- A. Shop drawings for all shop fabricated items shall be submitted to the Engineer for approval before beginning fabrication.
- B. Certificate of compliance with applicable ASTM specifications for all galvanized items shall be submitted to the Engineer with all materials delivered to the fabricator or site.
- C. Manufacturer's literature and specifications for all fasteners, wire rope, chains, shackles, expansion bolts, and other connection items identified within the contract drawings.
- D. List of all other hardware with quantities and material specifications.

1.4 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. All materials shall be delivered, stored and handled with care to prevent damage to any material or material coating. Material damaged or with damaged coating will be rejected and replaced at no additional cost to the Owner.

2 PRODUCTS

2.1 MATERIALS

- A. Structural steel shall conform to ASTM Specification A36.
- B. Bolts ¾" diameter and larger used in treated timber construction shall conform to ASTM A-307 unless otherwise noted and shall be hot dip galvanized.
- C. Bolts less than ¾ " diameter used in treated timber construction shall shall be stainless steel ASTM F593, Alloy Group 2 (alloy 316).
- D. All chains, cable, shackles and connecting links shall be the size and capacity shown on the drawings.
- E. All non stainless steel items under this section shall be galvanized. Galvanizing shall be by the hot dip method according to ASTM Specifications A-123 and A-153.
- F. Welding rods shall conform to AWS E70XX grade. Sizes shall be as indicated on the drawings.

3 EXECUTION

3.1 FABRICATION

- A. Fabrication shall conform to AISC Specification for the Design, Fabrication and Erection of Structural Steel for Buildings.
- B. Workmanship shall be equal to standard commercial practice.
- C. All materials shall be clean and straight. Each assembly shall be accurately fabricated to the lines and dimensions called for and shall be free from undue twists, bends, warping, distortion and other irregularities.
- D. Assemblies shall be fabricated to within + or - 1/8" of their theoretical dimensions.

3.2 INSTALLATION

- A. Installation shall conform to AISC Specification for the Design, Fabrication and Erection of Structural Steel for Buildings.
- B. Parts covered by this specification shall be installed in the work as shown on the drawings.

- C. No cutting or burning of steel shall be done to install fasteners without approval of the Engineer.

3.3 DEFECTIVE WORK

- A. The following shall be grounds for rejection and replaced at no additional cost to the Owner:
 - 1. Any damaged parts.
 - 2. Any parts improperly installed in the work.
 - 3. Any items found not to have the proper coating.
 - 4. Otherwise not according to Contract Documents.

*** END OF SECTION ***

SECTION 06310

TIMBER TREATMENT
(CCA)

1. GENERAL

1.1 DESCRIPTION

- A. Provide all labor, materials, equipment and supervision necessary to complete the work specified in this Section.
- B. Scope of work includes:
 - 1. The treatment of timber members with a wood preservative.
 - 2. The field application of all timber subject to field cutting.
- C. Related work specified elsewhere:
 - 1. Timber pile cap and Timber piles under SECTION 02317, ROUND TIMBER PILES AND HEAVY TIMBER PILE CAPS
 - 2. Engineered Timber Bridge under SECTION 02920, ENGINEERED TIMBER BRIDGE

1.2 QUALITY ASSURANCE

- A. Except as noted all work shall conform to the latest editions of the following codes, specifications and standards.
 - 1. American Society for Testing and Materials (ASTM) D-25.
 - 2. American Wood Preservatives Association (AWPA).

2. PRODUCTS

2.1 MATERIALS

- A. Glulam components shall be fabricated with lumber treated prior to gluing with pentachlorophenol Type C in accordance with AITC 109 and AWPA Standards. All glulam components shall be treated to 0.6 lb per cubic foot retention.
- C. All new Southern Yellow Pine and Douglas Fir timber members to which the public may be exposed (decking, handrails, benches, similar) shall be treated with alkaline copper quaternary (ACQ) in accordance with AWPA Standards for material subject to salt water splash use (UC4B) and shall obtain a green tint due to the treatment.
- D. All new Southern Yellow Pine and Douglas Fir timber members to which the public will not be exposed (round timber piles, pile caps and stringers) shall be treated with chromated

copper arsenate (CCA) in accordance with AWPA Standards for material subject to marine use (UC5A) and shall obtain a green tint due to the treatment. Minimum retention shall be 2.5lb per cubic foot.

3. EXECUTION

- 3.1 Prior to treatment all dimension lumber shall be kiln-dried. Conditioning by heating is not permitted.
- 3.2 All timber to be treated with alkaline copper quatarnary (ACQ) shall be treated to a retention of 0.6 pounds per cubic foot.
- 3.3 All timber to be treated with chromated copper arsenate (CCA) shall be treated to a retention of 2.5 pounds per cubic foot.
- 3.4 Sealing compound for treatment of field cuts and drilled holes shall be two (2) coats of copper naphthenate meeting AWPA standard P8.

**** END OF SECTION ****

SECTION 02400

TIMBER FLOAT

1 GENERAL

1.1 DESCRIPTION

- A. Scope of work includes, but is not necessarily limited to design, manufacture, supply [REDACTED] of the following:
1. Dock Components including
 - a. Timber Floating Docks
 - b. All Float connections and reattachment to existing mooring system.

B. The Contractor shall supply any and all labor, materials, tools, equipment, trucking, disposal, permits, survey, supervision and any incidentals necessary to complete the work under this Section.

C. Related work specified elsewhere includes:

1. Section 02300 Round Timber Piles
2. Section 05200 Structural Aluminum
3. Section 05600 Miscellaneous Metals
4. Section 06310 Timber Treatment

1.2 QUALITY ASSURANCE

A. Except as noted, work shall conform to the latest editions of the following codes specifications and standards

1. American Society for Testing and Materials (ASTM)
2. American Welding Society (AWS)
3. American Institute of Steel Construction (AISC)
4. American Institute of Timber Construction (AITC)
5. American Concrete Institute (ACI)
6. American Wood-Preservers Association (AWPA)
7. Commonwealth of Massachusetts, Highway Department, Standard Specifications Highways and Bridges.

B. Manufacturers of the float system must meet the following requirements

1. Have a minimum of 5 years experience in the design, production, and installation of concrete floating dock systems
2. Warrant the product for a minimum of two years
3. Life of the product is to be a minimum of 15 years with minor maintenance

1.3 SUBMITTALS

- A. Submit for approval by the Owner the following items
 - 1. Examples of previous design/installments of similar systems
 - 2. Overall plan, cross-section, and details of the proposed system
 - 3. Material list and specifications
 - 4. Schedule and method for installation of the system.
- B. Certificates
 - 1. Certify that all materials are new and meet or exceed specification requirements
 - 2. Certify that the system meets or exceeds the specified performance requirements

1.4 PRODUCT HANDLING

- A. System components shall be handled and stored with care to prevent damage. Damaged members will be rejected and replaced at no additional cost to the Owner.

2 PRODUCTS

2.1 FLOAT LAYOUT

- A. The proposed size and layout of dock and anchoring system shall match the existing system. The existing mooring system is to be relocated and reused. Contractor shall verify size and layout of existing floats. Drawings show location and size of the gangway.

2.2 MATERIALS AND CONSTRUCTION

- A. Flotation Units

Flotation units shall be prefabricated with a high strength, high density, solid polyethylene foam with a minimum of 1.0 lb./CF density, and shall conform to ASTM A-615.

- B. Stainless Steel

All stainless steel shall conform to type 18-8 (300 Series), 304 or 316

2.3 FLOATING DOCKS

- A. Floating Docks: All timber to be used shall be treated No. 2 dense SR Southern Pine as graded by SPIB and with design values per NFPA National Design Specification or the equivalent for Douglas Fir as graded by WCLIB and WWPA.

All timber shall be pressure treated in conformance with AWPA standards in accordance with Section 06310, Timber Treatment.

All hardware shall be heavy duty, suitable for the intended service and appropriate for a waterfront environment.

- B. Floating Dock Decking: Decking shall be designed or treated to provide a non-skid surface with a slip coefficient of .07 under wet conditions.
- C. Flotation Units: Flotation units shall be a high strength, high density, solid polyethylene foam with a minimum of 1.0 lb./CF density.

Flotation units shall be installed as required to provide a level floating dock surface under the dead load of the gangway and its own weight.
- D. Mooring Cleats: Cleats shall be provided to match existing floats. All tie-downs and hardware shall be of non-corrosive metal.
- E. Dock Fender Strips: A dock bumper strip shall be installed continuously around the exterior upper edge of the floating docks. Bumper strip shall be secured with aluminum ribbed nails or stainless steel screws with a maximum spacing of 6 inches.

The bumper shall be non-marring white extruded vinyl, minimum 3 1/2" wide. It shall not be affected by sunlight, saltwater, oil, gasoline, cold, heat or other agents or actions common to a marina environment. The connections of the strip to the floating docks shall be by suitable hardware and able to resist normal berthing loads.
- F. Transition Plates: All transition plates shall be aluminum. Attachment of plates shall be by stainless steel screws where attached to timber.

2.4 FLOATING DOCK LOADING REQUIREMENTS

- A. The following design loads shall be considered the minimum loads to which the floating docks will be submitted. The floats will be able to resist these loads in any combination throughout the life of the structure.
 - 1. Vertical loads
 - a. Dead Loads: Include actual weights of all permanent components including placed and attached parts. All floating docks shall have 12 inches of freeboard under dead loads only.
 - b. Uniformly distributed live loads:
 - All docks shall be designed to withstand 50psf live load.
 - Flotation for docks - 40 psf with minimum zero freeboard
 - 20 psf with minimum 8 inches freeboard
 - c. Concentrated live loads:
 - Main docks - 400 lbs. concentrated load anywhere along the dock shall not tilt dock more than six degrees from horizontal. The floats shall be designed to carry the gangway dead load and gangway live loads as 1b. above with the required freeboards and shall not tilt more than six degrees from horizontal with gangway fully loaded at 40psf live load.
 - 2. Horizontal Loads
 - a. Wind loads: Are based on a design 65 mph wind, which corresponds to a 20 psf load. Loading must be applied to exposed profiles of the docks.

