

**Invitation to Bid for  
Boiler Replacement Chelsea High School**

For the City of Chelsea, MA

Contract # 2015-178

April 2015

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## NOTICE TO BIDDERS

**BOILER REPLACEMENT  
CHELSEA HIGH SCHOOL  
299 EVERETT AVE.  
CHELSEA, MASSACHUSETTS  
TASK 2015-028**

The City of Chelsea, Chelsea, Massachusetts invites sealed proposals from Contractors to replace the boilers at Chelsea High School, Chelsea, MA. The work consists of, but is not limited to, removing and replacing the two existing boilers with three new condensing boilers, associated plumbing, electrical, architectural, and roofing work complete.

The estimated cost of the work is \$ 325,000.00

Plans, specifications and other Contract Documents may be obtained at the Purchasing Office, City of Chelsea, City Hall, Room 206, 500 Broadway, Chelsea, MA, **after 11:00 AM., E.D.T., April 15, 2015.** Copies of the documents for the project may be obtained by email for the purposes of bidding from the City of Chelsea.

Sealed general bids for this project will be accepted from eligible bidders at the City of Chelsea, Purchasing Office, **ATTN: Chief Procurement Officer, City Hall – Room 206, 500 Broadway, Chelsea, MA 02150** until **11:00 AM, E.D.T May 6th, 2015** at which place and time they shall be publicly opened, read aloud and recorded for presentation by the Awarding Authority.

A pre-bid conference will be held for all interested parties on-site at the Chelsea High School, 299 Everett Ave, Chelsea, MA on **April 28<sup>th</sup>, 2015 at 11:00 AM, E.D.T.** Attendance at this pre-bid conference is **MANDATORY** for parties submitting a bid.

Each bid shall be accompanied by a bid deposit in the form of a bid bond, or cash, or a certified check on, or a treasurers or cashier's check issued by a responsible bank or trust company, payable to the City of Chelsea in the amount of five percent (**5%**) of value of the bid. Bid deposits will be dealt with as provided in Massachusetts General Laws, Chapter 149, Section 44B.

To be given consideration, all general bids must be accompanied by a copy of the Bidder's Certificate of Eligibility (DCAMM Form) and an Update Statement (DCAMM Form).

The certification category of work is: Mechanical

## **Section 1 PROCUREMENT SCOPE**

### **1.1 Authority**

Invitation to Bid Procedures and award of the Contract shall be in accordance with Massachusetts General Law, Chapter 149, plus all applicable Federal, State and Local laws and regulations.

### **1.2 Withdraw, Modify, And Amend Bids**

Bidders who wish to withdraw, modify or amend their bid must do so in writing utilizing electronic mail to the City of Chelsea Chief Procurement Officer at [dcook@chelseama.gov](mailto:dcook@chelseama.gov) or via fax at 617-466-4225, no later than the time and date set forth herein for the receipt of the Bid for **Boiler Replacement Chelsea High School**. All such withdrawals, modifications or amendments must so state in the subject line of the email correspondence. Any withdrawal, modification or amendment arriving after the date and time set forth for accepting bids will not be considered. After the opening of the bids, a bidder may not change any provision of the bid in a manner prejudicial to the interests of the City of Chelsea or fair competition. Minor informalities will be waived at the discretion of the City of Chelsea.

### **1.3 Bid Bond**

Each bid must be accompanied by a certified check: of the bidder or a bid bond duly executed by the bidder as principal and having as surety thereon a surety company approved by the City, in the amount of 5% of the bid, payable to the "City of Chelsea" and must be filed with the original bid.

### **1.4 Payment & Performance Bonds**

The successful bidder is required to furnish performance bonds and payment bonds in the contract amount and with surety satisfaction to the City, in an award form this Invitation for Bids. The Bidder must pay all costs. The Performance Bond shall be in the sum of **100%** of the contract price. The Payment Bond shall be in the sum of **100%** of the contract price. The bonds shall be provided by the successful bidder to the City within five business days of the contract award.

### **1.5 Familiarity With Requirements**

Bidders are to thoroughly familiarize themselves with the requirements of this Invitation for Bids. Ignorance of the requirements will not relieve the bidder from any obligations or liabilities of any contract(s) issued as a result of this Invitation for Bids.

## **1.6 Independent Party**

Under this Invitation for Bids, the successful bidder declares itself to be at all times acting and performing as an independent party and nothing in this request for bid or any subsequent contract(s) is intended to constitute a partnership or joint venture between the bidder and the City of Chelsea.

## **1.7 Conflict of Interest**

No officer or employee of the City of Chelsea shall participate in any decision relating to any contract which would affect their financial or personal interest or the interest of any corporation, partnership, sole proprietorship or association in which they are directly or indirectly interested.

## **1.8 Political Activity Prohibited**

None of the services to be provided by any bidder shall be used for any partisan political activity or to further the election of any candidate for public office.

## **1.9 Assignment by Contractor**

The successful bidder or contractor shall not assign in whole or in part or otherwise transfer any interest in any contract without the written consent of the City of Chelsea, provided however, that the present and prospective claims for money due owing to the Contractor from the City of Chelsea or any other Buyer may be assigned to a bank or trust company or to a financial institution insured by the Federal Deposit Insurance Corporation (FDIC) without such consent so long as notice of such assignment is promptly furnished to the City of Chelsea. Any complete or partial assignment of the contractor's or successful bidder's interest in any such contract shall require the assignee, at the City of Chelsea's discretion, to supply such further information as the City of Chelsea deems necessary to comply with the City of Chelsea rules and regulations governing contracts for services. Any such assignment, in whole or in part, shall also be expressly made subject to all defenses, set-offs or counter claims which would have been made available to the City of Chelsea against the successful bidder in the absence of such assignment.

## **1.10 Subcontracting**

None of the services to be provided by the contractor pursuant to any contract shall be subcontracted or delegated in whole or in part to any other organization, association, individual, corporation, partnership, or any other such entity without the prior written approval of the City of Chelsea. All intended subcontracts must be in writing. All intended subcontracts shall be provisions, which are functionally identical to and consistent with the language of this Invitation for Bids.

### **1.11 Choice of Law**

Any contracts awarded as a result of this Invitation for Bids shall be construed under the laws of the Commonwealth of Massachusetts. The successful bidder and agents thereof agree to bring any federal or state legal proceedings arising from any such contract in which the City of Chelsea is a party in a court of competent jurisdiction within the Commonwealth of Massachusetts. This section shall not be construed to limit any rights any party may have to intervene in any action in any court or wherever pending in which the other is a party.

### **1.12 Notices**

Unless otherwise specified, any notice hereunder shall be in writing and shall be deemed delivered when sent via electronic mail (e-mail), given in person to either party or deposited in the U.S. Mail, postage prepaid and addressed to the persons indicated in any contract or as specified by any amendment hereto.

### **1.13 Severable Sections Do Not Affect Entire Contract**

If any provision of the Invitation for Bids or any subsequent contract is declared or found to be illegal, unenforceable or void, then both parties shall be relieved of all obligations under the provision. The remainder of the Invitation for Bids and any subsequent contract shall remain in full force and effect and enforceable to the fullest extent provided by law.

### **1.14 Liquidated Damages for Failure to Enter Into Contract**

The successful Responder, upon its failure or refusal to execute and deliver the Contract, Bond and Certificates of Insurance required within ten days after receipt of notice of the acceptance of the bid, shall forfeit to the City of Chelsea, as liquidated damages for such failure or refusal, the security deposited with its bid, provided that the amount forfeited shall not exceed the difference between its bid price and the bid price of the next lowest responsive and responsible Responder. In case of death, disability, bona fide clerical or mechanical error of a substantial nature or similar unforeseen circumstances affecting the Responder, its bid deposit shall be returned.

### **1.15 Liquidated Damages for Failure to Perform Under Terms of the Contract**

Should the successful Responder fail to commence or diligently perform according to the terms of the contract, the successful Responder agrees to pay to the City of Chelsea, as liquidated damages, Two Hundred Fifty Dollars (\$250.00) per calendar day that the successful Responder fails to commence or diligently perform the work in accordance with the contract documents and/or is in violation of the contract. Liquidated damages assessed under this provision shall be deducted from any payment(s) due to the successful Responder.

**1.16 Contract Performance**

The failure of any party to insist in any one or more situations, upon performance of any of the terms or provisions of any part of this Invitation for Bids or resulting contract shall not be considered as a waiver or relinquishment of the right of either party to future performance of any such term or provision, and the rights and obligations of the parties to such future performance shall continue in full force and effect.

**1.17 Prevailing/Minimum Wages**

Prevailing/Minimum Wage Rates as determined by the Commissioner of the Division of Occupational Safety of the Executive Office of Labor and Workforce Development under the provisions of Massachusetts General Laws Chapter 149, Section 26 to 27D, as amended, apply to this project. It is the responsibility of the Bidder, before the bid opening, to request, if necessary, any additional information on Prevailing/Minimum Wage Rates for those trades’ people who may be employed for the proposed work under this contract.

**1.18 Funding & Fiscal Year Appropriation**

Appropriations for expenditures by the City of Chelsea and authorizations to spend for a particular purpose are ordinarily made on a fiscal year basis. The fiscal year for the City of Chelsea, MA begins on July 1<sup>st</sup> and ends June 30<sup>th</sup> of the following year. The obligations of the City of Chelsea under any contract resulting from this Invitation for Bids for any subsequent fiscal year following the fiscal year in which the initial contract is awarded is subject to the appropriations to the City of Chelsea of funds sufficient to discharge its obligations, which accrue in such subsequent fiscal year, and to the authorization to spend such funds for the purposes of this Invitation for Bids. In the absence of such appropriation or authorization, any contract resulting from this Invitation for Bids shall be terminated immediately without liability for damages, penalties or other charges arising from early termination. Expenditures for contracted services, which will extend beyond a single fiscal year shall not exceed in any fiscal year the amount appropriated and authorized for the said fiscal year.

**1.19 Procurement Calendar**

The City of Chelsea invites bids that will result in a contract. The IFB schedule of events for this solicitation, subject to amendment by the City of Chelsea is:

<b>EVENT</b>	<b>DATE</b>
IFB Released	4/15/2015
<b><u>Mandatory Pre-Bid Conference (299 Everett Ave.)</u></b>	4/28/2015 at 11:00am
Deadline for Written Inquiries	4/30/2015
Response to Written Inquiries	5/1/2015
Due Date for Responses	5/6/2015 at 11:00am

## **Section 2 General Bid Information**

### **2.1 Required IFB Sections**

The Responder must provide, in its bid, a reply to the particular specifications included in the Invitation for Bids.

### **2.2 Minority or Woman Business Enterprise Participation**

In accordance with the Minority Business Enterprise Plan for the City of Chelsea, all qualified Minority-Owned Business Enterprises (MBE) or Woman-Owned Business Enterprises (WBE) are strongly encouraged to submit bids in response to this Invitation for Bids. For the purpose of this IFB, the term MBE or WBE shall mean a vendor who is certified as a minority business enterprise by the State Office of Minority and Women-Owned Business Assistance (SOMWBA), and who is certified at the time the vendor's bid is submitted.

All minority owned businesses are encouraged to apply for SOMWBA certification. For further information on SOMWBA qualifications or access to SOMWBA vendor lists, contact the Supplier Diversity Office, Commonwealth of Massachusetts Operational Services Division at 617-720-3300.

### **2.3 The Contract Award**

Based upon the bids received, the contract will be awarded to the lowest responsive and eligible Bidder.

### **2.4 ADA, Regulatory, Compliance and Standards**

Responders are expected to provide services and commodities that are in compliance with Section 504 of the Federal Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, the Telecommunications Act of 1996, and all successor federal and related legislation throughout the term of any contract resulting from this solicitation.

### **2.5 Indemnification**

Any successor in exchange for entering into an agreement or contract resulting from this Invitation for Bids shall indemnify and hold harmless the City of Chelsea and all persons acting for or on behalf of either of them from all suits and claims against them, or either of them, arising from or occasioned by the use of any service, material, equipment or apparatus, or any part thereof, which infringes or is alleged to infringe on any patent rights. In case such service, material, equipment or apparatus, or any part thereof in any suit is held to constitute infringement, the successful Responder, within a reasonable time, will at its expense, and as the City of Chelsea may elect, replace such material, equipment or apparatus with non-infringing material, equipment or apparatus or remove

the material, equipment or apparatus and refund the amounts paid therefore. Said indemnification includes reasonable attorney's fees related thereto.

Furthermore, any successful Responder in exchange for entering into any agreement or contract resulting from this Invitation for Bids agrees to indemnify and hold harmless, release and forever discharge the City of Chelsea as well as their officers, agents and employees as well as their successors and assigns from any and all manner of actions, suits, claims, demands, judgments, damages and liability in law and in equity which may arise or result from performance under this contract. This includes any discrimination, labor or employment claims against the successful Responder and the City of Chelsea and any and all manners of legal action brought against the successful Responder and /or the City of Chelsea. Said indemnification includes reasonable attorney's fees related thereto.

## **2.6 Federal, State and Local Laws**

The successful Responder will comply with all applicable Federal, State and Local laws and regulations.

## **2.7 Tax Exempt**

Purchases made by municipalities and government are exempt from Federal Excise Taxes and Massachusetts Sales Taxes and bid prices must show the exclusion of such taxes. Tax exemption certificates will be furnished as required.

## **2.8 Insurance**

The successful Responder in addition to any insurance required by State or Local Law, shall maintain in force during the term of any contract(s) issued as a result of this Invitation for Bids, the following insurance issued by an insurance company licensed to do business in the Commonwealth of Massachusetts. Failure to provide or maintain such insurance shall be grounds to reject a bid or execute a contract.

- a. Public Commercial Liability coverage in the amount of \$1,000,000.00 per occurrence and \$2,000,000.00 aggregate. Automobile Liability Insurance coverage in the amount of \$500,000.00 per person, \$1,000,000.00 per occurrence. Property damage Insurance in the amount of \$250,000.00.
- b. Worker's Compensation Insurance in the amounts required by Massachusetts Law.
- c. Evidence of such insurance must name the City of Chelsea as the named insured as well as the successful Responder.
- d. An Insurance Certificate giving evidence of the insurance must be delivered to the City of Chelsea within 10 days by the successful Responder receiving the award of this Invitation for Bids.

## **2.9 Confidentiality**

The successful Responder will comply with all provisions of Executive Order No. 11246 of September 24, 1975 and the successful Responder acknowledges that in performance of any contract resulting from the Invitation for Bids it may require or have access to “personal data” and become a “holder” of personal data as defined by M.G. L. c. 66A. The successful Responder shall comply with all laws and regulations relating to confidentiality and privacy, including but not limited to any rules and regulations of the City of Chelsea. The successful Responder shall at all times recognize the City of Chelsea’s ownership of personal data and the exclusive right and jurisdiction of the City, and “data subjects” (as defined in chapter 66A) to control the use of personal data. The successful Responder shall immediately notify the City of Chelsea both orally and in writing if any personal data in its possession is subpoenaed, improperly used, copied or removed by anyone except an authorized representative of the City of Chelsea. The successful Responder shall cooperate with the City of Chelsea in taking all steps it deems advisable to enjoin, misuse, regain possession and/or otherwise protect the City of Chelsea’s rights and data subject’s privacy. The successful Responder shall allow access to any personal data held in their possession solely to those employees of the City of Chelsea who require such information in the performance of their occupational responsibilities. All personal data held by the successful Responder shall be delivered to the City of Chelsea within 14 calendar days after termination of any contract resulting from this Invitation for Bids. The successful Responder agrees to take reasonable steps to insure the physical security of such data under its control, including but not limited to fire protection, protection against smoke and water damage, alarm system, locked removal of manually held data, passwords, access logs, badges or other methods reasonably expected to prevent loss or unauthorized access to electronically or mechanically held data, limited terminal access, access to electronically or mechanically held data, limited terminal access, access to input documents and design provisions to limit use of personal data. The successful Responder agrees that it will inform each of its employees having any involvement with their personal data or confidentiality. The City of Chelsea shall have access at all times to any data maintained pursuant to any contract resulting from this Invitation for Bids, without the consent of the data subject. The successful Responder shall use personal data, and material derived from such data, only as necessary for the performance of the subject contract. Failure of the successful Responder to comply with the requirements of this section may be grounds for terminating any contract resulting from this Invitation for Bids.

## **2.10 Force Majeure**

Neither the City of Chelsea nor the successful Responder shall be liable to the other, nor deemed to be in breach of any contract resulting from this Invitation for Bids for failure or delay in rendering performance rising out of causes factually beyond its control and without its fault or negligence. Such causes may include, but are not limited to, Acts of God or the public enemy, wars, fires, flood, epidemics, quarantine restrictions, strikes, unforeseen freight embargos or unusually severe weather. Dates of times of performance shall be extended to the extent of delays excused by this section, provided that the party

whose performance is affected notifies the other party promptly of the existence and nature of such a delay. It is agreed that since the performance dates of the subject contract are of the essence and important to the implementation of essential City of Chelsea work, continued failure to perform for periods aggregating 45 or more calendar days, even for causes beyond the control of the successful Responder, shall afford the City of Chelsea the right to terminate any contract resulting from this Invitation for Bids without assessment of termination costs or penalties.

## **2.11 Equal Opportunity**

During the performance of this contract, the successful Responder agrees as follows:

- a. The successful Responder will not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin, sexual orientation, which shall not include persons whose sexual orientation involves minor children as the sex object, genetic information or ancestry. The successful Responder will take affirmative action to ensure that applicants are employed and that the employees are treated during employment without regard to their race, religion, color, sex, nation origin or sexual orientation, which shall not include persons whose sexual orientation involves minor children as the sex object, genetic information or ancestry.
- b. The successful Responder will comply with all provisions of Executive Order No. 11246 of September 24, 1975 and all of the rules, regulations and relevant orders of the Secretary of Labor.

## **2.12 Termination**

The Responders for this Invitation for Bids should note that the City of Chelsea reserves the right to terminate any contract resulting from this Invitation for Bids in whole or in part, by written notice:

- **Without cause:** Either party may terminate the subject contract by giving written notice to the other party at least 60 calendar days prior to the normal contractual effective date of termination as stated or such other period as is mutually agreed upon in advance by the parties
- **For cause:** If, in the opinion of the City of Chelsea, the successful Responder fails to fulfill its obligations, the City of Chelsea may terminate any contract resulting from this Invitation for Bids by giving 30 days written notice to the successful Responder at any time. The subject contract shall be terminated immediately in the event of fraud or program abuse.
- **Emergency:** The City of Chelsea may terminate or suspend any contract resulting from this Invitation for Bids up to 60 calendar days by providing written notice to the successful Responder, stating the grounds for the City of Chelsea's action, in the form of U.S. Mail, hand-carried letter, or other appropriate written means, if the City of Chelsea determines that immediate action is necessary to protect City, State and/or Federal funds or property, or to protect persons from

injury. Such termination or suspension shall be effective upon receipt of notice of either suspension or termination by the successful Responder. In the case of a suspension under this paragraph, the notice of suspension shall be accompanied by instructions from the City of Chelsea specifying requisite actions by the successful Responder to remove the suspension, proposed timetable for meeting those requirements and a description by the City of Chelsea of allowable activities and costs, if any, during the suspension period. Failure by the successful Responder to remedy the stated deficiencies according to the timetable prescribed by the City of Chelsea shall be cause for immediate termination.

- **Elimination or Reduction of Funding:** In the event of a reduction of funding for any reason, the City of Chelsea may terminate any contract resulting from this Invitation for Bids by providing notice of termination in a reasonable time. The City of Chelsea may provide a conditional notice of termination with a proposed amendment to the subject contract. Any such notice shall provide that the subject contract will terminate automatically 30 calendar days after the date of the conditional notice of termination unless the successful Responder submits to the City of Chelsea a properly signed copy of the amendment, or such modification form of amendment as may be agreeable to the City of Chelsea, within 20 calendar days after the date of the conditional notice of termination, or such other time as it is otherwise specified in the conditional notice.
- **Office's Remedies:** Upon Termination for Cause or for Emergencies: Notwithstanding the terms contained in this section, in the event of termination, the successful Responder shall not be relieved of liability to the City of Chelsea by virtue of any breach of any contract resulting from this Invitation for Bids by the successful Responder. In the event of termination pursuant to this section, the City of Chelsea may withhold any payments to the successful Responder for the purpose of set-off until such time as the exact amount of damages due to the City of Chelsea from the successful Responder is determined. In addition to and notwithstanding the above, the successful Responder covenants and agrees that in the event of termination of any contract resulting from this Invitation for Bids the successful Responder shall pay to the City of Chelsea as damages: (a) such sum as, at the time of termination, the City of Chelsea reasonably determines that is, shall require to compensate a subsequent contractor to complete the delivery of service, and (b) the sum, reasonably determined by the City of Chelsea, which will compensate the City of Chelsea for all the direct and indirect costs resulting from delay in the delivery of services upon the successful Responder's default. The successful Responder further covenants and agrees with the City of Chelsea that the successful Responder shall pay all of the City of Chelsea's costs and expenses (including attorney's fees) incurred or paid in obtaining and enforcing any court order favorable to the City of Chelsea for any obligation of the successful Responder under any contract resulting from this Invitation for Bids.

### **2.13 Obligation in the Event of Termination**

Upon termination of any contract resulting from this Invitation for Bids, all documents finished or unfinished, data, studies and reports prepared by the successful Responder pursuant to the subject contract shall become the property of the City of Chelsea. Copies of finished and unfinished documents, data, studies and reports generated as a necessary part of performing the subject contract shall be delivered to the City of Chelsea upon reasonable request and shall be retained by the successful Responder for future use. The City of Chelsea shall promptly pay the successful Responder for all services performed and for all costs and un-cancelable commitments reasonably incurred in performance of the subject contract to the effective date of termination, provided the successful Responder is not in default of the terms of the subject contract and submits to the City of Chelsea properly completed invoices with supporting documentation covering such services no later than 45 days after the effective date of termination, and that the successful Responder make every reasonable effort to minimize or recover costs incurred.

### **2.14 Ownership of Furnishings & Equipment**

Unless otherwise provided by law or a federal grant award, title to all furnishings and equipment provided by the City of Chelsea or that the awarded Responder provides under the terms of this Invitation for Bids and paid for with public funds, shall vest in and be retained by the City of Chelsea. Upon completion of performance of the awarded Responder's contract, the awarded Responder shall return such furnishings and equipment in its possession in the same condition as at the commencement of any contract resulting from this Invitation for Bids, normal wear and tear excepted.

### **2.15 Anti-Boycott Warranty**

During the term of any contract resulting from this Invitation for Bids, neither the successful Responder nor any "affiliated company" as hereafter described, shall participate in or cooperate with an international boycott, as defined in section 999(b) (3) and (4) of the Internal revenue Code of 1954, as amended by the Tax Reform Act of 1986, or engage on conduct declared to be unlawful by sections 2 and 4 of Chapter 151E of The Massachusetts General Laws. As used herein, an "affiliated company" shall be any business entity or which at least 51% of the ownership interests are directly or indirectly owned by the successful responder or by a person or persons or business entity or entities which directly own at least 51% of the ownership interest of the successful Responder.

### **2.16 Tied Bids**

In the event that there is a tie bid between two (2) responsive and responsible bidders, the award of the contract will be determined by a coin toss. The bidder's whose submission was received earliest shall be assigned "Heads" in the coin toss. In the event that there is a tie bid with three (3) or more responsive and responsible bidders, the award shall be made by a draw by lot limited to those bidders. The coin toss/draw by lot shall be

scheduled within two (2) business days from when it was determined by the Town to be a tie bid. The bidders involved shall be given an opportunity to attend. The coin toss/drawing shall be witnessed by at least three (3) Town officials. The tie breaker event shall be held at Chelsea City Hall during regular business hours.

### **2.17 Unexpected Closures or Delays**

If, at the time of the scheduled bid submission deadline, the designated location for delivery of the bid is closed due to uncontrolled events such as fire, snow, ice, wind, building evacuation or other, the deadline will be postponed until 11:00 a.m. on the next normal business day. Bids will be accepted at the same location until that date and time.

**End of Section**

## **Section 3 Responder's Bid Information**

### **3.1 Bidder Communications**

Responders are prohibited from communicating directly with any employee of the Purchasing Department and any other member of the City of Chelsea except as specified in this Invitation for Bids, and no other individual City of Chelsea employee or representative is authorized to provide any information or respond to any question or inquiry concerning this Invitation for Bids. Responders may contact the person identified on the cover sheet of this Invitation for Bids in the event this Invitation for Bids is incomplete.

### **3.2 Reasonable Accommodation**

Responders with disabilities or hardships that seek reasonable accommodation, which may include the receipt of the Invitation for Bids information in an alternative format, must communicate such requests in writing, via electronic mail (e-mail) to the contact person. Requests for accommodation will be addressed on a case by case basis. A Responder requesting accommodation must submit a written statement, via e-mail which describes the responder's disability and the requested accommodation to the contact person for the Invitation for Bids. The City of Chelsea reserves the right to reject unreasonable request.

### **3.3 Public Records**

All bids and information submitted in response to this Invitation for Bids are subject to the Massachusetts Public Record Law, M.G.L., Chapter 66, Section 10, and to Chapter 4, Section 2, and Subsection 26. Any statements in the Responder's bid inconsistent with these statutes will be disregarded.

### **3.4 Brand Name or Equal**

Unless otherwise specified in this Invitation for Bids, any reference to a particular trademark, trade name, patent, design, type, specification, producer or supplier is not intended to restrict this Invitation for Bids to any manufacturer or proprietor or to constitute an endorsement of any good or service, and the City of Chelsea must consider clearly identified offers if substantially equivalent goods and services submitted in response to such reference.

### **3.5 Publicity**

Any Responder awarded a contract under this Invitation for Bids is prohibited from selling or distributing any information collected or derived from the contract, including lists of participating or eligible departments, employee names, telephone numbers, e-mail

addresses, addresses or any other reports or information except as specifically authorized under this contract.

### **3.6 Costs**

Costs for services that are not specifically identified in the Responder's response and identified as part of a contract, will not be compensated under any contract awarded pursuant to this Invitation for Bids.

The City of Chelsea will not be responsible for any costs or expenses incurred by responders responding to this Invitation for Bids.