3. Current loads: The design current force on the float system shall be based on 1 knot perpendicular to the float.
4. All horizontal loadings will be transmitted through the docking system to the anchor system. The anchor system will consist of mooring chains. These connection points must be accounted for in the design.

3 EXECUTION

3.1 INSPECTION

- A. Prior to installing the system, the Owner shall be contacted by the Contractor for inspection of all components.
- B. Prior to installing the system the Contractor shall inspect the site and all other work affecting the installation.

3.2 INSTALLATION

- A. The system shall be installed as shown on submitted plans or as agreed upon by the Owner and Contractor.
- B. Connection of the system to the mooring system shall be done according to submitted plans or as agreed upon by the Owner and Contractor.

N.I.C.

3.3 DEFECTIVE WORK

- A. Any damaged portions shall be replaced as directed by the Owner at no additional cost to the Owner.
- B. Any improperly installed components shall be removed and replaced or corrected as directed by the Owner at no additional cost to the Owner.
- C. Failure of system to float level and be stable shall be considered a defect. Contractor shall make the necessary changes to correct the defect at no additional cost to the Owner.

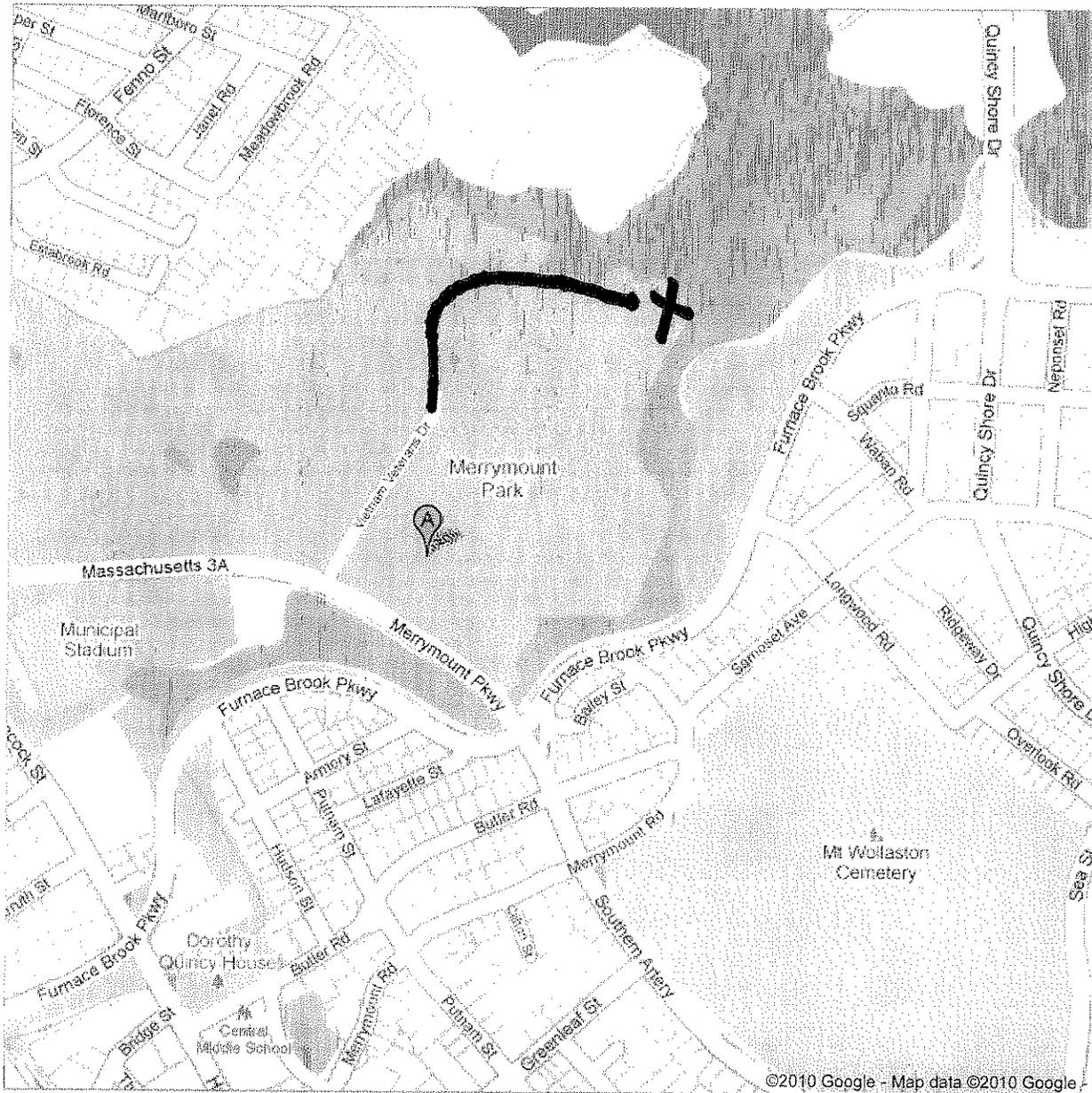
*** END OF SECTION ***

Pri

Google maps

Address 1 Merrymount Pkwy
Quincy, MA 02170

Notes



PROPOSED TIMBER PIER SYSTEM
BLACK'S CREEK BOATING FACILITY
QUINCY, MASSACHUSETTS

GENERAL BID FORM

Date: _____

To: City of Quincy

- A. The undersigned (hereinafter called the Contractor) proposes to furnish all labor, equipment and materials required for the **Proposed Timber Pier System, Black's Creek Boating Facility** in accordance with the accompanying Plans and Specifications for the amounts listed in Item C, subject to additions and deductions in accordance with the terms of Specifications. It being understood that the City of Quincy, (hereinafter called the Owner) will be the sole judge as to acceptance of Bids and award of the Contract.
- B. This bid includes addenda:

<u>Number</u>	<u>Date</u>
_____	_____

- C. **Base Bid:** The proposed Contract Amount to furnish all Base Bid labor, equipment and materials associated with the PROPOSED TIMBER PIER SYSTEM BLACK'S CREEK BOATING FACILITY, in accordance with the Contract Documents is:

_____ Dollars

(\$) _____

Alternate #1: Furnish only (delivered to jobsite) two (2) each floats 12'x22' per plans and specifications dollars.

_____ Dollars

(\$) _____

- D. That if selected as the Contractor, within ten (10) days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the Awarding Authority, the Contractor will execute a Contract in accordance with the terms of this General Bid and furnish a Performance Bond and Payment Bond, each of a surety company qualified to do business under the laws of the

Proposed Timber Pier System
Black's Creek Boating Facility
Quincy, Massachusetts

- D. continued ...
Commonwealth and satisfactory Awarding Authority, and each sum of 100% of the Contract amount, the premiums of which are to be paid by the Contractor and included in the Contract amount.
- E. Bidder proposes to provide all labor and materials necessary to complete the work, as specified in the Contract Documents, as is reasonably expected due to existing conditions and required construction, within the completion time specified in this General Bid Form.
- F. The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of the labor employed, or to be employed on the work, and that he will comply fully with all laws and regulations applicable to awards made subject to 30B. The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the work "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

Company Name

Address

By: _____
(Name of Authorized Signature)

Title: _____

Signature: _____

NOTE: Form shall be sealed if Bidder is a Corporation.



DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DIVISION OF OCCUPATIONAL SAFETY

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



JOANNE P. GOLDSTEIN
Secretary of Labor and Workforce Development

GEORGE E. NOEL
Director of Labor

HEATHER E. ROWE
Acting Commissioner of
Division of Occupational Safety

Awarding Authority: City of Quincy

Contract Number:

City/Town: QUINCY

Description of Work: Blacks Creek Boating Facility Timber Pier System Works - Furnish & install round timber piles and heavy timber pile cap for outshore support of proposed pier.

Job Location: One Merrymount Parkway, Quincy, MA 02170

Classification Effective Dates and Total Rates

Construction

(2 AXLE) DRIVER - EQUIPMENT	06/01/2010	\$44.930	12/01/2010	\$45.530	06/01/2011	\$46.280
	12/01/2011	\$46.940	06/01/2012	\$47.590	12/01/2012	\$48.620
(3 AXLE) DRIVER - EQUIPMENT	06/01/2010	\$45.000	12/01/2010	\$45.600	06/01/2011	\$46.350
	12/01/2011	\$47.010	06/01/2012	\$47.660	12/01/2012	\$48.690
(4 & 5 AXLE) DRIVER - EQUIPMENT	06/01/2010	\$45.120	12/01/2010	\$45.720	06/01/2011	\$46.470
	12/01/2011	\$47.130	06/01/2012	\$47.780	12/01/2012	\$48.810
ADS/SUBMERSIBLE PILOT	08/01/2010	\$104.640	08/01/2011	\$108.760		
AIR TRACK OPERATOR	06/01/2010	\$48.850	12/01/2010	\$50.100	06/01/2011	\$51.100
	12/01/2011	\$52.350				
ASBESTOS REMOVER - PIPE / MECH. EQUIPT.	12/01/2009	\$40.250				
ASPHALT RAKER	06/01/2010	\$48.350	12/01/2010	\$49.600	06/01/2011	\$50.600
	12/01/2011	\$51.850				
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE	06/01/2010	\$59.730	12/01/2010	\$60.980		
BACKHOE/FRONT-END LOADER	06/01/2010	\$59.730	12/01/2010	\$60.980		
BARCO-TYPE JUMPING TAMPER	06/01/2010	\$48.350	12/01/2010	\$49.600	06/01/2011	\$50.600
	12/01/2011	\$51.850				
BLOCK PAVER, RAMMER / CURB SETTER	06/01/2010	\$48.850	12/01/2010	\$50.100	06/01/2011	\$51.100
	12/01/2011	\$52.350				
BOILER MAKER	01/01/2010	\$55.850				
APPRENTICE: BOILERMAKER - Local 29						
Ratio	Step	1	2	3	4	5
1:5	%	65.00	65.00	70.00	75.00	80.00
						85.00
						90.00
						95.00
Apprentice wages shall be no less than the following:						
Step 1\$42.66/2\$42.66/3\$44.54/4\$46.43/5\$48.31/6\$50.20/7\$52.08/8\$53.97						
BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	08/01/2010	\$69.910	02/01/2011	\$70.900	08/01/2011	\$73.000
	02/01/2012	\$73.990				
APPRENTICE: BRICK/PLASTER/CEMENT MASON - Local 3 Quincy						
Ratio	Step	1	2	3	4	5
1:5	%	50.00	60.00	70.00	80.00	90.00
Apprentice wages shall be no less than the following:						
Step 1\$47.31/2\$51.83/3\$56.35/4\$60.87/5\$65.39						
BULLDOZER/GRADER/SCRAPER	06/01/2010	\$59.380	12/01/2010	\$60.630		
CAISSON & UNDERPINNING BOTTOM MAN	06/01/2010	\$49.250	12/01/2010	\$50.500	06/01/2011	\$51.500
	12/01/2011	\$52.750				
CAISSON & UNDERPINNING LABORER	06/01/2010	\$48.100	12/01/2010	\$49.350	06/01/2011	\$50.350
	12/01/2011	\$51.600				
CAISSON & UNDERPINNING TOP MAN	06/01/2010	\$48.100	12/01/2010	\$49.350	06/01/2011	\$50.350
	12/01/2011	\$51.600				