### **3.7 Required Contract Attachments**

All Responders are required to complete, sign and return at minimum the following documents:

- 1.) **Bid Information**- to be included as cover page of bid
- 2.) **Certificate of Non-Collusion**- Signature required
- 3.) **Statement of Corporate Authority ( If Responder is a Corporation)** - If the Responder is a Corporation, a vote of the Corporation approving participation in this Invitation for Bids process must be signed by the corporate officers with the Corporate Seal Affixed and attached to the original Invitation for Bids.

If the Responder is a Corporation, the names and addresses of the corporate Officers and the state and date of incorporation must be included. The Responder must state if the Corporation is publicly held or privately held. If the Corporation is publicly held, the exchange on which it is traded and the symbol under which it is traded is required.

**Sole Proprietorship ( If Responder is a Sole Proprietorship)**- If the Responder is a Sole Proprietorship, a partnership or any other legal business entity, the names and addresses of the officers must be included, the parent state of business and the numbers of years this entity has been in business. In short, a complete business profile must be included in the bid.

- 4.) **Bid Pricing Form** - Signature required
- 5.) **Reference Form**- To include three current contract references, at least one of which is a government agency that can be contacted during the IFB process. Two of the references must be customers for which the Responder is or has provided services similar to those outlined in the Scope of Services of the IFB. Include customer name, contact person, his/her title, address and telephone number.

**Do not** use the names of relatives or City Employees as references. Do not use any previous City contracts as a source of project reference information. You may use previous City contracts as a record of your experience only

- 6.) **OSHA Compliance Certification** - Signature required

### **3.8 Submitted Responses**

The City of Chelsea shall be under no obligation to return any responses or materials submitted by the Responder in response to this Invitation for Bids. All materials submitted by Responders become the property of the City of Chelsea and will not be returned to the Responder. The City of Chelsea has the right to use any ideas, concepts or configurations that are presented in the Responder's bid whether or not the bid is selected for contract award.

### **3.9 Clarification of Response**

The City of Chelsea is not required to seek clarification of responses; therefore, the responder should be as clear as possible in all of its responses to this Invitation for Bids.

### **3.10 Evaluation and Award of Contract**

All pricing must remain constant for the entire term of the contract, as well as any possible extension offered. Bids will be evaluated and awarded based upon the lowest, responsive and eligible bid.

### **3.11 Rejection of Responder's Bid**

A Responder's bid may be rejected by the City of Chelsea if the Responder's bid:

- Fails to adhere to one or more of the requirements
- Fails to submit its bid to the required address on or before the Invitation for Bid responses due date
- Fails to submit a bid in accordance to the format and instructions specified or to supply the minimum information requested in this Invitation for Bids.
- Fails to meet unconditionally or is unable to demonstrate competence to meet the requirements of this Invitation for Bids.
- Misrepresents its equipment, systems or services or provides demonstrably false information in its response or fails to provide material information.
- Violates the restrictions on contacts with the City of Chelsea employees and representatives
- Refuses, is unable to, or fails to provide clarification requested by the City of Chelsea in a reasonable time frame.

### **3.12 Invitation for Bids Cancellation**

The City of Chelsea retains the right to cancel this Invitation for Bids, or any portion thereof, at any time prior to the execution and approval of a contract. If this Invitation for Bids is cancelled, all responses received to this Invitation for Bids will be rejected. All expenses related to the preparation of responses to this Invitation for Bids remain the responsibility of the Responder.

### **3.13 No Guarantee of Purchase**

The City of Chelsea makes no guarantee that any purchase shall take place from any contract resulting from this Invitation for Bids nor does the City of Chelsea guarantee any minimum quantity of purchases from any contract resulting from this Invitation for Bids. Any estimated or past procurement volumes referenced in this Invitation for Bids are included only for the convenience of the Responders, and not to be relied upon as any indication of future purchases.

The Responder may not place, as a condition for providing the cost levels proposed, any minimum purchase requirements.

### **3.14 Prime Contractors and Subcontractors**

Prior approval of the eligible entity is required for any subcontracted service of the contract. Contractors are responsible for the satisfactory performance and adequate oversight of its subcontractors. Subcontractors are required to meet the same state and federal financial program and reporting requirements and are held to the same reimbursable cost standards as the successful Responder.

The City of Chelsea requires a single point of contact for any contract resulting from this Invitation for Bids. Subcontractors may be used, but the successful Responder, as prime contractors, shall be responsible for meeting all of the terms of any contract resulting from this Invitation for Bids and must accept full responsibility for any subcontractor's performance.

Responders must provide a list of subcontractors, a description of each subcontractor's responsibility in regards to this contract and signed letters of agreement between the Responder as the prime contractor, and its subcontractor(s) identifying their responsibilities and their relationship to the prime contractor. The prime contractor must notify each individual account (eligible entity) in writing; the name of their subcontractor both initially and when a sub-contractor is changed. If a subcontractor has filed for Chapter 11 Bankruptcy or Chapter 7 Bankruptcy, the prime contractor also must notify the City of Chelsea. The notification must be written and must be within one week of the events noted above.

### **3.15 Written Inquiries**

Responders may submit written inquiries concerning any part or attachment of this Invitation for Bids. Written inquiries regarding issues outside of the scope of this Invitation for Bids will not be considered.

All inquiries must be submitted by the required date and time, to the contact listed on the cover page of this Invitation for Bids.

All written inquiries must be submitted via electronic mail (email) only. No other manner of submission will be accepted.

Any change to this submission date and/or time will be made by a notice sent electronically to all Responders. The Responder is responsible for confirming receipt of written inquiries with Dylan Cook, Chief Procurement Officer, and City of Chelsea at [dcook@chelseama.gov](mailto:dcook@chelseama.gov).

The City of Chelsea will provide written responses via electronic mail (e-mail) to all written inquiries received by the required due date. Responses will not identify the inquiry by Responder.

### **3.16 Instructions for Submission of IFB Responses**

Each Invitation for Bid Response must be sealed, labeled and submitted to the address listed on the cover page of this document.

Paper Submission- the Responder must submit one (1) original response to the Invitation for Bids marked "ORIGINAL" The Envelope must be clearly marked "**Boiler Replacement Chelsea High School**".

### **3.17 Deadline for Submission**

All responses to this Invitation for Bids are due at the address listed on the cover page and no later than the date and time listed in the Procurement Calendar.

**End of Section**

## Section 4 Scope of Services

### SECTION 011000 - SUMMARY

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. General provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B. The latest revision or version of codes and standards referenced within the Contract Specification Section shall be used.

##### 1.2 PROJECT INFORMATION

- A. Project Identification: Project consists of the removal and replacement of the schools boilers and associated components.
  - 1. Project Location: Chelsea High School, 299 Everett Ave., Chelsea Massachusetts, 02150.
  - 2. Owner: Chelsea Public Schools, 500 Broadway, Chelsea, MA 02150.
- B. Engineer Identification: The Contract Documents, dated March, 15, 2015, were prepared for the Project by Jacobs Project Management Company, 343 Congress Street, Boston, Massachusetts, 02210.
- C. Construction Manager: In Divisions 1 through 26 Specifications, the terms “Construction Manager” and “Contractor” are synonymous.
- D. Project Coordinator: Mr. Peter Kambour, Director of Facilities Management, Chelsea Public Schools, or his appointee for the Project Coordinator.

##### 1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. In general, the work shall consist of but not be limited to:
  - 1. Remove and dispose of the existing boilers and associated components as necessary for the complete demolition of the old boiler system.
  - 2. Remove and dispose of the existing boiler flue stack.
  - 3. Remove and dispose of the existing Domestic Water Boiler flue stack. Existing Domestic Water Boilers to remain.
  - 4. Remove and dispose of the existing boiler room air handling unit and associated components.
  - 5. Furnish and install (3) New Condensing Boilers as specified

6. Furnish and install New Boiler flue as indicated
7. Furnish and install New Domestic Water Boiler flue as indicated
8. Any modifications required to connect the new boilers to the existing piping.
9. Installation of a New Induction Fan in the Hot Water Boiler Vent on Roof.
10. Remove and dispose of existing electrical equipment, conduit and cables serving the existing boilers.
11. Installation of New Electrical equipment, conduit and cables for New boiler system.
12. Connect new boiler controllers to existing building control system. .
13. Protection of existing roofing systems and all repair/replacement work necessary for the removal and replacement of both the old and the new boiler flues.
14. Cutting and patching necessary to accomplish construction activities.
15. Start Up, Testing, and Commissioning of the New Condensing Boilers.
16. Provide all Fire Watch Details (Chelsea Fire Department) as necessary for the demolition of the existing boilers and for any other welding or cutting repairs as required.
17. Extend existing flue roof curb to accommodate new boiler flues.
18. Project will be constructed under a General Construction Contract with the Mechanical Contractor acting as the General Contractor.

#### 1.4 WORK SEQUENCE AND SCHEDULE

- A. The Construction Schedule shall be based on the work being completed by September 30, 2015, or other date as agreed to by the Director of Facilities Management for the Chelsea School Department. It is imperative to have the boilers operational by start of school year, or by middle of August, and complete other related portions of the contract thereafter.
- B. Contractor shall submit a schedule for each Phase of the Work indicating scheduled completion of work and identifying these intermediate milestones:
  - a. Start of Project Construction
  - b. Delivery and Approval of Submittals.
  - c. Delivery of all major equipment.
  - d. Start and finish of demolition activities
  - e. Start and finish of roof work
  - f. Start and finish of new equipment installations.
  - g. Start up and Testing
  - h. Commissioning.
  - i. Project Completion/Closeout.

#### 1.5 USE OF PREMISES/PERMITS/FEES

- A. General: Contractor will have limited use of premises for construction operations during construction period.
- B. Specific areas for staging and storage of construction materials will be identified by the Project Coordinator. Storage of materials shall be in contractor furnished locked containers. Contractor shall provide security for his tools, consumables, and to the

various work areas during the period of construction. No additional charges will be accepted for any lost or stolen material or tools.

- C. Contractor is advised that school is in session and work will be accomplished during normal school activities. No disruption, interruption, or any other contractor activity, including lifting and rigging operations, will adversely affect school operations.
- D. Contractor is advised that the school is located in a residential/commercial section of the city and vehicular access may at times become congested and/or difficult. Some work may require off-peak hours and the use of premium labor. Contractor shall schedule this work accordingly.

## 1.6 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 26-division format and CSI/CSC's "MasterFormat" numbering system.
  - 1. Section Identification: The Specifications use section numbers and titles to help cross-referencing in the Contract Documents. Sections are in numeric sequence; however, the sequence is incomplete. Consult the table of contents to determine numbers and names of sections in the Contract Documents.
  - 2. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
  - 3. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
  - 4. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
    - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

## 1.7 SUBMITTALS

- A. Five (5) copies of each submittal, as required by these specifications, shall be delivered for review by the Engineer. All submittals shall conform to the format as specified herein.
- B. Submittals shall be in a bound format, with a title page indicating the Project Identification, submittal title and specification reference.

- C. Submittals shall be made to expedite material and equipment delivery. No claim for delay will be entertained due to drawing submittal review.
- D. Payment will be made on a monthly basis predicated on Engineers and Owners representative review of the work and timely receipt of Shop drawings. Delays in receipt of shop drawings will be cause for delays in payment for work completed. Contractor is advised that his work will be accomplished "At Risk" if placed without Engineer approved shop drawings.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

**Bidder Information Form**

**Bid for Boiler Replacement Chelsea High School**

(To be first page of Bid)

Name of Company:

Address:

Telephone #:

Fax #:

Email Contact:

Is the Company a:

Corporation \_\_\_\_\_

Partnership \_\_\_\_\_

Sole Proprietorship\_\_\_\_\_

Publicly Held \_\_\_\_\_

Privately Held \_\_\_\_\_

Names and address of the Principals, Owners, Directors, Officers:

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\_\_\_\_\_  
Signature of authorizing party

**CITY OF CHELSEA**  
**REQUIRED BID SUBMITTAL FORM**

**Certificate of Non-Collusion**

The undersigned certifies under the penalties of perjury that this 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.

Signature

Date

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Name (Please Print)

\_\_\_\_\_  
Title

\_\_\_\_\_  
Company

\_\_\_\_\_  
Address

\_\_\_\_\_  
Contact Number

**CITY OF CHELSEA**

**REQUIRED BID SUBMITTAL FORM**

**STATEMENT OF CORPORATE AUTHORITY**

**REQUIRED (IF CORPORATION)** IF A CORPORATION, COMPLTE BELOW OR ATTACH TO EACH SIGNED COPYOF THE BID A NOTORIZED COPY OF VOTE OF CORPORATION AUTHORIZING THE SIGNATORY TO SIGN THIS CONTRACT. IF ATTESTING CLERK IS THE SAME PERSON AS THE INDIVIDUAL EXECUTING THIS CONTRACT, HAVE SIGNATURE NOTORIZED ABOVE.

At a duly authorized meeting of the Board of Directors of \_\_\_\_\_ held  
on \_\_\_\_\_ Date Name of Corporation

at which time all voted that \_\_\_\_\_  
Name Officer

of this Company, be and 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 of obligation in this Company's name on its behalf by such person \_\_\_\_\_ under seal of the Company, shall be valid and binding upon this company.