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THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DIVISION OF OCCUPATIONAL SAFETY



DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

As determined by the Commissioner under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H

JOANNE F. GOLDSTEIN
Secretary of Labor and Workforce Development

GEORGE E. NOEL
Director of Labor

HEATHER E. ROWE
Acting Commissioner of
Division of Occupational Safety

Prevailing Wage Rates

Awarding Authority: City of Quincy

Contract Number:

City/Town: QUINCY

Description of Work: Blacks Creek Boating Facility Timber Pier System Works - Furnish & install round timber piles and heavy timber pile cap for outshore support of proposed pier.

Job Location: One Merrymount Parkway, Quincy, MA 02170

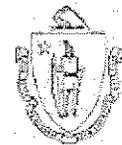
Classification	Effective Dates and Total Rates								
CARBIDE CORE DRILL OPERATOR	06/01/2010	\$48,350	12/01/2010	\$49,600	06/01/2011	\$50,600			
	12/01/2011	\$51,850							
CARPENTER	09/01/2010	\$55,360	03/01/2011	\$56,230	09/01/2011	\$57,360			
	03/01/2012	\$58,480							
APPRENTICE: CARPENTER - Zone 2 Eastern MA									
Ratio	Step	1	2	3	4	5	6	7	8
1:5	%	50.00	60.00	70.00	75.00	80.00	80.00	90.00	90.00
Apprentice wages shall be no less than the following:									
Step 1 \$25.54/2\$28.71/3\$41.12/4\$42.71/5\$45.87/6\$45.87/7\$50.61/8\$50.61									
CEMENT MASONRY/PLASTERING	08/01/2010	\$68,210	02/01/2011	\$68,980	08/01/2011	\$70,600			
	02/01/2012	\$71,370							
CHAIN SAW OPERATOR	06/01/2010	\$48,350	12/01/2010	\$49,600	06/01/2011	\$50,600			
	12/01/2011	\$51,850							
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES	06/01/2010	\$60,730	12/01/2010	\$61,980					
COMPRESSOR OPERATOR	06/01/2010	\$48,760	12/01/2010	\$49,690					
DELEADER (BRIDGE)	01/01/2010	\$63,410							
APPRENTICE: PAINTER Local 35 - BRIDGES/TANKS									
Ratio	Step	1	2	3	4	5	6	7	8
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	90.00
Apprentice wages shall be no less than the following:									
Step 1 \$29.31/2\$36.86/3\$39.01/4\$41.16/5\$50.51/6\$52.66/7\$54.81/8\$59.11									
DEMO: ADZEMAN	06/01/2010	\$48,100	12/01/2010	\$49,350	06/01/2011	\$50,350			
	12/01/2011	\$51,600							
DEMO: BACKHOE/LOADER/HAMMER OPERATOR	06/01/2010	\$49,100	12/01/2010	\$50,350	06/01/2011	\$51,350			
	12/01/2011	\$52,600							
APPRENTICE: LABORER Demo Backhoe/Loader/Hammer Operator									
Ratio	Step	1	2	3	4				
1:5	%	60.00	70.00	80.00	90.00				
Apprentice wages shall be no less than the following:									
Step 1 \$36.78/2\$39.86/3\$42.94/4\$46.02									
DEMO: BURNERS	06/01/2010	\$48,850	12/01/2010	\$50,100	06/01/2011	\$51,100			
	12/01/2011	\$52,350							
APPRENTICE: LABORER Demo Burners									
Ratio	Step	1	2	3	4				
1:5	%	60.00	70.00	80.00	90.00				
Apprentice Wages shall be no less than the following:									
Step 1 \$36.63/2\$39.69/3\$42.74/4\$45.80									
DEMO: CONCRETE CUTTER/SAWYER	06/01/2010	\$49,100	12/01/2010	\$50,350	06/01/2011	\$51,350			
	12/01/2011	\$52,600							

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DIVISION OF OCCUPATIONAL SAFETY



JOANNE F. GOLDSTEIN
Secretary of Labor and Workforce Development
GEORGE E. NOEL
Director of Labor
HEATHER E. ROWE
Acting Commissioner of
Division of Occupational Safety

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H

Awarding Authority: City of Quincy

Contract Number:

City/Town: QUINCY

Description of Work: Blacks Creek Boating Facility Timber Pier System Works - Furnish & install round timber piles and heavy timber pile cap for offshore support of proposed pier.

Job Location: One Merrymount Parkway, Quincy, MA 02170

Classification	Effective Dates and Total Rates										
DEMO: JACKHAMMER OPERATOR	06/01/2010	\$48.850	12/01/2010	\$50.100	06/01/2011	\$51.100					
	12/01/2011	\$52.350									
DEMO: WRECKING LABORER	06/01/2010	\$48.100	12/01/2010	\$49.350	06/01/2011	\$50.350					
	12/01/2011	\$51.600									
APPRENTICE: LABORER Demo Wrecking Laborer											
Ratio	Step	1	2	3	4						
1:5	%	60.00	70.00	80.00	90.00						
Apprentice wages shall be no less than the following:											
Step 1 \$36.18/2539.16/3\$42.14/4\$45.12											
DIRECTIONAL DRILL MACHINE OPERATOR	06/01/2010	\$59.380	12/01/2010	\$60.630							
DIVER	08/01/2010	\$77.440	08/01/2011	\$80.190							
DIVER TENDER	08/01/2010	\$62.570	08/01/2011	\$65.320							
DIVER TENDER (EFFLUENT)	08/01/2010	\$82.330	08/01/2011	\$86.460							
DIVER/SLURRY (EFFLUENT)	08/01/2010	\$104.640	08/01/2011	\$108.760							
ELECTRICIAN	09/01/2010	\$67.040	03/01/2011	\$68.290							
APPRENTICE: ELECTRICIAN - Local 103											
Ratio	Step	1	2	3	4	5	6	7	8	9	10
2:3***	%	40.00	40.00	45.00	45.00	50.00	55.00	60.00	65.00	70.00	75.00
Apprentice wages shall be no less than the following Steps:								App Prior 1/1/03; 30/35/40/45/50/55/65/70/75/80			
1\$36.13/2\$36.13/3\$43.56/4\$43.56/5\$45.70/6\$47.83/7\$49.97/8\$52.10/9\$54.24/10\$56.37											
ELEVATOR CONSTRUCTOR	01/01/2010	\$65.190	01/01/2011	\$66.690	01/01/2012	\$68.190					
APPRENTICE: ELEVATOR CONSTRUCTOR - Local 4											
Ratio	Step	1	2	3	4	5					
1:1	%	50.00	55.00	65.00	70.00	80.00					
Apprentice rates shall be no less than the following:											
Step 1 \$33.51/2\$42.94/3\$47.88/4\$50.36/5\$55.30											
ELEVATOR CONSTRUCTOR HELPER	01/01/2010	\$51.330	01/01/2011	\$52.830	01/01/2012	\$54.330					
FENCE & GUARD RAIL ERECTOR	06/01/2010	\$48.350	12/01/2010	\$49.600	06/01/2011	\$50.600					
	12/01/2011	\$51.850									
FIELD ENG. - INST. PERSON (BLDG, SITE, HVY CONST)	11/01/2010	\$58.140	05/01/2011	\$59.380							
FIELD ENG. - ROD PERSON (BLDG, SITE, HVY CONST)	11/01/2010	\$42.200	05/01/2011	\$42.930							
FIELD ENG.-CHIEF OF PARTY (BLDG, SITE, HVY CONST)	11/01/2010	\$59.520	05/01/2011	\$60.770							
FIRE ALARM INSTALLER	09/01/2010	\$67.040	03/01/2011	\$68.290							
FIRE ALARM REPAIR / MAINTENANCE	09/01/2010	\$55.050	03/01/2011	\$56.300							
FIREMAN (ASST. ENGINEER)	06/01/2010	\$53.760	12/01/2010	\$54.840							
FLAGGER & SIGNALER	06/01/2010	\$37.800	12/01/2010	\$37.800	06/01/2011	\$38.800					
	12/01/2011	\$38.800									
FLOORCOVERER	09/01/2010	\$60.380	03/01/2011	\$61.130	09/01/2011	\$62.380					
	03/01/2012	\$63.630									

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As determined by the Commissioner under the provisions of the
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JOANNE F. GOLDSTEIN
Secretary of Labor and Workforce Development

GEORGE E. NOEL
Director of Labor

HEATHER E. ROWE
Acting Commissioner of
Division of Occupational Safety

Prevailing Wage Rates

Awarding Authority: City of Quincy

Contract Number:

City/Town: QUINCY

Description of Work: Blacks Creek Boating Facility Timber Pier System Works - Furnish & install round timber piles and heavy timber pile cap for offshore support of proposed pier.