A TRUE COPY,

ATTEST: \_\_\_\_\_  
Clerk

PLACE OF BUSINESS: \_\_\_\_\_

DATE OF THIS BID: \_\_\_\_\_

I hereby certify that I am the Clerk of the \_\_\_\_\_  
\_\_\_\_\_ and that \_\_\_\_\_ is

duly elected \_\_\_\_\_ of said Company, and that the above vote has not been amended or rescinded and remains in full force and effect as of the date of this contract.

\_\_\_\_\_  
(Clerk's Signature)

(CORPORATE SEAL)

On this \_\_\_\_\_ day of \_\_\_\_\_, 2015, before me, the undersigned notary public, personally appeared \_\_\_\_\_, proved to me through satisfactory evidence of identification, which were \_\_\_\_\_ to be the person whose name is signed on the preceding or attached document in my presence.

\_\_\_\_\_  
Notary Public - My Commission Expires:

**CITY OF CHELSEA  
REQUIRED BID SUBMITTAL FORM**

LUMP SUM BID PRICING - TOTAL BID PRICE:

\$ \_\_\_\_\_ (words)                      \$ \_\_\_\_\_ (figures)

Name of Firm: \_\_\_\_\_

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

Phone Number: (\_\_\_\_\_) - \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_ Date: \_\_\_\_\_

Email Address: \_\_\_\_\_

The above named firm agrees with the terms and conditions set forth in these Bid Specifications and submits the following rates. The rate shall be inclusive of all charges associated with the provisions of the services.

In conjunction with the words, and figures submitted above for the requisite bid items, and an integral part of said bid submission, the undersigned certifies that:

The undersigned declares that the only persons or parties interested in his/her bid as principals area as stated; that the bid is made without any collusion with other persons, firms, or corporations; that he/she has carefully examined all the Contract Documents and has informed him/herself fully in regard to all conditions pertaining to the work and based on this information, the undersigned makes this bid. These prices shall cover all expenses incurred in performing the work required under the Contract Documents of which this Bid Form is a part.

All bids shall remain open for thirty (30) days, not including Saturdays, Sundays, and legal holidays, after the date of the bid opening.

If a notice of award and three (3) unsigned copies of the Contract (and all other applicable Contract Documents) is delivered to the undersigned within thirty (30) calendar days, not including Saturdays, Sundays, and legal holidays, after the date of receipt of such notification, he/she shall within five (5) days execute and return all copies of the Contract (and all other applicable Contract Documents) to the City. The premiums for all bonds required shall be paid by the Contractor and shall be included in the contract

price. The undersigned further agrees that the bid security accompanying this bid shall become the City's property if the bidder fails to execute the Contract as stated above.

Amounts shall be shown in both words and figures, where indicated. In case of discrepancy, the amount shown in words will govern. The above prices shall include all labor, materials, equipment, supervision, transportation, overhead, profit, insurance, and incidentals required to complete the Work.

The undersigned hereby certifies that s/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.

**Furthermore, pursuant to M.G.L., Chapter 62C, Section 49A, I certify under the penalties of perjury that I, to my best knowledge and belief, have filed all state tax returns and paid all state taxes required under the law.**

**The undersigned under penalties of perjury certifies that this bid is in all respects true, accurate, bonafide, fair, and made without collusion or fraud with any other person. As used in this section, the word "person" shall mean any natural person, joint venture partnership, corporation, or other business or legal entity.**

Signed this \_\_\_\_ day \_\_\_\_\_, 2015.

\_\_\_\_\_  
Social Security Number or  
Federal Identification Number

\_\_\_\_\_  
Signature of Individual or  
Corporate Name

By: \_\_\_\_\_  
Partner of Corporate

**CITY OF CHELSEA**  
**REQUIRED BID SUBMITTAL FORM**

**REFERENCE FORM**

Bidder: \_\_\_\_\_

Title of Bid: **Boiler Replacement Chelsea High School**

**Bidder must provide references for:**

All contracts performed within the past five years of similar size and scope to this contract

- Reference: \_\_\_\_\_
- Address: \_\_\_\_\_
- Contact: \_\_\_\_\_
- Phone: \_\_\_\_\_
- Fax: \_\_\_\_\_
- Description and date(s) of services provided:

- Reference: \_\_\_\_\_
- Address: \_\_\_\_\_
- Contact: \_\_\_\_\_
- Phone: \_\_\_\_\_
- Fax: \_\_\_\_\_
- Description and date(s) of services provided:

- Reference: \_\_\_\_\_
- Address: \_\_\_\_\_
- Contact: \_\_\_\_\_
- Phone: \_\_\_\_\_
- Fax: \_\_\_\_\_
- Description and date(s) of services provided:

**CITY OF CHELSEA**

**REQUIRED BID SUBMITTAL FORM**

**OSHA COMPLIANCE CERTIFICATION**

**Any person submitting a bid for, signing a contract to work on, the construction, reconstruction, alteration, remodeling or repair of any building or public works project undertaken by a public awarding authority in Massachusetts and estimated to cost more than \$10,000 must certify on the bid or contract, under penalties of perjury, as follows:**

1. That he is able to furnish labor than can work in harmony with all other elements of labor employed or to be employed at the work
2. 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 10 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
3. That all employees to be employed in the work subject to this bid have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration. (MGL. c. 30, Section 39S (a))

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Pursuant to M.G.L. c. 30, Section 39M and M.G.L. c. 149, I certify under penalties of perjury that, to the best of my Knowledge and belief, I am in compliance with the OSHA requirements as stated above.

Dated \_\_\_\_\_

\_\_\_\_\_  
Name of Company or Corporation

\_\_\_\_\_  
Authorized Official's Signature

BIDDERS/RESPONDENTS MUST SUBMIT THIS FORM FULLY COMPLETED

CONTRACT NO. \_\_\_\_\_

**CITY OF CHELSEA  
CONTRACT FOR SERVICES  
over \$10,000**

\_\_\_\_\_

This agreement (the "Agreement") is made and entered into by and between the City of Chelsea (hereinafter the CITY), a municipal corporation organized and existing under the laws of the Commonwealth of Massachusetts, and

[NAME]  
[ADDRESS]  
(hereinafter the CONTRACTOR)

For mutual consideration the Parties hereby agree as follows:

**ARTICLE 1. DEFINITION.**

This CONTRACT as used herein shall consist of this Agreement, and the "contract documents" which include but are not limited to the following identified items and all documents, and forms submitted therewith, or attached hereby.

- Attachment A: Scope of Services, and/or other bid package materials
- Attachment B: Additional Contract Terms and Conditions
- Attachment C: Certificate of Non-Collusion, Tax Compliance Certification, Statement of Corporate Authority
- Attachment D: Summaries of Laws Regarding State Ethics - Acknowledgment of Receipt
- Addenda through #

**ARTICLE II. AMOUNT AND TERM.**

Pursuant to the terms and conditions stated in the Contract, this CITY agrees to pay an amount not to exceed \$ \_\_\_\_\_, and the Contractor agrees to perform the services detailed in the Contract. The Contract shall commence on or about \_\_\_\_\_ (the "Commencing Date") unless earlier terminated pursuant to Article IV, Termination and shall terminate no later than \_\_\_\_\_, unless a written amendment to renew or extend this contract is executed in accordance with the provisions of this CONTRACT.

**ARTICLE III. PERFORMANCE.**

The Contractor agrees to provide all goods and/or services set forth in the Invitation for Bid/Request for Proposal Documents, Scope of Service, the Contractor's proposal for " \_\_\_\_\_ ", and/or as outlined in ATTACHMENT A - SCOPE OF SERVICES.

**ARTICLE IV. TERMINATION.**

i) Without Cause. The CITY may terminate this CONTRACT on sixty (60) calendar day's notice, or may suspend this CONTRACT for up to sixty (60) calendar days upon receipt of notice, when in the best interests of the CITY, by providing notice to the CONTRACTOR, which shall be in writing and shall be deemed delivered and received when given in person to the CONTRACTOR, or when received by fax, express mail, certified mail return receipt requested,

regular mail postage prepaid or delivered by any other appropriate method evidencing actual receipt by the CONTRACTOR.

ii) For Cause. If the CONTRACTOR is determined by the CITY to be in default of any term or condition of CONTRACT, the CITY may terminate this contract on thirty (30) day's notice by providing notice to the CONTRACTOR, which shall be in writing and shall be deemed delivered and received when given in person to the CONTRACTOR, or when received by fax, express mail, certified mail return receipt requested, regular mail postage prepaid or delivered by any other appropriate method evidencing actual receipt by the CONTRACTOR. If the CITY is determined by the CONTRACTOR to be in default of any term or condition of this CONTRACT the CONTRACTOR may terminate this contract on thirty (30) day's notice by providing notice to the CITY, which shall be in writing and shall be deemed delivered and received when given in person to the CITY, or when received by fax, express mail, certified mail return receipt requested, regular mail postage prepaid or delivered by any other appropriate method evidencing actual receipt by the CITY.

iii) Default. Events of default under this CONTRACT shall include, but are not limited to the following: a) any material misrepresentation made by the CONTRACTOR to the CITY, b) any failure to perform any of its obligations under this CONTRACT including, but not limited to the following: (i) failure to commence performance of this CONTRACT at the time specified in this CONTRACT due to a reason or circumstance within the CONTRACTOR'S reasonable control, (ii) failure to perform this CONTRACT with sufficient personnel and equipment or with sufficient material to ensure the completion of this CONTRACT within the specified time due to a reason or circumstance within the CONTRACTOR'S reasonable control, (iii) failure to perform this CONTRACT in a manner reasonably satisfactory to the CITY, (iv) failure to promptly re-perform with reasonable time the services that were rejected by the CITY as unsatisfactory, or erroneous, (v) discontinuance of the services for reasons not beyond the CONTRACTOR'S reasonable control, (vi) failure to comply with a material term of this CONTRACT, including, but not limited to, the provision of insurance or failure to comply with nondiscrimination provisions, and (vii) any other acts specifically and expressly stated in this CONTRACT as constituting a basis for termination of this CONTRACT, and (viii) failure to comply with any and all requirements of state law, and/or regulations, and City ordinances, and/or regulations.

**ARTICLE V. REMEDIES OF THE CITY.**

The City hereby retains all remedies in law and equity, including but not limited to, the right to deduct the cost of any substitute contract or performance for expenses, losses, and all damages and the right to withhold from payment, any amounts for expenses, losses, and damages from sums due, or which become due.

**ARTICLE VI. REMEDIES OF THE CONTRACTOR.**

If the Contractor, due to any act or omission for which the City is legally responsible, sustains damages, other than loss, non-conformance, or non-performance, the Contractor may request, within 30 days of the alleged act or omission from the City, a sum equal to the amount of such damages sustained by the Contractor, which amount may be determined by the City in writing, at the City 's sole discretion, provided that the Contractor has provided to all signatories of this Agreement, a detailed, written statement of such damages and cause thereof within said 30 day period.

**ARTICLE VII. ASSIGNABILITY.**

The CONTRACTOR shall not assign, subcontract or in any way transfer any interest, rights or obligations in this CONTRACT without the prior written consent of the City Manager. In the

event of such assignment the CITY reserves the right to deal with any assignee subcontractor or transferee directly and the CONTRACTOR agrees to remain bound by all terms and conditions of this CONTRACT in accordance with its original tenor and in no way shall the CONTRACTOR be relieved of its responsibilities and obligations under this CONTRACT. The provisions of this CONTRACT shall be binding upon, and shall inure to the benefit of, the successors and assigns of the CONTRACTOR and any public body or bodies succeeding the interests of the CITY.

**ARTICLE VIII. INDEMNIFICATION.**

The CONTRACTOR shall assume the defense, indemnify and hold harmless the CITY, the CITY'S agents and employees, from and against all losses and all claims, demands, payments, suits, actions, recoveries and judgments of every nature and description brought or recovered against them by reason of acts, in actions, omissions, negligence, reckless or intentional misconduct of the said CONTRACTOR, its agent(s), officers, employees, or subcontractors; in the execution of the work or in guarding the same. Unless otherwise provided by law, the CITY may elect, at its sole discretion, to indemnify the CONTRACTOR for claims arising in tort if it is determined that the CONTRACTOR performed its obligations under this CONTRACT pursuant to the direct supervision and control of the CITY or its designated agent(s).

**ARTICLE IX. WORKER'S COMPENSATION AND OTHER INSURANCE.**

The CONTRACTOR shall provide insurance for the payment of compensation and the furnishing of other benefits under Chapter 152 of the General Laws of Massachusetts (The Worker's Compensation Act) to all employees of the CONTRACTOR who are subject to the provisions of Chapter 152 of the General Laws of Massachusetts.

Failure to provide and continue in force such insurance during the period of this contract shall be deemed a material breach of this contract, shall operate as an immediate termination thereof, and CONTRACTOR shall indemnify the CITY for all losses, claims, and actions resulting from the failure to provide the insurance required by this Article.

The Contractor shall furnish to the CITY evidence of such insurance prior to the execution of this contract and before the same shall be binding on the parties thereto, except if specifically waived in Attachment B.