Job Location: One Merrymount Parkway, Quincy, MA 02170

Classification	Effective Dates and Total Rates									
APPRENTICE: FLOORCOVERER - Local 2168 Zone 1										
Ratio	Step	1	2	3	4	5	6	7	8	
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	85.00	
Apprentice rates shall be no less than the following:						Steps are 750 hrs.				
Step 1 \$271.91/2529.72/3\$40.18/4\$42.00/5\$45.70/6\$47.52/7\$51.22/8\$53.04										
FORK LIFT/CHERRY PICKER					06/01/2010	\$59.730	12/01/2010	\$60.980		
GENERATOR/LIGHTING PLANT/HEATERS					06/01/2010	\$48.760	12/01/2010	\$49.690		
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)					01/01/2010	\$52.910				
APPRENTICE: GLAZIER - Local 35 Zone 2										
Ratio	Step	1	2	3	4	5	6	7	8	
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	90.00	
Apprentice wages shall be no less than the following:						Steps are 750 hrs.				
Step 1 \$24.06/2\$31.08/3\$32.71/4\$34.33/5\$43.16/6\$44.78/7\$46.41/8\$49.66										
HOISTING ENGINEER/CRANES/GRADALLS					06/01/2010	\$59.730	12/01/2010	\$60.980		
APPRENTICE: HOIST/PORT. ENG. - Local 4										
Ratio	Step	1	2	3	4	5	6	7	8	
1:6	%	55.00	60.00	65.00	70.00	75.00	80.00	85.00	90.00	
Apprentice wages shall be no less than the following:										
Step 1 \$30.40/2\$44.42/3\$46.33/4\$48.25/5\$50.16/6\$52.07/7\$53.99/8\$55.90										
HVAC (DUCTWORK)					08/01/2010	\$63.960	02/01/2011	\$65.210	08/01/2011	\$66.460
					02/01/2012	\$67.710	08/01/2012	\$68.960	02/01/2013	\$70.210
HVAC (ELECTRICAL CONTROLS)					09/01/2010	\$67.040	03/01/2011	\$68.290		
HVAC (TESTING AND BALANCING - AIR)					08/01/2010	\$63.960	02/01/2011	\$65.210	08/01/2011	\$66.460
					02/01/2012	\$67.710	08/01/2012	\$68.960	02/01/2013	\$70.210
HVAC (TESTING AND BALANCING - WATER)					09/01/2010	\$68.730				
HVAC MECHANIC					09/01/2010	\$68.730				
HYDRAULIC DRILLS					06/01/2010	\$48.850	12/01/2010	\$50.100	06/01/2011	\$51.100
					12/01/2011	\$52.350				
INSULATOR (PIPES & TANKS)					09/01/2010	\$61.660				
APPRENTICE: ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Boston										
Ratio	Step	1	2	3	4					
1:4	%	50.00	60.00	70.00	80.00					
Apprentice wages shall be no less than the following:						Steps are 1 year				
Step 1 \$37.34/2\$42.20/3\$47.07/4\$51.93										
IRONWORKER/WELDER					03/16/2010	\$60.940				

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Division of Occupational Safety

Awarding Authority: City of Quincy

Contract Number:

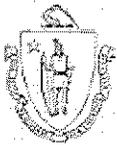
City/Town: QUINCY

Description of Work: Blacks Creek Boating Facility Timber Pier System Works - Furnish & install round timber piles and heavy timber pile cap for offshore support of proposed pier.

Job Location: One Merrymount Parkway, Quincy, MA 02170

Classification	Effective Dates and Total Rates							
APPRENTICE: IRONWORKER - Local 7 Boston								
Ratio	Step	1	2	3	4	5	6	
**	%	60.00	70.00	75.00	80.00	85.00	90.00	
Apprentice wages shall be no less than the following:						** Structural 1:6; Ornamental 1:4		
Step 1\$46.82/2\$50.35/3\$52.12/4\$53.88/5\$55.65/6\$57.41								
JACKHAMMER & PAVING BREAKER OPERATOR					06/01/2010	\$48.350	12/01/2010	\$49.600
					12/01/2011	\$51.850		
LABORER					06/01/2010	\$48.100	12/01/2010	\$49.350
					12/01/2011	\$51.600	06/01/2011	\$50.350
APPRENTICE: LABORER - Zone 1								
Ratio	Step	1	2	3	4			
1:5	%	60.00	70.00	80.00	90.00			
Apprentice wages shall be no less than the following:								
Step 1\$36.18/2\$39.16/3\$42.14/4\$45.12								
LABORER: CARPENTER TENDER					06/01/2010	\$48.100	12/01/2010	\$49.350
					12/01/2011	\$51.600	06/01/2011	\$50.350
LABORER: CEMENT FINISHER TENDER					06/01/2010	\$48.100	12/01/2010	\$49.350
					12/01/2011	\$51.600	06/01/2011	\$50.350
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER					06/01/2010	\$48.100	12/01/2010	\$49.350
					12/01/2011	\$51.600	06/01/2011	\$50.350
LABORER: MASON TENDER					06/01/2010	\$48.350	12/01/2010	\$49.600
					12/01/2011	\$51.850	06/01/2011	\$50.600
LABORER: MULTI-TRADE TENDER					06/01/2010	\$48.100	12/01/2010	\$49.350
					12/01/2011	\$51.600	06/01/2011	\$50.350
LABORER: TREE REMOVER					06/01/2010	\$48.100	12/01/2010	\$49.350
					12/01/2011	\$51.600	06/01/2011	\$50.350
This classification applies to the wholesale removal of standing trees including all associated trimming of branches and limbs, and applies to the removal of branches at locations not on or around utility lines.								
LASER BEAM OPERATOR					06/01/2010	\$48.350	12/01/2010	\$49.600
					12/01/2011	\$51.850	06/01/2011	\$50.600
MARBLE & TILE FINISHERS					08/01/2010	\$58.470	02/01/2011	\$59.270
					02/01/2012	\$61.740	08/01/2011	\$60.950
APPRENTICE: MARBLE & TILE FINISHER - Local 3 Marble & Tile								
Ratio	Step	1	2	3	4	5		
1:3	%	50.00	60.00	70.00	80.00	90.00		
Apprentice wages shall be no less than the following:						Steps are 800 hrs.		
Step 1\$41.18/2\$44.63/3\$48.09/4\$51.55/5\$55.01								
MARBLE MASONS, TILELAYERS & TERRAZZO MECH					08/01/2010	\$69.950	02/01/2011	\$70.940
					02/01/2012	\$74.030	08/01/2011	\$73.040

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Prevailing Wage Rates

Awarding Authority: City of Quincy

Contract Number:

City/Town: QUINCY

Description of Work: Blacks Creek Boating Facility Timber Pier System Works - Furnish & install round timber piles and heavy timber pile cap for offshore support of proposed pier.

Job Location: One Merrymount Parkway, Quincy, MA 02170

Classification **Effective Dates and Total Rates**

APPRENTICE: MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile

Ratio	Step	1	2	3	4	5
1:3	%	50.00	60.00	70.00	80.00	90.00

Apprentice wages shall be no less than the following:

Step 1\$47.33/2\$51.85/3\$56.38/4\$60.90/5\$65.43

MECH. SWEEPER OPERATOR (NON-CONSTRUCTION)	07/01/2010	\$29.590	07/01/2011	\$30.290
MECH. SWEEPER OPERATOR (ON CONST. SITES)	06/01/2010	\$59.380	12/01/2010	\$60.630
MECHANICS MAINTENANCE	06/01/2010	\$59.380	12/01/2010	\$60.630
MILLWRIGHT (Zone 1)	04/01/2010	\$55.850		

APPRENTICE: MILLWRIGHT - Local 1121 Zone 1

Ratio	Step	1	2	3	4	5	6	7	8
1:5	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	85.00

Apprentice wages shall be no less than the following:

Step 1\$25.95/2\$27.63/3\$37.99/4\$39.67/5\$42.83/6\$44.51/7\$47.67/8\$49.34

MORTAR MIXER	06/01/2010	\$48.350	12/01/2010	\$49.600	06/01/2011	\$50.600
	12/01/2011	\$51.850				
OILER (OTHER THAN TRUCK CRANES, GRADALLS)	06/01/2010	\$42.430	12/01/2010	\$43.170		
OILER (TRUCK CRANES, GRADALLS)	06/01/2010	\$45.500	12/01/2010	\$46.330		
OTHER POWER DRIVEN EQUIPMENT - CLASS II	06/01/2010	\$59.380	12/01/2010	\$60.630		
PAINTER (BRIDGES/TANKS)	01/01/2010	\$63.410				

APPRENTICE: PAINTER Local 35 - BRIDGES/TANKS

Ratio	Step	1	2	3	4	5	6	7	8
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	90.00

Apprentice wages shall be no less than the following:

Steps are 750 hrs.

Step 1\$29.31/2\$36.86/3\$39.01/4\$41.16/5\$50.51/6\$52.66/7\$54.81/8\$59.11

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2010	\$54.310		
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* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.