Prior to commencement of any work and until completion of its work under this CONTRACT, the CONTRACTOR shall maintain the following insurance coverage, at its cost, from insurance acceptable to the CITY, giving evidence of such coverage to the CITY prior to execution of this CONTRACT, a copy of such insurance coverage to be attached herewith:

1. Comprehensive Automobile Liability Insurance covering the use of all owned, non-owned and hired automobiles in connection with its operations with a combined single limit of \$1,000,000. The comprehensive Automobile Liability insurance may be provided through primary and excess or umbrella insurance policies.
2. CONTRACTOR'S Equipment Coverage (or a certification of self-insurance satisfactory to the CITY) must be provided on an "All Risks" basis, covering physical damage to all tools and equipment, including automotive equipment owned, rented, or used by the CONTRACTOR.
3. Commercial General Liability Insurance coverage which may be provided through primary and excess or umbrella liability policies for limits of \$1,000,000 general aggregate, and \$500,000 per occurrence.

All required insurance must be endorsed to name the CITY as Additional Insured. All required insurance shall be endorsed to waive the insurer's rights of subrogation against the City. All policies and certificates of insurance must contain language that the insurance shall not be canceled, materially changed or non-renewed without at least thirty (30) days advance written notice to the CITY. The CONTRACTOR under this CONTRACT shall not allow its subcontractors to begin work until similar insurance has been so obtained and certificates of insurance approved by the CONTRACTOR.

**ARTICLE X. CORPORATE CONTRACTOR.**

If CONTRACTOR is a corporation, CONTRACTOR shall endorse the Certificate of Corporate Authority for the CONTRACTORS' signatory (Exhibit C), or shall otherwise provide a form similar in nature and substance acceptable to the CITY at the City's sole discretion.

If CONTRACTOR is a non-profit corporation, CONTRACTOR shall provide satisfactory proof of present status as a non-profit corporation. Such proof shall be in the form of a certification from the Massachusetts Secretary of State's office and/or from the Internal Revenue Service and shall provide the Federal Tax Identification Number of the non-profit corporation. This CONTRACT shall not be enforceable against the CITY unless and until the CONTRACTOR complies with this Article. Failure to inform the CITY in writing of revocation, or other loss of non-profit status shall be deemed a material breach of this contract and operate as an immediate termination thereof.

**ARTICLE XI. SUBJECT TO APPROPRIATION.**

The obligations of the CITY under this CONTRACT shall be subject to appropriation. In the absence of appropriation this CONTRACT shall be immediately terminated without liability for damages, penalties, or other charges.

In the event any portion of this Agreement is to be funded with alternate funding including but not limited to state, local, federal or private grant funding. In the requisite circumstances, the obligations of the CITY under this CONTRACT shall be subject to the formal award of such state, local, federal or private grant.

**ARTICLE XII. DOCUMENTS, MATERIALS, ETC.**

Any materials, reports, information, data, etc. given to or prepared or assembled by the CONTRACTOR under this CONTRACT are to be kept confidential and shall not be made available to any individual or organization by the CONTRACTOR (except agents, servants, or employees of the CONTRACTOR) without the prior written approval of the CITY. The CONTRACTOR understands that he/she/it may acquire or have access to "personal data" otherwise kept by the CITY. The CONTRACTOR shall comply with the provisions Chapter 66A of the General Laws of Massachusetts as it relates to public documents, and all other state and federal laws and regulations relating to confidentiality, security, privacy and use of confidential data.

Any materials produced in whole or in part under this CONTRACT shall not be subject to copyright, except by the CITY, in the United States or any other country. The CITY shall have unrestricted authority to, without payment of any royalty, commission, or additional fee of any type or nature, publicly disclose, reproduce, distribute and otherwise use, and authorize other to use, in whole or in part, any reports, data or other materials prepared under this CONTRACT.

All data, reports, programs, software, equipment, furnishings, and any other documentation or product paid for by the CITY shall vest in the CITY at the termination of this CONTRACT. The CONTRACTOR shall at all times, during or after termination of this CONTRACT, obtain the prior written approval of the CITY before making any statement bearing on the work performed or data collected under this CONTRACT to the press or issues any material for publication through any medium.

**ARTICLE XIII.           AUDIT, INSPECTION, RECORDKEEPING.**

At any time during normal business hours, and as often as the CITY may deem it reasonably necessary, there shall be made available in the office of the CONTRACTOR for the purpose of audit, examination, and/or to make excerpts or transcripts, all records, contracts, invoices, materials, payrolls, records of personnel, conditions of employment and other data relating to all matters covered by this agreement.

Further the CONTRACTOR agrees to make its work papers, records and other evidence of audit available to the CITY for a period of three years after final payment under his CONTRACT. The CITY shall be entitled to reproduce any or all such documents at its own expense, for which provision shall be made at such time.

**ARTICLE XIV.           WEEKLY PAYROLL RECORDS REPORT.**

In accordance with Massachusetts General Law c. 149, s. 27B, a true and accurate record must be kept of all individuals employed on a public works construction project for which prevailing wage rates are applicable.

In addition, every contractor and subcontractor is required to submit, on a weekly basis, a copy of their weekly payroll records to the awarding authority. Once collected, the awarding authority is also required to preserve those records for three years.

**ARTICLE XV.           CONFLICT OF INTEREST.**

i) CITY. No officer, member or employee of the CITY and no members of its governing body who exercise any function or responsibility in review or approval of the undertaking or carrying out of this CONTRACT shall participate in any decision relating to the CONTRACT which affects his/her personal interests or the interest of any corporation, partnership, or association in which he/she has a direct or indirect pecuniary interest. None of the services to be provided by the CONTRACTOR shall be used for any partisan political activity or further the election or defeat of any candidate for political office in the CITY. Compliance with this section shall be material to the CONTRACT.

ii) CONTRACTOR. CONTRACTOR agrees that his/her/its agents, servants, and employees have neither presently nor during the period of this CONTRACT any interest direct or indirect which would impair, detract, or conflict in any manner or degree with the performance of services required under this CONTRACT. The CONTRACTOR, his/her/its agents, servants and employees further stipulate that in the performance of this CONTRACT, no person having any such interest shall be employed. Conflicts of Interest include but are not limited to (a) immediate family relationships with officials of the CITY, (b) instances where the CONTRACTOR, his/her/its agents, servants or employees during the period of this CONTRACT was connected as an officer, employee or member of the governing body of the CITY, and (c) instances where the CONTRACTOR has an interest in any CITY department, its agents, servants or employees or parcels of land within the CITY. Compliance with this section shall be material to the CONTRACT. The CONTRACTOR, his/her/its agents, servants and employees must disclose any and all such interests in writing to the CITY.

**ARTICLE XVI. PAYMENT.**

The City agrees to make all reasonable efforts to pay to the CONTRACTOR the sum set forth any invoice which has been approved by the City Manager or his authorized designee within thirty (30) days of receipt of such invoice at the Office of the City Auditor. Each invoice shall detail the work completed.

Subject to pending statutory appeal rights, the City hereby reserves the right and the CONTRACTOR hereby agrees that the City may deduct from the sum(s) otherwise payable under this CONTRACT any outstanding taxes, fines, fees and/or other municipal charges prior to disbursement to the CONTRACTOR.

**ARTICLE XVII. CONFLICT.**

In the event there is a conflict between these Articles and Attachment A, Attachment A shall supersede these Articles.

**ARTICLE XVIII. WAIVER AND AMENDMENT.**

The provisions contained in this CONTRACT may be modified only by the express written consent of the Parties. Any amendments, must be made only by written amendment executed by all signatories to the original agreement, prior to the effective date of the amendment.

The failure of any party to insist on the strict performance of any term, covenant or condition to this CONTRACT, at anytime, or in any one or more instances, or its failure to take advantage of any of its rights, or any course of conduct or dealing, shall not be construed as a waiver or a relinquishment of any such rights or conditions at any future time and shall, in no way act, as a wavier by any party of a breach of another party or have any affect on the continuance of or the full force and affect of any or all of the provisions of this Contract. The waiver of any provisions must be in writing and executed by all signatories to this Agreement prior to the force and effect of any such waiver.

Forbearance or indulgence in any form or manner by a party shall not be construed as a waiver, nor in any manner limit the legal or equitable remedies available to that party. No waiver by either party of any default or breach shall constitute a waiver of any subsequent default or breach of a similar or different matter.

**ARTICLE XIX. CERTIFICATION.**

IN WITNESS WHEREOF, THE CONTRACTOR CERTIFIES, UNDER THE PAINS AND PENALTIES OF PERJURY, THAT THE CONTRACTOR IS IN COMPLIANCE WITH EACH OF THE FOLLOWING:

- a. TAXES. PURSUANT to M.G.L. c. 62C, s. 49A, the CONTRACTOR has filed all state tax returns and complied with all laws of the Commonwealth relating to taxes.
- b. DEBARMENT. The CONTRACTOR is not currently debarred or suspended by the Commonwealth of Massachusetts, or any of its entities or subdivisions.
- c. AMERICANS WITH DISABILITIES ACT. The CONTRACTOR is aware of the Americans with Disabilities Act which prohibits discrimination based upon disability and shall meet any relevant standards, and/or conditions set out in the bid/proposal documents, bid/proposal specifications, and/or ATTACHMENT A - SCOPE OF SERVICES.

**ARTICLE XX. FORUM AND CHOICE OF LAW**

This CONTRACT and any performance herein shall be governed by and be construed in accordance with the laws of Commonwealth of Massachusetts, exclusive of its conflicts of law provisions. Any and all proceedings or actions relating to subject matter herein shall be brought and maintained in the courts of the Commonwealth of Massachusetts or the federal district court sitting in the Commonwealth of Massachusetts, which shall have exclusive jurisdiction thereof. Each of the Parties hereto irrevocably consents to and waives any objection to the exercise of personal jurisdiction by the state and federal courts of the Commonwealth of Massachusetts. This paragraph shall not be construed to limit any other legal rights of the parties.

**ARTICLE XXI. TAXES**

CONTRACTOR shall be solely responsible for the payment of any taxes, levies, betterments or assessments, fees or charges, whether in existence on the date hereof or becoming applicable pursuant to this Contract, which may be assessed against the CONTRACTOR or the CITY which are directly attributable to CONTRACTOR'S activities under this CONTRACT (the "Taxes"). CONTRACTOR shall pay all Taxes directly to the taxing authority before delinquency and before any fine, interest or penalty shall become due or be imposed by operation of law for their nonpayment.

**ARTICLE XXII. NOTICES**

All notices, demands, requests, consents, approvals and other instruments required or permitted to be given pursuant to the terms hereof (hereinafter "Notice"), shall be in writing and shall be deemed to have been properly given when delivered in hand or deposited in registered or certified United States mail, postage prepaid, return receipt requested, addressed, as described herein or when delivered by messenger or overnight mail service to the correct addressee. Unless otherwise specified, Notice shall be deemed received when actually received or when the proffered Notice has been refused by the Addressee. The signature of an employee, servant or agent of the Addressee shall be determinative on the issue of actual receipt.

All notices shall be sent to the persons and addresses listed below. CONTRACTOR and the CITY shall, at any time and from time to time, have the right to specify as their proper addresses for purposes of this CONTRACT any other address or addresses giving fifteen (15) days' written notice thereof to the other party.

All Notices shall be forwarded to:

FOR THE CITY  
Edward Keefe, Acting City Manager  
500 Broadway  
City Hall  
Chelsea, MA 02150

With a Copy to:  
Cheryl Anne Watson  
City Solicitor  
Law Department, Room 307  
500 Broadway  
Chelsea, MA 02150

FOR THE CONTRACTOR:  
[NAME]  
[ADDRESS]

**ARTICLE XXIII. CONSIDERATION**

The Parties mutually agree to enter into this CONTRACT for good and valuable consideration.

**ARTICLE XXIV. REPRESENTATIONS AND WARRANTIES OF THE CONTRACTOR**

The CONTRACTOR represents and warrants (i) the CONTRACTOR has all requisite corporate power and authority to enter into this CONTRACT and to perform the obligations of the CONTRACTOR; (ii) that this CONTRACT has been duly and validly authorized, executed and delivered by the CONTRACTOR; (iii) the execution and delivery of this CONTRACT does not violate or conflict with any other agreement, license or obligation; (iv) the CONTRACTOR is duly organized, legal and validly existing and in good standing in the Commonwealth of Massachusetts; (v) that the CONTRACTOR is duly qualified and authorized to do business in the Commonwealth of Massachusetts; (vi) the CONTRACTOR is in compliance and is current with any payments under all federal, state and local tax laws; (vii) the CONTRACTOR will obtain any and all permits which may be necessary to perform the obligations of this CONTRACT; (viii) the CONTRACTOR will timely perform its obligations required by this CONTRACT.

**ARTICLE XXV. THIRD PARTY BENEFICIARIES**

This CONTRACT shall not be construed to create any third party beneficiary rights in favor of any other parties or any right or privilege for the benefit of any other parties.

**ARTICLE XXVI. ENTIRE CONTRACT**

This CONTRACT constitutes the entire Agreement of the parties hereto with respect to the subject matter hereof, and no representations, inducements, promises, or agreements, oral or otherwise, between the parties hereto with respect to the subject matter hereof not embodied herein shall be of any force or effect.

**ARTICLE XXVII. LIABILITY OF MUNICIPALITY**

The CITY shall not be liable to CONTRACTOR for any loss of business or any indirect, incidental, special, consequential or exemplary damages or lost profits unless expressly specified herein.

**ARTICLE XXVIII. HEADINGS**

Heading used in this Agreement are for convenience of reference only and shall not be construed as altering the meaning of this CONTRACT or any of its provisions.

**ARTICLE XXIX. DAYS**

Any reference to "days" in this CONTRACT, shall be deemed to mean business days (Monday through Friday, excluding generally recognized holidays) except where specific reference is made to calendar days.

**ARTICLE XXX. SURVIVAL**

The parties agree that the provisions of ARTICLE II – AMOUNT AND TERM; ARTICLE III – PERFORMANCE; ARTICLE V- REMEDIES OF THE CITY; ARTICLE VI- REMEDIES OF THE CONTRACTOR. ARTICLE VII – ASSIGNABILITY; ARTICLE VIII – INDEMNIFICATION; ARTICLE IX- WORKER’S COMPENSATION AND OTHER INSURANCE; ARTICLE XI-SUBJECT TO APPROPRIATION; ARTICLE XII – DOCUMENTS, MATERIALS, ETC; ARTICLE XIII – AUDIT, INSPECTION, RECORDKEEPING; ARTICLE XIV- WEEKLY PAYROLL RECORDS REPORT; ARTICLE XVI – PAYMENT; ARTICLE XVIII – WAIVER AND AMENDMENT; ARTICLE XIX –

CERTIFICATION; ARTICLE XX- FORUM AND CHOICE OF LAW; ARTICLE XXI – TAXES; ARTICLE XXIV- REPRESENTATIONS AND WARRANTIES OF THE CONTRACTOR; ARTICLE XXVII- LIABILITY OF THE MUNICIPALITY; ARTICLE XXX – SURVIVAL; and ARTICLE XXXI - SEVERABILITY shall survive the expiration or any earlier termination of this CONTRACT.

**ARTICLE XXXI. SEVERABILITY**

If any provision of this CONTRACT is held to be illegal, invalid or unenforceable, the remaining terms shall not be affected and shall remain in full force and effect. The Agreement shall be interpreted as if the illegal, invalid or unenforceable provision had not been included in it and the invalid or unenforceable provision shall be stricken and shall be replaced by a mutually acceptable provision which being valid and enforceable comes closest to the intention of the parties with respect to the invalid or unenforceable provision.

**ARTICLE XXXII. ADVICE AND COUNSEL**

The CONTRACTOR hereby acknowledges and agrees that CONTRACTOR has read this Agreement in its entirety and that CONTRACTOR has had the opportunity to consult legal and financial advisors of their choosing regarding the execution, delivery and performance of their obligations, hereunder.

**ARTICLE XXXIII. COUNTERPARTS**

This CONTRACT may be executed in counterpart.

THE REMAINDER OF THIS PAGE LEFT INTENTIONALLY BLANK

IN WITNESS WHEREOF the parties have hereto and to three other identical instruments set forth their hands the day and year first above written.

THE CONTRACTOR

CITY MANAGER

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Edward Keefe, Acting City Manager

\_\_\_\_\_  
Status (Corporation/Non-corporate)

\_\_\_\_\_  
Signature & Title

\_\_\_\_\_  
Please Print Name & Title

\_\_\_\_\_  
Dylan Cook  
Chief Procurement Officer

\_\_\_\_\_  
Date

\_\_\_\_\_  
Taxpayer Identification Number

APPROVED AS TO FORM:

\_\_\_\_\_  
Cheryl Watson Fisher  
City Solicitor

Approved as to Contract Manager:

I CERTIFY THAT FUNDS HAVE BEEN  
ENCUMBERED IN THE AMOUNT OF  
\$\_\_\_\_\_ FOR THIS CONTRACT  
Appropriation Number:  
\_\_\_\_\_

\_\_\_\_\_  
Department Head Name  
Department Name  
City of Chelsea

\_\_\_\_\_  
Edward M. Dunn  
City Auditor

## **ATTACHMENT A**

### **SCOPE OF SERVICES**

**INSTRUCTIONS FOR DEPARTMENT AND CONTRACTOR:** Please attach for reference purposes a copy of all bid/proposal documents, including but not limited to (i) invitations/instructions for bidders (ii) invitation/instructions for proposers, (iii) general and specific conditions, and please provide a detailed description of all types of goods and/or services that will be provided pursuant to this CONTRACT, not otherwise provided in any bid/proposal instructions, specifications, conditions or other documents.

## **ATTACHMENT B**

### **ADDITIONAL CONTRACT TERMS AND CONDITIONS**

**INSTRUCTIONS FOR DEPARTMENTS:** Please specify any additions or modifications to the terms and conditions (not to conflict with the public procurement laws or City ordinances or regulations:

# **ATTACHMENT C**

CERTIFICATE OF NON-COLLUSION

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TAX COMPLIANCE CERTIFICATION

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STATEMENT OF CORPORATE AUTHORITY

CERTIFICATE OF NON-COLLUSION  
MANDATORY

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.

Dated: \_\_\_\_\_

\_\_\_\_\_

Name of Company or Corporation

\_\_\_\_\_

Authorized Official's Signature

**BIDDERS/RESPONDENTS MUST SUBMIT THIS FORM FULLY COMPLETED.**

TAX COMPLIANCE CERTIFICATION

Pursuant to M.G.L. c. 62C, Section 49A, I certify under penalties of perjury that I, to my best knowledge and belief, have filed all Massachusetts tax returns and paid all Massachusetts taxes required under law, as well as paid all contributions and payments in lieu of contributions pursuant to M.G.L., c. 151A, Section 19A(b).

I further certify that I have complied with all federal, state and local laws relating to taxes, including but not limited to the withholding and reporting of any income taxes for employees and contractors, and the withholding and remittance of child support.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Social Security or Federal ID No.

\_\_\_\_\_  
Date

**BIDDERS/RESPONDENTS MUST SUBMIT THIS FORM FULLY COMPLETED.**

STATEMENT OF CORPORATE AUTHORITY

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

held on \_\_\_\_\_ at which time all voted that \_\_\_\_\_

of this Company, be and hereby is authorized to execute contracts and bonds in the name and on behalf of said Company, and affix its Corporate seal thereto, and such execution of any contract

of obligation in this Company's name on its behalf by such person \_\_\_\_\_ under seal of the Company, shall be valid and binding upon this Company.

A TRUE COPY,  
ATTEST:

\_\_\_\_\_

PLACE OF BUSINESS:

\_\_\_\_\_

\_\_\_\_\_

DATE OF THIS CONTRACT:

\_\_\_\_\_

I hereby certify that I am Clerk of \_\_\_\_\_ and that

\_\_\_\_\_ is duly elected \_\_\_\_\_

of said Company, and that the above vote has not been amended or rescinded and remains in full force and effect as of the date of this contract.

\_\_\_\_\_  
(Clerk's Signature)

(CORPORATE SEAL)

## ATTACHMENT D

City of Chelsea  
**Conflict of Interest Law**  
Compliance Statement and Requirements for Vendors

On July 1, 2009, the Legislature enacted Chapter 28 of the Acts of 2009 which made changes to Mass. General Laws c. 268A and c. 268B, the Massachusetts' Conflict of Interest Law. On November 9, 2009, the Chelsea City Council designated the Chelsea City Solicitor as the Municipal Liaison to the State Ethics Commission and responsible for the facilitation of Chelsea's obligation to comply with the changes in the law.

The City has a requirement for compliance, which is to make sure that all municipal elected officials, board and commission members, and employees **including vendors** are provided copies of the Summaries of the Ethics Laws.

Enclosed is a packet that should be copied and provide to each one of your employees who are assigned to work in Chelsea; including yourself. At the end of the summary is an acknowledgement of receipt of the summary. The acknowledgments must be submitted along with any purchase order or contract with the City of Chelsea. All documents pursuant to this new law will be kept on file in the City Clerk's Office

The Procurement Officer will contact you directly, if there is a determination that you or your staff should undergo the Conflict of Interest Online Training Program.

If you have any questions, feel free to contact the Chelsea City Solicitor at 617-466-4150 as soon as possible.

# Summary of the Conflict of Interest Law for Municipal Employees

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This summary of the conflict of interest law, General Laws chapter 268A, is intended to help municipal employees understand how that law applies to them. This summary is not a substitute for legal advice, nor does it mention every aspect of the law that may apply in a particular situation. Municipal employees can obtain free confidential advice about the conflict of interest law from the Commission's Legal Division at our website, phone number, and address above. Municipal counsel may also provide advice.

The conflict of interest law seeks to prevent conflicts between private interests and public duties, foster integrity in public service, and promote the public's trust and confidence in that service by placing restrictions on what municipal employees may do on the job, after hours, and after leaving public service, as described below. The sections referenced below are sections of G.L. c. 268A.

When the Commission determines that the conflict of interest law has been violated, it can impose a civil penalty of up to \$10,000 (\$25,000 for bribery cases) for each violation. In addition, the Commission can order the violator to repay any economic advantage he gained by the violation, and to make restitution to injured third parties. Violations of the conflict of interest law can also be prosecuted criminally.

## I. Are you a municipal employee for conflict of interest law purposes?

You do not have to be a full-time, paid municipal employee to be considered a municipal employee for conflict of interest purposes. Anyone performing services for a city or town or holding a municipal position, whether paid or unpaid, including full- and part-time municipal employees, elected officials, volunteers, and consultants, is a municipal employee under the conflict of interest law. An employee of a private firm can also be a municipal employee, if the private firm has a contract with the city or town and the employee is a "key employee" under the contract, meaning the town has specifically contracted for her services. The law also covers private parties who engage in impermissible dealings with municipal employees, such as offering bribes or illegal gifts.

## II. On-the-job restrictions.

### (a) Bribes. Asking for and taking bribes is prohibited. (See Section 2)

A bribe is anything of value corruptly received by a municipal employee in exchange for the employee being influenced in his official actions. Giving, offering, receiving, or asking for a bribe is illegal.

Bribes are more serious than illegal gifts because they involve corrupt intent. In other words, the municipal employee intends to sell his office by agreeing to do or not do some official act, and the giver intends to influence him to do so. Bribes of any value are illegal.

(b) Gifts and gratuities. Asking for or accepting a gift because of your official position, or because of something you can do or have done in your official position, is prohibited. (See Sections 3, 23(b)(2), and 26)

Municipal employees may not accept gifts and gratuities valued at \$50 or more given to influence their official actions or because of their official position. Accepting a gift intended to reward past official action or to bring about future official action is illegal, as is giving such gifts. Accepting a gift given to you because of the municipal position you hold is also illegal. Meals, entertainment event tickets, golf, gift baskets, and payment of travel expenses can all be illegal gifts if given in connection with official action or position, as can anything worth \$50 or more. A number of smaller gifts together worth \$50 or more may also violate these sections.

***Example of violation*** : A town administrator accepts reduced rental payments from developers.

***Example of violation*** : A developer offers a ski trip to a school district employee who oversees the developer's work for the school district.

**Regulatory exemptions** . There are situations in which a municipal employee's receipt of a gift does not present a genuine risk of a conflict of interest, and may in fact advance the public interest. The Commission has created exemptions permitting giving and receiving gifts in these situations. One commonly used exemption permits municipal employees to accept payment of travel-related expenses when doing so advances a public purpose. Another commonly used exemption permits municipal employees to accept payment of costs involved in attendance at educational and training programs. Other exemptions are listed on the Commission's website.

***Example where there is no violation*** : A fire truck manufacturer offers to pay the travel expenses of a fire chief to a trade show where the chief can examine various kinds of fire-fighting equipment that the town may purchase. The chief fills out a disclosure form and obtains prior approval from his appointing authority.

***Example where there is no violation*** : A town treasurer attends a two-day annual school featuring multiple substantive seminars on issues relevant to treasurers. The annual school is paid for in part by banks that do business with town treasurers. The treasurer is only required to make a disclosure if one of the sponsoring banks has official business before her in the six months before or after the annual school.

(c) Misuse of position. Using your official position to get something you are not entitled to, or to get someone else something they are not entitled to, is prohibited. Causing someone else to do these things is also prohibited. (See Sections 23(b)(2) and 26)

A municipal employee may not use her official position to get something worth \$50 or more that would not be properly available to other similarly situated individuals. Similarly, a municipal employee may not use her official position to get something worth \$50 or more for someone else

that would not be properly available to other similarly situated individuals. Causing someone else to do these things is also prohibited.

*Example of violation* : A full-time town employee writes a novel on work time, using her office computer, and directing her secretary to proofread the draft.

*Example of violation* : A city councilor directs subordinates to drive the councilor's wife to and from the grocery store.

*Example of violation* : A mayor avoids a speeding ticket by asking the police officer who stops him, "Do you know who I am?" and showing his municipal I.D.

**(d) Self-dealing and nepotism. Participating as a municipal employee in a matter in which you, your immediate family, your business organization, or your future employer has a financial interest is prohibited. (See Section 19)**

A municipal employee may not participate in any particular matter in which he or a member of his immediate family (parents, children, siblings, spouse, and spouse's parents, children, and siblings) has a financial interest. He also may not participate in any particular matter in which a prospective employer, or a business organization of which he is a director, officer, trustee, or employee has a financial interest. Participation includes discussing as well as voting on a matter, and delegating a matter to someone else.

A financial interest may create a conflict of interest whether it is large or small, and positive or negative. In other words, it does not matter if a lot of money is involved or only a little. It also does not matter if you are putting money into your pocket or taking it out. If you, your immediate family, your business, or your employer have or has a financial interest in a matter, you may not participate. The financial interest must be direct and immediate or reasonably foreseeable to create a conflict. Financial interests which are remote, speculative or not sufficiently identifiable do not create conflicts.