APPRENTICE: PAINTER Local 35 Zone 2 - Spray/Sandblast - New

Ratio	Step	1	2	3	4	5	6	7	8
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	90.00

Apprentice wages shall be no less than the following:

Step 1\$24.76/2\$31.85/3\$33.55/4\$35.24/5\$44.14/6\$45.83/7\$47.53/8\$50.92

PAINTER (SPRAY OR SANDBLAST, REPAINT)	01/01/2010	\$52.370		
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APPRENTICE: PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint

Ratio	Step	1	2	3	4	5	6	7	8
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	90.00

Apprentice wages shall be no less than the following:

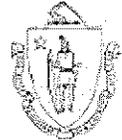
Step 1\$23.79/2\$30.78/3\$32.38/4\$33.98/5\$42.78/6\$44.38/7\$45.98/8\$49.17

This wage schedule must be posted at the work site in accordance with M.G.L. c. 149, § 27. Failure of the employer to pay "prevailing wage rates," which are the minimum wage rates listed above, on public works projects is a violation of M.G.L. c. 149, § 27. Employees not receiving such rates should report the violation to the Fair Labor Division of the Office of the Attorney General, 100 Cambridge Street, Boston, MA 02108; Tel: 617-727-3465. Contractors with questions about the wage rates or classifications included on the wage schedules have an affirmative obligation to inquire with DOS at www.mass.gov/dos/pw or at 617-626-6952.



DEVAL L. PATRICK
Governor
TIMOTHY P. MURRAY
Lieutenant Governor

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DIVISION OF OCCUPATIONAL SAFETY



JOANNE F. GOLDSTEIN
Secretary of Labor and Workforce Development
GEORGE E. NOEL
Director of Labor
HEATHER E. ROWE
Acting Commissioner of
Division of Occupational Safety

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H

Awarding Authority: City of Quincy

Contract Number:

City/Town: QUINCY

Description of Work: Blacks Creek Boating Facility Timber Pier System Works - Furnish & install round timber piles and heavy timber pile cap for offshore support of proposed pier.

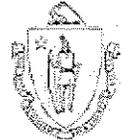
Job Location: One Merrymount Parkway, Quincy, MA 02170

Classification	Effective Dates and Total Rates								
PAINTER (TRAFFIC MARKINGS)	06/01/2010	\$48.100	12/01/2010	\$49.350	06/01/2011	\$50.350			
	12/01/2011	\$51.600							
PAINTER / TAPER (BRUSH, NEW) *	01/01/2010	\$52.910							
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.									
APPRENTICE: PAINTER - Local 35 Zone 2 - BRUSH NEW									
Ratio	Step	1	2	3	4	5	6	7	8
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	90.00
Apprentice wages shall be no less than the following:						Steps are 750 hrs.			
Step 1 \$24.06/2\$31.08/3\$32.71/4\$34.33/5\$43.16/6\$44.78/7\$46.41/8\$49.66									
PAINTER / TAPER (BRUSH, REPAINT)	01/01/2010	\$50.970							
APPRENTICE: PAINTER Local 35 Zone 2 - BRUSH REPAINT									
Ratio	Step	1	2	3	4	5	6	7	8
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	90.00
Apprentice wages shall be no less than the following:						Steps are 750 hrs.			
Step 1 \$23.09/2\$30.01/3\$31.54/4\$33.07/5\$41.80/6\$43.33/7\$44.86/8\$47.91									
PANEL & PICKUP TRUCKS DRIVER	06/01/2010	\$44.760	12/01/2010	\$45.360	06/01/2011	\$46.110			
	12/01/2011	\$46.770	06/01/2012	\$47.420	12/01/2012	\$48.450			
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)	08/01/2010	\$62.570	08/01/2011	\$65.320					
PILE DRIVER	08/01/2010	\$62.570	08/01/2011	\$65.320					
APPRENTICE: PILE DRIVER - Local 56 Zone 1									
Ratio	Step	1	2	3	4	5	6	7	8
1:3	%	60.00	65.00	70.00	75.00	80.00	85.00	90.00	95.00
Apprentice wages shall be no less than the following:									
Step 1 \$46.76/2\$48.74/3\$50.71/4\$52.69/5\$54.67/6\$56.64/7\$58.62/8\$60.59									
PIPEFITTER & STEAMFITTER	09/01/2010	\$68.730							
APPRENTICE: PIPEFITTER - Local 537									
Ratio	Step	1	2	3	4	5			
**	%	40.00	45.00	60.00	70.00	80.00			
Apprentice Rates-Step1 \$33.44/2\$43.38/3\$50.29/4\$54.90/5\$59.51						** 1:3; 3:15; 1:10 thereafter / Steps are 1 yr.			
Refrig/AC Mechanic **1:1;1:2;2:4;3:6;4:8;5:10;6:12;7:14;8:17;9:20;10:23(Max)									
PIPELAYER	06/01/2010	\$48.350	12/01/2010	\$49.600	06/01/2011	\$50.600			
	12/01/2011	\$51.850							
PLUMBERS & GASFITTERS	09/01/2010	\$67.500	03/01/2011	\$67.500	09/01/2011	\$68.250			
	03/01/2012	\$69.050	09/01/2012	\$70.300	03/01/2013	\$71.550			

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EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DIVISION OF OCCUPATIONAL SAFETY



DEVAL L. PATRICK
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TIMOTHY P. MURRAY
Lieutenant Governor

As determined by the Commissioner under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H

JOANNE F. GOLDSTEIN
Secretary of Labor and Workforce Development
GEORGE E. NOEL
Director of Labor
HEATHER E. ROWE
Acting Commissioner of
Division of Occupational Safety

Prevailing Wage Rates

Awarding Authority: City of Quincy

Contract Number:

City/Town: QUINCY

Description of Work: Blacks Creek Boating Facility Timber Pier System Works - Furnish & install round timber piles and heavy timber pile cap for offshore support of proposed pier.

Job Location: One Merrymount Parkway, Quincy, MA 02170

Classification

Effective Dates and Total Rates

APPRENTICE: PLUMBER - Local 12

Ratio	Step	1	2	3	4	5
**	%	35.00	40.00	55.00	65.00	75.00

Apprentice wages shall be no less than the following:

** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr

Step 1 \$30.01/2/\$32.89/3/\$41.54/4/\$47.31/ 4w/lic\$50.20 /5/\$53.09/ 5w/lic\$55.98

PNEUMATIC CONTROLS (TEMP.)	09/01/2010	\$68.730				
PNEUMATIC DRILL/TOOL OPERATOR	06/01/2010	\$48.350	12/01/2010	\$49.600	06/01/2011	\$50.600
	12/01/2011	\$51.850				
POWDERMAN & BLASTER	06/01/2010	\$49.100	12/01/2010	\$50.350	06/01/2011	\$51.350
	12/01/2011	\$52.600				
POWER SHOVEL/DERRICK/TRENCHING MACHINE	06/01/2010	\$59.730	12/01/2010	\$60.980		
PUMP OPERATOR (CONCRETE)	06/01/2010	\$59.730	12/01/2010	\$60.980		
PUMP OPERATOR (DEWATERING, OTHER)	06/01/2010	\$48.760	12/01/2010	\$49.690		
READY-MIX CONCRETE DRIVER	05/01/2010	\$41.080	05/01/2011	\$41.690		
RECLAIMERS	06/01/2010	\$59.380	12/01/2010	\$60.630		
RESIDENTIAL WOOD FRAME CARPENTER **	04/01/2009	\$35.620				

** The Residential Wood Frame Carpenter classification applies only to the construction of new, wood frame residences that do not exceed four stories including the basement.

As of 9/1/09 Carpentry work on wood-frame residential WEATHERIZATION projects shall be paid the RESIDENTIAL WOOD FRAME CARPENTER rate.

APPRENTICE: CARPENTER (Residential Wood Frame) - Zone 2

Ratio	Step	1	2	3	4	5	6	7	8
1:5	%	60.00	60.00	65.00	70.00	75.00	80.00	85.00	90.00

Apprentice wages shall be no less than the following:

Step 1 \$20.13/2/\$26.04/3/\$27.23/4/\$28.43/5/\$29.63/6/\$30.83/7/\$32.03/8/\$33.22

RIDE-ON MOTORIZED BUGGY OPERATOR	06/01/2010	\$48.350	12/01/2010	\$49.600	06/01/2011	\$50.600
	12/01/2011	\$51.850				
ROLLER/SPREADER/MULCHING MACHINE	06/01/2010	\$59.380	12/01/2010	\$60.630		
ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg)	02/01/2009	\$53.860				

APPRENTICE: ROOFER - Local 33

Ratio	Step	1	2	3	4	5
**	%	50.00	60.00	65.00	75.00	85.00

** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1

Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.

Apprentice rates no less than: Step 1 \$29.91/2/\$40.04/3/\$41.76/4/\$45.22/5/\$48.68

ROOFER SLATE / TILE / PRECAST CONCRETE	02/01/2009	\$54.110				
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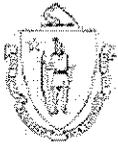
APPRENTICE: ROOFER (Slate/Tile/Precast Concrete) - Local 33

Ratio	Step	1	2	3	4	5
**	%	50.00	60.00	65.00	75.00	85.00

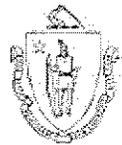
Apprentices wages shall be paid no less than the following:

Step 1 \$30.04/2/\$40.19/3/\$41.93/4/\$45.41/5/\$48.89

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As determined by the Commissioner under the provisions of the
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GEORGE E. NOEL
Director of Labor

HEATHER E. ROWE
Acting Commissioner of
Division of Occupational Safety

Prevailing Wage Rates

Awarding Authority: City of Quincy

Contract Number:

City/Town: QUINCY

Description of Work: Blacks Creek Boating Facility Timber Pier System Works - Furnish & install round timber piles and heavy timber pile cap for outshore support of proposed pier.