*Example of violation* : A school committee member's wife is a teacher in the town's public schools. The school committee member votes on the budget line item for teachers' salaries.

*Example of violation* : A member of a town affordable housing committee is also the director of a non-profit housing development corporation. The non-profit makes an application to the committee, and the member/director participates in the discussion.

*Example* : A planning board member lives next door to property where a developer plans to construct a new building. Because the planning board member owns abutting property, he is presumed to have a financial interest in the matter. He cannot participate unless he provides the

State Ethics Commission with an opinion from a qualified independent appraiser that the new construction will not affect his financial interest.

In many cases, where not otherwise required to participate, a municipal employee may comply with the law by simply not participating in the particular matter in which she has a financial interest. She need not give a reason for not participating.

There are several exemptions to this section of the law. An appointed municipal employee may file a written disclosure about the financial interest with his appointing authority, and seek permission to participate notwithstanding the conflict. The appointing authority may grant written permission if she determines that the financial interest in question is not so substantial that it is likely to affect the integrity of his services to the municipality. Participating without disclosing the financial interest is a violation. Elected employees cannot use the disclosure procedure because they have no appointing authority.

***Example where there is no violation*** : An appointed member of the town zoning advisory committee, which will review and recommend changes to the town's by-laws with regard to a commercial district, is a partner at a company that owns commercial property in the district. Prior to participating in any committee discussions, the member files a disclosure with the zoning board of appeals that appointed him to his position, and that board gives him a written determination authorizing his participation, despite his company's financial interest. There is no violation.

There is also an exemption for both appointed and elected employees where the employee's task is to address a matter of general policy and the employee's financial interest is shared with a substantial portion (generally 10% or more) of the town's population, such as, for instance, a financial interest in real estate tax rates or municipal utility rates.

**(e) False claims. Presenting a false claim to your employer for a payment or benefit is prohibited, and causing someone else to do so is also prohibited. (See Sections 23(b)(4) and 26)**

A municipal employee may not present a false or fraudulent claim to his employer for any payment or benefit worth \$50 or more, or cause another person to do so.

***Example of violation*** : A public works director directs his secretary to fill out time sheets to show him as present at work on days when he was skiing.

**(f) Appearance of conflict. Acting in a manner that would make a reasonable person think you can be improperly influenced is prohibited. (See Section 23(b)(3))**

A municipal employee may not act in a manner that would cause a reasonable person to think that she would show favor toward someone or that she can be improperly influenced. Section 23(b)(3) requires a municipal employee to consider whether her relationships and affiliations could prevent her from acting fairly and objectively when she performs her duties for a city or town. If she cannot be fair and objective because of a relationship or affiliation, she should not perform her duties. However, a municipal employee, whether elected or appointed, can avoid violating this provision by making a public disclosure of the facts. An appointed employee must make the disclosure in writing to his appointing official.

*Example where there is no violation* : A developer who is the cousin of the chair of the conservation commission has filed an application with the commission. A reasonable person could conclude that the chair might favor her cousin. The chair files a written disclosure with her appointing authority explaining her relationship with her cousin prior to the meeting at which the application will be considered. There is no violation of Sec. 23(b)(3).

**(g) Confidential information. Improperly disclosing or personally using confidential information obtained through your job is prohibited. (See Section 23(c))**

Municipal employees may not improperly disclose confidential information, or make personal use of non-public information they acquired in the course of their official duties to further their personal interests.

III. After-hours restrictions.

**(a) Taking a second paid job that conflicts with the duties of your municipal job is prohibited. (See Section 23(b)(1))**

A municipal employee may not accept other paid employment if the responsibilities of the second job are incompatible with his or her municipal job.

*Example* : A police officer may not work as a paid private security guard in the town where he serves because the demands of his private employment would conflict with his duties as a police officer.

**(b) Divided loyalties. Receiving pay from anyone other than the city or town to work on a matter involving the city or town is prohibited. Acting as agent or attorney for anyone other**

**than the city or town in a matter involving the city or town is also prohibited whether or not you are paid. (See Sec. 17)**

Because cities and towns are entitled to the undivided loyalty of their employees, a municipal employee may not be paid by other people and organizations in relation to a matter if the city or town has an interest in the matter. In addition, a municipal employee may not act on behalf of other people and organizations or act as an attorney for other people and organizations in which the town has an interest. Acting as agent includes contacting the municipality in person, by phone, or in writing; acting as a liaison; providing documents to the city or town; and serving as spokesman.

A municipal employee may always represent his own personal interests, even before his own municipal agency or board, on the same terms and conditions that other similarly situated members of the public would be allowed to do so. A municipal employee may also apply for building and related permits on behalf of someone else and be paid for doing so, unless he works for the permitting agency, or an agency which regulates the permitting agency.

***Example of violation*** : A full-time health agent submits a septic system plan that she has prepared for a private client to the town's board of health.

***Example of violation*** : A planning board member represents a private client before the board of selectmen on a request that town meeting consider rezoning the client's property.

While many municipal employees earn their livelihood in municipal jobs, some municipal employees volunteer their time to provide services to the town or receive small stipends. Others, such as a private attorney who provides legal services to a town as needed, may serve in a position in which they may have other personal or private employment during normal working hours. In recognition of the need not to unduly restrict the ability of town volunteers and part-time employees to earn a living, the law is less restrictive for "special" municipal employees than for other municipal employees.

The status of "special" municipal employee has to be assigned to a municipal position by vote of the board of selectmen, city council, or similar body. A position is eligible to be designated as "special" if it is unpaid, or if it is part-time and the employee is allowed to have another job during normal working hours, or if the employee was not paid for working more than 800 hours during the preceding 365 days. It is the position that is designated as "special" and not the person or persons holding the position. Selectmen in towns of 10,000 or fewer are automatically "special"; selectman in larger towns cannot be "specials."

If a municipal position has been designated as "special," an employee holding that position may be paid by others, act on behalf of others, and act as attorney for others with respect to matters before municipal boards other than his own, provided that he has not officially participated in the

matter, and the matter is not now, and has not within the past year been, under his official responsibility.

**Example :** A school committee member who has been designated as a special municipal employee appears before the board of health on behalf of a client of his private law practice, on a matter that he has not participated in or had responsibility for as a school committee member. There is no conflict. However, he may not appear before the school committee, or the school department, on behalf of a client because he has official responsibility for any matter that comes before the school committee. This is still the case even if he has recused himself from participating in the matter in his official capacity.

**Example :** A member who sits as an alternate on the conservation commission is a special municipal employee. Under town by-laws, he only has official responsibility for matters assigned to him. He may represent a resident who wants to file an application with the conservation commission as long as the matter is not assigned to him and he will not participate in it.

**(c) Inside track. Being paid by your city or town, directly or indirectly, under some second arrangement in addition to your job is prohibited, unless an exemption applies. (See Section 20)**

A municipal employee generally may not have a financial interest in a municipal contract, including a second municipal job. A municipal employee is also generally prohibited from having an indirect financial interest in a contract that the city or town has with someone else. This provision is intended to prevent municipal employees from having an "inside track" to further financial opportunities.

**Example of violation :** Legal counsel to the town housing authority becomes the acting executive director of the authority, and is paid in both positions.

**Example of violation :** A selectman buys a surplus truck from the town DPW.

**Example of violation :** A full-time secretary for the board of health wants to have a second paid job working part-time for the town library. She will violate Section 20 unless she can meet the requirements of an exemption.

**Example of violation :** A city councilor wants to work for a non-profit that receives funding under a contract with her city. Unless she can satisfy the requirements of an exemption under Section 20, she cannot take the job.

There are numerous exemptions. A municipal employee may hold multiple unpaid or elected positions. Some exemptions apply only to special municipal employees. Specific exemptions may cover serving as an unpaid volunteer in a second town position, housing-related benefits, public safety positions, certain elected positions, small towns, and other specific situations. Please call the Ethics Commission's Legal Division for advice about a specific situation.

#### IV. After you leave municipal employment. (See Section 18)

**(a) Forever ban. After you leave your municipal job, you may never work for anyone other than the municipality on a matter that you worked on as a municipal employee.**

If you participated in a matter as a municipal employee, you cannot ever be paid to work on that same matter for anyone other than the municipality, nor may you act for someone else, whether paid or not. The purpose of this restriction is to bar former employees from selling to private interests their familiarity with the facts of particular matters that are of continuing concern to their former municipal employer. The restriction does not prohibit former municipal employees from using the expertise acquired in government service in their subsequent private activities.

*Example of violation* : A former school department employee works for a contractor under a contract that she helped to draft and oversee for the school department.

**(b) One year cooling-off period. For one year after you leave your municipal job you may not participate in any matter over which you had official responsibility during your last two years of public service.**

Former municipal employees are barred for one year after they leave municipal employment from personally appearing before any agency of the municipality in connection with matters that were under their authority in their prior municipal positions during the two years before they left.

*Example* : An assistant town manager negotiates a three-year contract with a company. The town manager who supervised the assistant, and had official responsibility for the contract but did not participate in negotiating it, leaves her job to work for the company to which the contract was awarded. The former manager may not call or write the town in connection with the company's work on the contract for one year after leaving the town.

A former municipal employee who participated as such in general legislation on expanded gaming and related matters may not become an officer or employee of, or acquire a financial interest in, an applicant for a gaming license, or a gaming licensee, for one year after his public employment ceases.

**(c) Partners. Your partners will be subject to restrictions while you serve as a municipal employee and after your municipal service ends.**

Partners of municipal employees and former municipal employees are also subject to restrictions under the conflict of interest law. If a municipal employee participated in a matter, or if he has official responsibility for a matter, then his partner may not act on behalf of anyone other than the municipality or provide services as an attorney to anyone but the city or town in relation to the matter.

*Example:* While serving on a city's historic district commission, an architect reviewed an application to get landmark status for a building. His partners at his architecture firm may not prepare and sign plans for the owner of the building or otherwise act on the owner's behalf in relation to the application for landmark status. In addition, because the architect has official responsibility as a commissioner for every matter that comes before the commission, his partners may not communicate with the commission or otherwise act on behalf of any client on any matter that comes before the commission during the time that the architect serves on the commission.

*Example:* A former town counsel joins a law firm as a partner. Because she litigated a lawsuit for the town, her new partners cannot represent any private clients in the lawsuit for one year after her job with the town ended.

\* \* \* \* \*

This summary is not intended to be legal advice and, because it is a summary, it does not mention every provision of the conflict law that may apply in a particular situation. Our website, <http://www.mass.gov/ethics> contains further information about how the law applies in many situations. You can also contact the Commission's Legal Division via our website, by telephone, or by letter. Our contact information is at the top of this document.

Version 5: Revised December 23, 2011

City of Chelsea  
**Conflict of Interest Law**

Compliance Statement and Requirements for Vendors

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**ACKNOWLEDGMENT OF RECEIPT**

I, \_\_\_\_\_,  
*(first and last name)*

an employee at \_\_\_\_\_,  
*(name of vendor)*

**Hereby acknowledge that I received a copy of the summary of the conflict of interest law for municipal employees, revised December 23, 2011, on**

\_\_\_\_\_.  
*(date)*

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The City has a requirement for compliance, which is to make sure that all **vendors** are provided copies of the Summary of the Conflict of Interest Law for Municipal Employees (including Vendors).

*VENDORS should copy the Summary of the Conflict of Interest Law and provide it to each one of the employees who are assigned to work in Chelsea.*

*Each employee shall complete the "Acknowledgment of Receipt" and the Vendor shall return the acknowledgments-only (not the Summary) to the Chelsea the Chelsea Procurement Office.*

The "Acknowledgment of Receipt" must be submitted along with any purchase order or contract with the City of Chelsea



**THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT  
DEPARTMENT OF LABOR STANDARDS**

**Prevailing Wage Rates**

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

CHARLES D. BAKER  
Governor

KARYN E. POLITO  
Lt. Governor

RONALD L. WALKER, II  
Secretary

JEAN ZEILER  
Acting Director

**Awarding Authority:** City of Chelsea  
**Contract Number:** 2015-178 **City/Town:** CHELSEA  
**Description of Work:** Replace old boiler at Chelsea High School  
**Job Location:** 299 Everett Ave, Chelsea

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the “Wage Request Number” on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule from the Department of Labor Standards (“DLS”) if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
- All apprentices working on the project are required to be registered with the Massachusetts Division of Apprentice Standards (DAS). Apprentice must keep his/her apprentice identification card on his/her person during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **If an apprentice rate is not listed on the prevailing wage schedule for the trade in which an apprentice is registered with the DAS, the apprentice must be paid the journeyworker's rate for the trade.**
- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule. Awarding authorities are required to request these updates no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. Contractors are required to obtain the wage schedules from awarding authorities, and to pay no less than these rates to covered workers. The annual update requirement is not applicable to 27F “rental of equipment” contracts.
- Every contractor or subcontractor which performs construction work on the project is required to submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee’s name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. A sample of a payroll reporting form may be obtained at <http://www.mass.gov/dols/pw>.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may report the violation to the Fair Labor Division of the office of the Attorney General at (617) 727-3465.
- Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and criminal penalties.