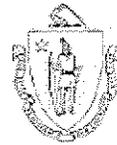
Job Location: One Merrymount Parkway, Quincy, MA 02170

Classification		Effective Dates and Total Rates									
SHEETMETAL WORKER		08/01/2010	\$63.960	02/01/2011	\$65.210	08/01/2011	\$66.460				
		02/01/2012	\$67.710	08/01/2012	\$68.960	02/01/2013	\$70.210				
APPRENTICE: SHEET METAL WORKER - Local 17-A											
Ratio	Step	1	2	3	4	5	6	7			
1:4	%	40.00	45.00	50.00	60.00	65.00	75.00	85.00			
Apprentice wages shall be no less than the following:						Steps 1-3 are 1 year; Steps 4-7 are 6 mos.					
Step 1\$24.84/2\$33.33/3\$35.95/4\$41.20/5\$43.83/6\$49.08/7\$53.83											
SIGN ERECTOR		06/01/2009	\$37.780								
APPRENTICE: SIGN ERECTOR - Local 35 Zone 2											
Ratio	Step	1	2	3	4	5	6	7	8	9	
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	85.00	90.00	
Apprentice wages shall be no less than the following:						Steps are 4 mos.					
Step 1\$19.48/2\$23.12/3\$24.36/4\$25.60/5\$30.34/6\$31.58/7\$32.82/8\$34.06/9\$35.30											
SPECIALIZED EARTH MOVING EQUIP < 35 TONS		06/01/2010	\$45.220	12/01/2010	\$45.820	06/01/2011	\$46.570				
		12/01/2011	\$47.230	06/01/2012	\$47.880	12/01/2012	\$48.910				
SPECIALIZED EARTH MOVING EQUIP > 35 TONS		06/01/2010	\$45.510	12/01/2010	\$46.110	06/01/2011	\$46.860				
		12/01/2011	\$47.520	06/01/2012	\$48.170	12/01/2012	\$49.200				
SPRINKLER FITTER		04/01/2010	\$69.550								
APPRENTICE: SPRINKLER FITTER - Local 550											
Ratio	Step	1	2	3	4	5	6	7	8	9	10
1:1	%	40.00	45.00	50.00	55.00	60.00	65.00	70.00	75.00	80.00	85.00
Apprentice wages shall be no less than the following steps:											
1\$35.50/2\$38.03/3\$40.55/4\$43.08/5\$45.60/6\$48.13/7\$50.65/8\$53.18/9\$55.70/10\$58.23											
STEAM BOILER OPERATOR		06/01/2010	\$59.380	12/01/2010	\$60.630						
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN		06/01/2010	\$59.380	12/01/2010	\$60.630						
TELECOMMUNICATION TECHNICIAN		09/01/2010	\$55.050	03/01/2011	\$56.300						
APPRENTICE: TELECOMMUNICATION TECHNICIAN - Local 103											
Ratio	Step	1	2	3	4	5	6	7	8		
1:1	%	40.00	45.00	50.00	55.00	60.00	65.00	75.00	80.00		
Apprentice wages shall be no less than the following:											
Step 1\$35.84/2\$37.44/3\$39.05/4\$40.64/5\$42.24/6\$43.85/7\$47.05/8\$48.65											
TERRAZZO FINISHERS		08/01/2010	\$68.850	02/01/2011	\$69.840	08/01/2011	\$71.940				
		02/01/2012	\$72.930								
APPRENTICE: TERRAZZO FINISHER - Local 3 Marble & Tile											
Ratio	Step	1	2	3	4	5					
1:3	%	50.00	60.00	70.00	80.00	90.00					
Apprentice wages shall be no less than the following:						Steps are 800 hrs.					
Step 1\$46.78/2\$51.19/3\$55.61/4\$60.02/5\$64.44											

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JOANNE F. GOLDSTEIN
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GEORGE E. NOEL
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HEATHER E. ROWE
Acting Commissioner of
Division of Occupational Safety

Prevailing Wage Rates

Awarding Authority: City of Quincy

Contract Number:

City/Town: QUINCY

Description of Work: Blacks Creek Boating Facility Timber Pier System Works - Furnish & install round timber piles and heavy timber pile cap for offshore support of proposed pier.

Job Location: One Merrymount Parkway, Quincy, MA 02170

Classification	Effective Dates and Total Rates					
TEST BORING DRILLER	06/01/2010	\$49,500	12/01/2010	\$50,750	06/01/2011	\$51,750
	12/01/2011	\$53,000				
TEST BORING DRILLER HELPER	06/01/2010	\$48,220	12/01/2010	\$49,470	06/01/2011	\$50,470
	12/01/2011	\$51,720				
TEST BORING LABORER	06/01/2010	\$48,100	12/01/2010	\$49,350	06/01/2011	\$50,350
	12/01/2011	\$51,600				
TRACTORS/PORTABLE STEAM GENERATORS	06/01/2010	\$59,380	12/01/2010	\$60,630		
TRAILERS FOR EARTH MOVING EQUIPMENT	06/01/2010	\$45,800	12/01/2010	\$46,400	06/01/2011	\$47,150
	12/01/2011	\$47,810	06/01/2012	\$48,460	12/01/2012	\$49,490
TUNNEL WORK - COMPRESSED AIR	06/01/2010	\$60,680	12/01/2010	\$61,930	06/01/2011	\$63,180
	12/01/2011	\$64,430				
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE)	06/01/2010	\$62,680	12/01/2010	\$63,930	06/01/2011	\$65,180
	12/01/2011	\$66,430				
TUNNEL WORK - FREE AIR	06/01/2010	\$52,750	12/01/2010	\$54,000	06/01/2011	\$55,250
	12/01/2011	\$56,500				
TUNNEL WORK - FREE AIR (HAZ. WASTE)	06/01/2010	\$54,750	12/01/2010	\$56,000	06/01/2011	\$57,250
	12/01/2011	\$58,500				
VAC-HAUL	06/01/2010	\$45,220	12/01/2010	\$45,820	06/01/2011	\$46,570
	12/01/2011	\$47,230	06/01/2012	\$47,880	12/01/2012	\$48,910
WAGON DRILL OPERATOR	06/01/2010	\$48,350	12/01/2010	\$49,600	06/01/2011	\$50,600
	12/01/2011	\$51,850				
WASTE WATER PUMP OPERATOR	06/01/2010	\$59,730	12/01/2010	\$60,980		
WATER METER INSTALLER	09/01/2010	\$67,500	03/01/2011	\$67,500	09/01/2011	\$68,250
	03/01/2012	\$69,050	09/01/2012	\$70,300	03/01/2013	\$71,550
Marine Drilling						
BLASTER	10/01/2005	\$35,730				
BOAT CAPTAIN	10/01/2005	\$30,270				
BOAT MASTER	10/01/2005	\$31,890				
CORE DRILLER	10/01/2005	\$28,630				
CORE DRILLER HELPER	10/01/2005	\$26,480				
DRILLER	10/01/2005	\$35,200				
ENGINEER	10/01/2005	\$35,190				
HELPER	10/01/2005	\$30,670				
MACHINIST	10/01/2005	\$34,330				
OILER - MARINE DRILLING	10/01/2005	\$30,670				
TUG DECKHAND	10/01/2005	\$25,840				
WELDER	10/01/2005	\$34,330				

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Prevailing Wage Rates

Awarding Authority: City of Quincy

Contract Number:

City/Town: QUINCY

Description of Work: Blacks Creek Boating Facility Timber Pier System Works - Furnish & install round timber piles and heavy timber pile cap for offshore support of proposed pier.

Job Location: One Merrymount Parkway, Quincy, MA 02170

Classification

Effective Dates and Total Rates

Additional Apprentices Information:

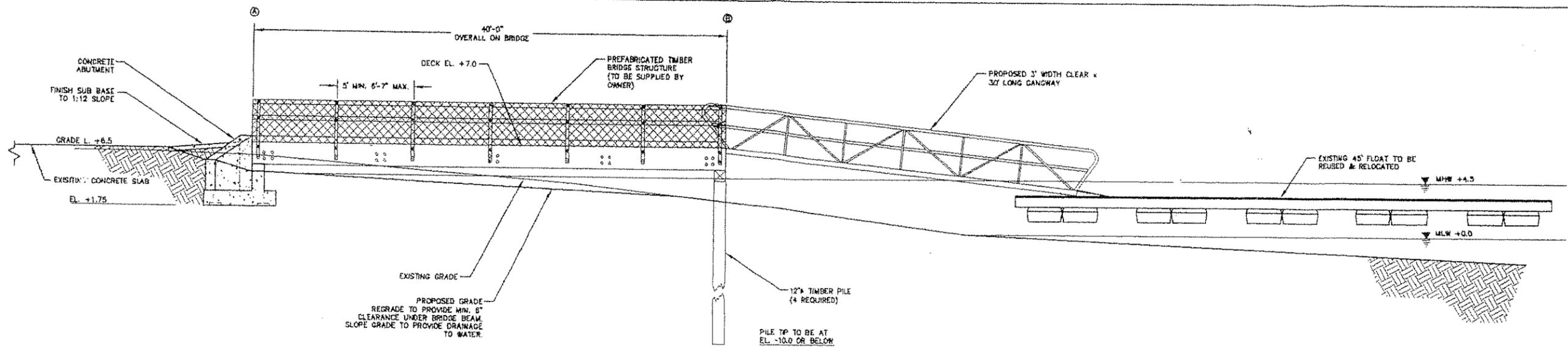
Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentice ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, Section 11.

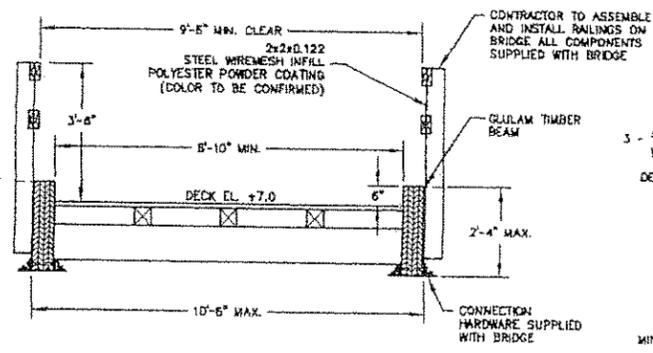
All steps are six months (1000 hours) unless otherwise specified.

- * Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof.
- ** Multiple ratios are listed in the comment field.
- *** The job site ratio of 2 apprentices (APP) for every 3 journeymen (JM) is allowed as follows:
1 JM: 1 APP; 2-3 JM: 2 APP; 4-6 JM: 4 APP; 7-9 JM: 6 APP; 10-12 JM: 8 APP; 13-15 JM: 10 APP; etc.
- **** The job site ratio of 2 apprentices (APP) for every 3 journeymen (JM) is allowed as follows:
1-2 JM: 1 APP; 3-4 JM: 2 APP; 5 JM: 3 APP; 6-7 JM: 4 APP; 8 JM: 5 APP; etc.

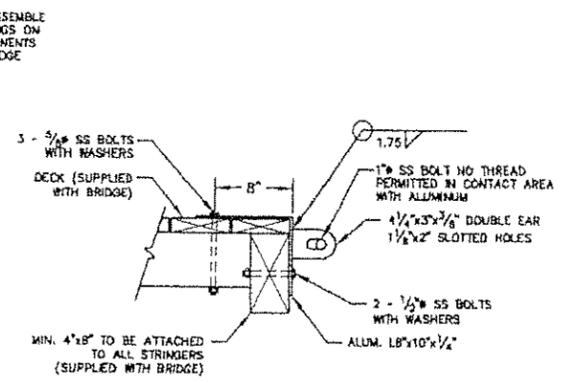
This wage schedule must be posted at the work site in accordance with M.G.L. c. 149, § 27. Failure of the employer to pay "prevailing wage rates," which are the minimum wage rates listed above, on public works projects is a violation of M.G.L. c. 149, § 27. Employees not receiving such rates should report the violation to the Fair Labor Division of the Office of the Attorney General, 100 Cambridge Street, Boston, MA 02108; Tel: 617-727-3465. Contractors with questions about the wage rates or classifications included on the wage schedules have an affirmative obligation to inquire with DOS at www.mass.gov/dos/pw or at 617-626-6952.



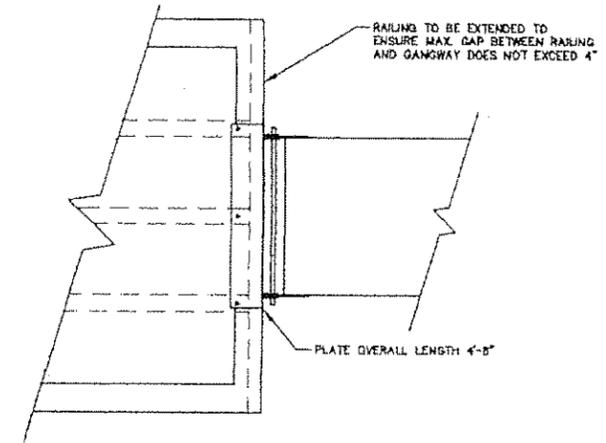
DOCK - ELEVATION
 SCALE: 1/4" = 1'-0"



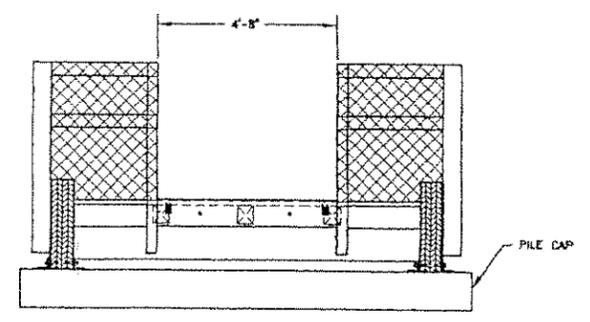
BRIDGE - SECTION
 SCALE: 1/2" = 1'-0"



GANGWAY CONNECTION - SECTION
 SCALE: 1 1/2" = 1'-0"



GANGWAY CONNECTION - PLAN
 SCALE: 1/2" = 1'-0"

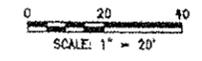


END ELEVATION OF BRIDGE
 SCALE: 1/2" = 1'-0"

NOTE: PILES NOT SHOWN

NOTES:

- TIMBER BRIDGE WILL BE SUPPLIED AND DELIVERED TO SITE BY OWNER.
- APPEARANCE SHALL BE SIMILAR TO BRIDGE SHOWN.
- BRIDGE AND SUPPORT CONNECTIONS TO BE DESIGNED TO SUPPORT FOLLOWING LOADS:
 LIVE LOAD 100 PSF
 GANGWAY REACTION 15000 LBS.
 FLOTATION LOAD ASSUMING FULL SUBMERSION
 LONGITUDINAL LOAD 2000 LBS.
- GANGWAY DESIGN LOADS:
 LIVE LOAD 100 PSI

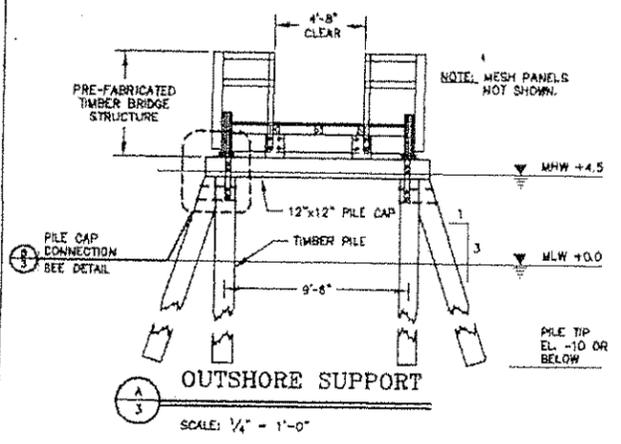


BRIDGE DETAILS

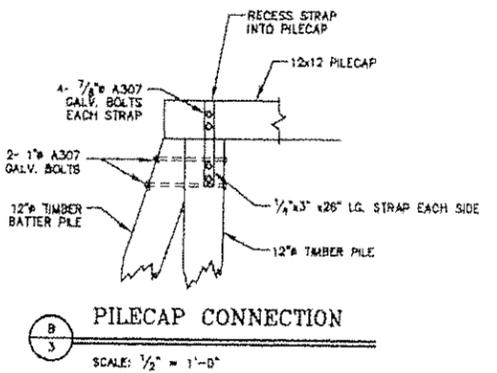
BLACK'S CREEK PIER IMPROVEMENT
 CITY OF QUINCY
 QUINCY, MA
 MARCH 2010

		DRAWING NO. 30781-01-02 SHEET 2 OF 4
DRAWN: JST CHECKED: BGI APPROVED: BGI DATE: 03/18/10	REVISIONS	

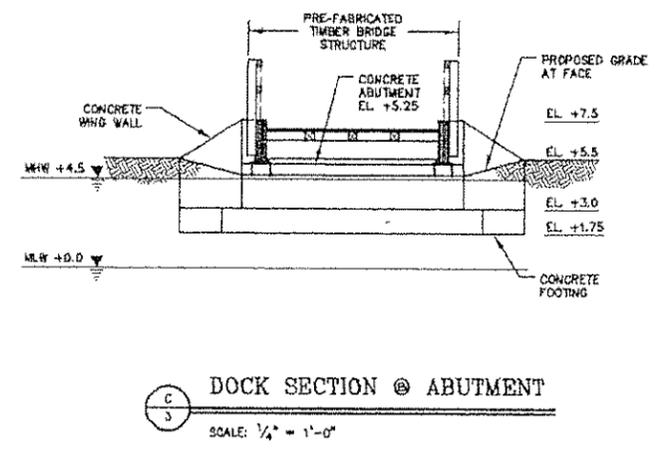
FILE: BCE DRAWINGS\2009\01\18-23 ABUT. & BRIDGE Details.dwg



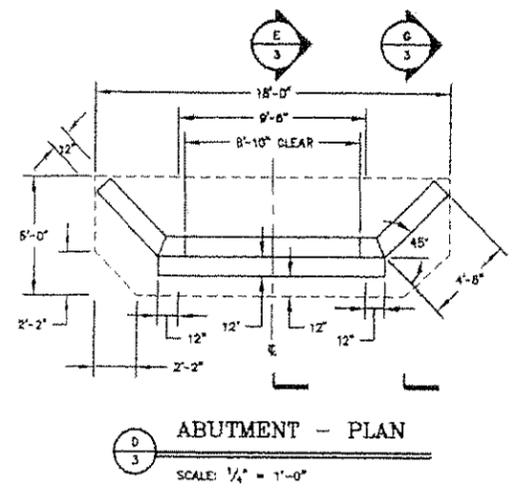
A
OUTSHORE SUPPORT
SCALE: 1/4" = 1'-0"



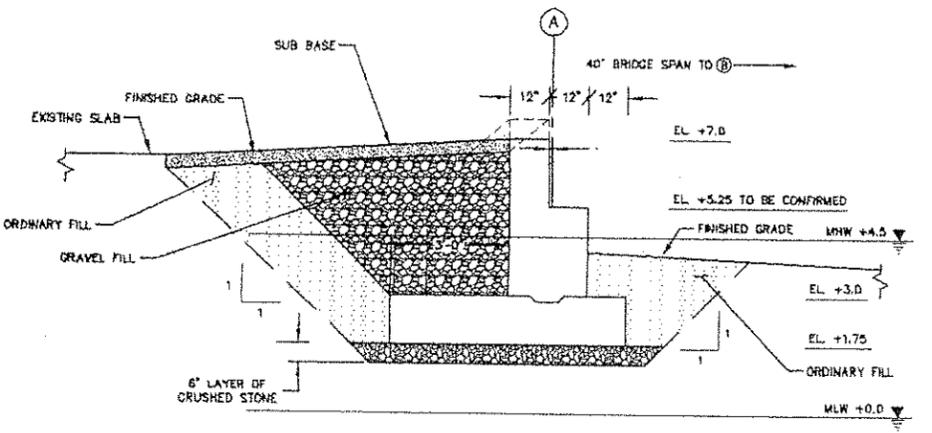
B
PILECAP CONNECTION
SCALE: 1/2" = 1'-0"



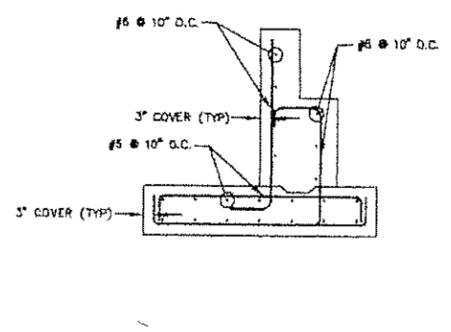
C
DOCK SECTION @ ABUTMENT
SCALE: 1/4" = 1'-0"



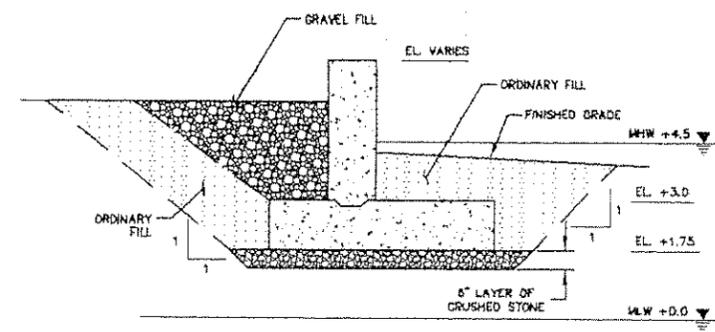
D
ABUTMENT - PLAN
SCALE: 1/4" = 1'-0"



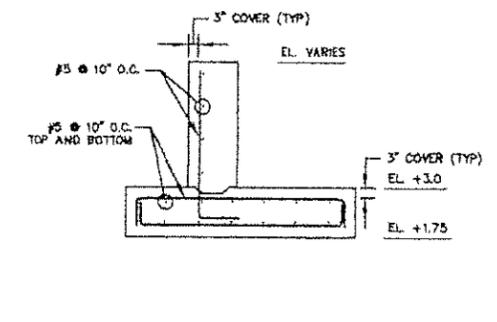
E
ABUTMENT SECTION ALT #1
SCALE: 1/2" = 1'-0"



F
ABUTMENT REBAR
SCALE: 1/2" = 1'-0"

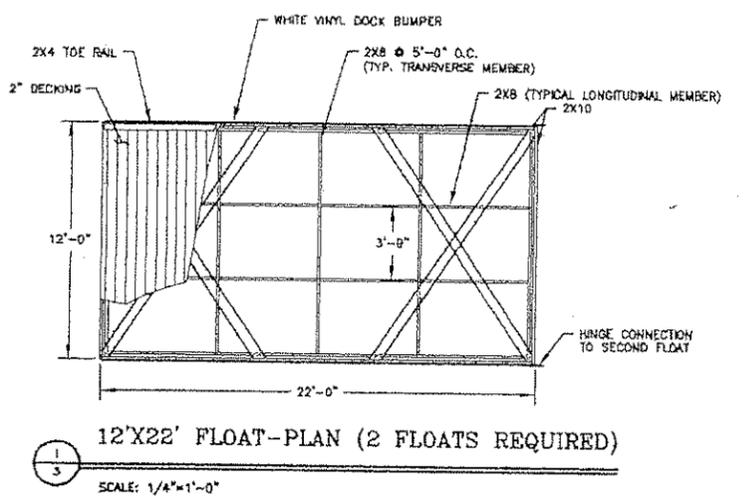


G
ABUTMENT SECTION
SCALE: 1/2" = 1'-0"

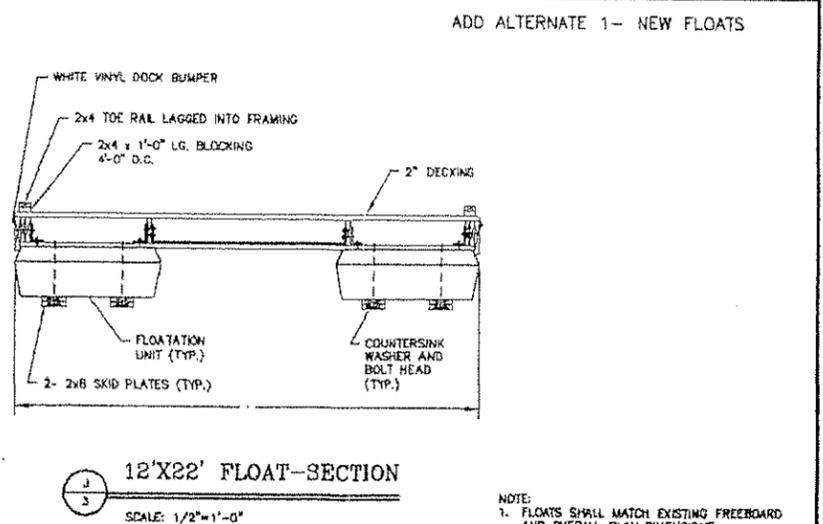


H
ABUTMENT REBAR
SCALE: 1/2" = 1'-0"

FILE: BCE DRAWINGS\2009\CHAS-23-ABUT. & BRIDGE DETAILS.dwg



I
12'X22' FLOAT-PLAN (2 FLOATS REQUIRED)
SCALE: 1/4" = 1'-0"

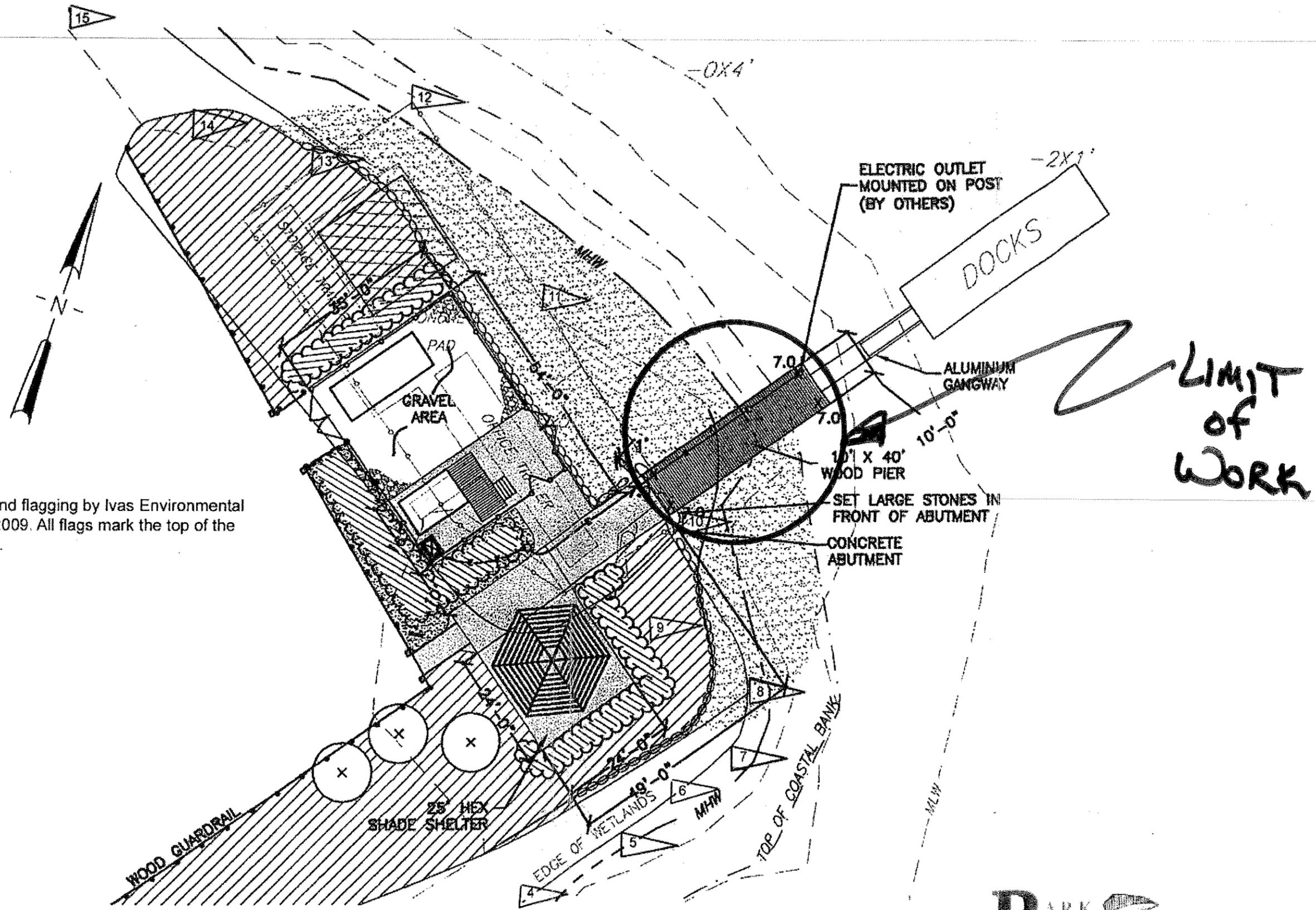


J
12'X22' FLOAT-SECTION
SCALE: 1/2" = 1'-0"

NOTE:
1. FLOATS SHALL MATCH EXISTING FREEBOARD AND OVERALL PLAN DIMENSIONS.
2. FLOATS SHALL BE PROVIDED WITH BOTTOM MOORINGS AS EXISTING.

BRIDGE SUPPORT DETAILS
BLACK'S CREEK PIER IMPROVEMENT
CITY OF QUINCY
QUINCY, MA
MARCH 2010

		Bourne Consulting Engineering <small>1 Bond Street Quincy, MA 01906 Tel: (508) 528-0000 Fax: (508) 528-0002</small>	
		DRAWN: JST CHECKED: RJT APPROVED: RJT DATE: 03/18/10	DRAWING NO. 307B1-01-01 SHEET 3 OF 4
REVISIONS			



NOTE: Wetland flagging by Ivas Environmental January 27, 2009. All flags mark the top of the Coastal Bank.

PROPOSED SITE PLAN

SCALE: 1" = 20' February 2, 2009

PARK
PLANNING
ASSOCIATES

SHEET 4 of 4