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
<b>Construction</b>						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2014	\$32.40	\$9.91	\$9.33	\$0.00	\$51.64
	06/01/2015	\$32.75	\$9.91	\$9.33	\$0.00	\$51.99
	08/01/2015	\$32.75	\$10.41	\$9.33	\$0.00	\$52.49
	12/01/2015	\$32.75	\$10.41	\$10.08	\$0.00	\$53.24
	06/01/2016	\$33.25	\$10.41	\$10.08	\$0.00	\$53.74
	08/01/2016	\$33.25	\$10.91	\$10.08	\$0.00	\$54.24
	12/01/2016	\$33.25	\$10.91	\$10.89	\$0.00	\$55.05
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2014	\$32.47	\$9.91	\$9.33	\$0.00	\$51.71
	06/01/2015	\$32.82	\$9.91	\$9.33	\$0.00	\$52.06
	08/01/2015	\$32.82	\$10.41	\$9.33	\$0.00	\$52.56
	12/01/2015	\$32.82	\$10.41	\$10.08	\$0.00	\$53.31
	06/01/2016	\$33.32	\$10.41	\$10.08	\$0.00	\$53.81
	08/01/2016	\$33.32	\$10.91	\$10.08	\$0.00	\$54.31
	12/01/2016	\$33.32	\$10.91	\$10.89	\$0.00	\$55.12
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2014	\$32.59	\$9.91	\$9.33	\$0.00	\$51.83
	06/01/2015	\$32.94	\$9.91	\$9.33	\$0.00	\$52.18
	08/01/2015	\$32.94	\$10.41	\$9.33	\$0.00	\$52.68
	12/01/2015	\$32.94	\$10.41	\$10.08	\$0.00	\$53.43
	06/01/2016	\$33.44	\$10.41	\$10.08	\$0.00	\$53.93
	08/01/2016	\$33.44	\$10.91	\$10.08	\$0.00	\$54.43
	12/01/2016	\$33.44	\$10.91	\$10.89	\$0.00	\$55.24
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$87.36	\$9.80	\$18.17	\$0.00	\$115.33
	08/01/2015	\$90.51	\$9.80	\$18.17	\$0.00	\$118.48
AIR TRACK OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2014	\$35.35	\$7.30	\$12.95	\$0.00	\$55.60
	06/01/2015	\$36.10	\$7.30	\$12.95	\$0.00	\$56.35
	12/01/2015	\$36.85	\$7.30	\$12.95	\$0.00	\$57.10
	06/01/2016	\$37.60	\$7.30	\$12.95	\$0.00	\$57.85
	12/01/2016	\$38.60	\$7.30	\$12.95	\$0.00	\$58.85
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT &amp; FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2014	\$32.48	\$10.40	\$5.95	\$0.00	\$48.83
	06/01/2015	\$33.43	\$10.40	\$5.95	\$0.00	\$49.78
	12/01/2015	\$34.38	\$10.40	\$5.95	\$0.00	\$50.73
ASPHALT RAKER <i>LABORERS - ZONE 1</i>	12/01/2014	\$34.85	\$7.30	\$12.95	\$0.00	\$55.10
	06/01/2015	\$35.60	\$7.30	\$12.95	\$0.00	\$55.85
	12/01/2015	\$36.35	\$7.30	\$12.95	\$0.00	\$56.60
	06/01/2016	\$37.10	\$7.30	\$12.95	\$0.00	\$57.35
	12/01/2016	\$38.10	\$7.30	\$12.95	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 1</i>	12/01/2014	\$34.85	\$7.30	\$12.95	\$0.00	\$55.10
	06/01/2015	\$35.60	\$7.30	\$12.95	\$0.00	\$55.85
	12/01/2015	\$36.35	\$7.30	\$12.95	\$0.00	\$56.60
	06/01/2016	\$37.10	\$7.30	\$12.95	\$0.00	\$57.35
	12/01/2016	\$38.10	\$7.30	\$12.95	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 1</i>	12/01/2014	\$35.35	\$7.30	\$12.95	\$0.00	\$55.60
	06/01/2015	\$36.10	\$7.30	\$12.95	\$0.00	\$56.35
	12/01/2015	\$36.85	\$7.30	\$12.95	\$0.00	\$57.10
	06/01/2016	\$37.60	\$7.30	\$12.95	\$0.00	\$57.85
	12/01/2016	\$38.60	\$7.30	\$12.95	\$0.00	\$58.85
For apprentice rates see "Apprentice- LABORER"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2010	\$37.70	\$6.97	\$11.18	\$0.00	\$55.85

**Apprentice - BOILERMAKER - Local 29**

**Effective Date - 01/01/2010**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$24.51	\$6.97	\$11.18	\$0.00	\$42.66
2	65	\$24.51	\$6.97	\$11.18	\$0.00	\$42.66
3	70	\$26.39	\$6.97	\$11.18	\$0.00	\$44.54
4	75	\$28.28	\$6.97	\$11.18	\$0.00	\$46.43
5	80	\$30.16	\$6.97	\$11.18	\$0.00	\$48.31
6	85	\$32.05	\$6.97	\$11.18	\$0.00	\$50.20
7	90	\$33.93	\$6.97	\$11.18	\$0.00	\$52.08
8	95	\$35.82	\$6.97	\$11.18	\$0.00	\$53.97

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) <i>BRICKLAYERS LOCAL 3 (BOSTON)</i>	02/01/2015	\$48.96	\$10.18	\$18.50	\$0.00	\$77.64
	08/01/2015	\$49.86	\$10.18	\$18.57	\$0.00	\$78.61
	02/01/2016	\$50.43	\$10.18	\$18.57	\$0.00	\$79.18
	08/01/2016	\$51.33	\$10.18	\$18.65	\$0.00	\$80.16
	02/01/2017	\$51.90	\$10.18	\$18.65	\$0.00	\$80.73

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 Boston**

**Effective Date - 02/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.48	\$10.18	\$18.50	\$0.00	\$53.16
2	60	\$29.38	\$10.18	\$18.50	\$0.00	\$58.06
3	70	\$34.27	\$10.18	\$18.50	\$0.00	\$62.95
4	80	\$39.17	\$10.18	\$18.50	\$0.00	\$67.85
5	90	\$44.06	\$10.18	\$18.50	\$0.00	\$72.74

**Effective Date - 08/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.93	\$10.18	\$18.57	\$0.00	\$53.68
2	60	\$29.92	\$10.18	\$18.57	\$0.00	\$58.67
3	70	\$34.90	\$10.18	\$18.57	\$0.00	\$63.65
4	80	\$39.89	\$10.18	\$18.57	\$0.00	\$68.64
5	90	\$44.87	\$10.18	\$18.57	\$0.00	\$73.62

**Notes:**

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**Apprentice to Journeyworker Ratio:1:5**

<b>BULLDOZER/GRADER/SCRAPER</b>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

<b>CAISSON &amp; UNDERPINNING BOTTOM MAN</b>	12/01/2014	\$35.70	\$7.30	\$13.15	\$0.00	\$56.15
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2015	\$36.45	\$7.30	\$13.15	\$0.00	\$56.90
	12/01/2015	\$37.20	\$7.30	\$13.15	\$0.00	\$57.65
	06/01/2016	\$37.95	\$7.30	\$13.15	\$0.00	\$58.40
	12/01/2016	\$38.95	\$7.30	\$13.15	\$0.00	\$59.40

For apprentice rates see "Apprentice- LABORER"

<b>CAISSON &amp; UNDERPINNING LABORER</b>	12/01/2014	\$34.55	\$7.30	\$13.15	\$0.00	\$55.00
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2015	\$35.30	\$7.30	\$13.15	\$0.00	\$55.75
	12/01/2015	\$36.05	\$7.30	\$13.15	\$0.00	\$56.50
	06/01/2016	\$36.80	\$7.30	\$13.15	\$0.00	\$57.25
	12/01/2016	\$37.80	\$7.30	\$13.15	\$0.00	\$58.25

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2014	\$34.55	\$7.30	\$13.15	\$0.00	\$55.00
	06/01/2015	\$35.30	\$7.30	\$13.15	\$0.00	\$55.75
	12/01/2015	\$36.05	\$7.30	\$13.15	\$0.00	\$56.50
	06/01/2016	\$36.80	\$7.30	\$13.15	\$0.00	\$57.25
	12/01/2016	\$37.80	\$7.30	\$13.15	\$0.00	\$58.25

For apprentice rates see "Apprentice- LABORER"

CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2014	\$34.85	\$7.30	\$12.95	\$0.00	\$55.10
	06/01/2015	\$35.60	\$7.30	\$12.95	\$0.00	\$55.85
	12/01/2015	\$36.35	\$7.30	\$12.95	\$0.00	\$56.60
	06/01/2016	\$37.10	\$7.30	\$12.95	\$0.00	\$57.35
	12/01/2016	\$38.10	\$7.30	\$12.95	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

CARPENTER <i>CARPENTERS -ZONE 1 (Metro Boston)</i>	03/01/2015	\$42.30	\$9.80	\$16.48	\$0.00	\$68.58
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**Apprentice - CARPENTER - Zone 1 Metro Boston**

**Effective Date - 03/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.15	\$9.80	\$1.63	\$0.00	\$32.58
2	60	\$25.38	\$9.80	\$1.63	\$0.00	\$36.81
3	70	\$29.61	\$9.80	\$11.59	\$0.00	\$51.00
4	75	\$31.73	\$9.80	\$11.59	\$0.00	\$53.12
5	80	\$33.84	\$9.80	\$13.22	\$0.00	\$56.86
6	80	\$33.84	\$9.80	\$13.22	\$0.00	\$56.86
7	90	\$38.07	\$9.80	\$14.85	\$0.00	\$62.72
8	90	\$38.07	\$9.80	\$14.85	\$0.00	\$62.72

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

CEMENT MASONRY/PLASTERING <i>BRICKLAYERS LOCAL 3 (BOSTON)</i>	01/01/2015	\$44.90	\$10.90	\$18.71	\$1.30	\$75.81
	07/01/2015	\$45.82	\$10.90	\$18.71	\$1.30	\$76.73
	01/01/2016	\$46.44	\$10.90	\$18.71	\$1.30	\$77.35

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - CEMENT MASONRY/PLASTERING - Eastern Mass (Boston)**

**Effective Date - 01/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.45	\$10.90	\$12.21	\$1.30	\$46.86
2	60	\$26.94	\$10.90	\$13.71	\$1.30	\$52.85
3	65	\$29.19	\$10.90	\$14.71	\$1.30	\$56.10
4	70	\$31.43	\$10.90	\$15.71	\$1.30	\$59.34
5	75	\$33.68	\$10.90	\$16.71	\$1.30	\$62.59
6	80	\$35.92	\$10.90	\$17.71	\$1.30	\$65.83
7	90	\$40.41	\$10.90	\$18.71	\$1.30	\$71.32

**Effective Date - 07/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.91	\$10.90	\$12.21	\$1.30	\$47.32
2	60	\$27.49	\$10.90	\$13.71	\$1.30	\$53.40
3	65	\$29.78	\$10.90	\$14.71	\$1.30	\$56.69
4	70	\$32.07	\$10.90	\$15.71	\$1.30	\$59.98
5	75	\$34.37	\$10.90	\$16.71	\$1.30	\$63.28
6	80	\$36.66	\$10.90	\$17.71	\$1.30	\$66.57
7	90	\$41.24	\$10.90	\$18.71	\$1.30	\$72.15

**Notes:**

Steps 3,4 are 500 hrs. All other steps are 1,000 hrs.

**Apprentice to Journeyworker Ratio:1:3**

CHAIN SAW OPERATOR	12/01/2014	\$34.85	\$7.30	\$12.95	\$0.00	\$55.10
LABORERS - ZONE 1	06/01/2015	\$35.60	\$7.30	\$12.95	\$0.00	\$55.85
	12/01/2015	\$36.35	\$7.30	\$12.95	\$0.00	\$56.60
	06/01/2016	\$37.10	\$7.30	\$12.95	\$0.00	\$57.35
	12/01/2016	\$38.10	\$7.30	\$12.95	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES	12/01/2014	\$43.39	\$10.00	\$14.30	\$0.00	\$67.69
OPERATING ENGINEERS LOCAL 4	06/01/2015	\$44.14	\$10.00	\$14.30	\$0.00	\$68.44
	12/01/2015	\$45.39	\$10.00	\$14.30	\$0.00	\$69.69
	06/01/2016	\$46.14	\$10.00	\$14.30	\$0.00	\$70.44
	12/01/2016	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	06/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69
	12/01/2017	\$49.39	\$10.00	\$14.30	\$0.00	\$73.69

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$29.40	\$10.00	\$14.30	\$0.00	\$53.70
	06/01/2015	\$29.92	\$10.00	\$14.30	\$0.00	\$54.22
	12/01/2015	\$30.79	\$10.00	\$14.30	\$0.00	\$55.09
	06/01/2016	\$31.31	\$10.00	\$14.30	\$0.00	\$55.61
	12/01/2016	\$32.18	\$10.00	\$14.30	\$0.00	\$56.48
	06/01/2017	\$32.87	\$10.00	\$14.30	\$0.00	\$57.17
	12/01/2017	\$33.56	\$10.00	\$14.30	\$0.00	\$57.86

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 1</i>	01/01/2015	\$47.66	\$7.85	\$16.10	\$0.00	\$71.61
	07/01/2015	\$48.56	\$7.85	\$16.10	\$0.00	\$72.51
	01/01/2016	\$49.51	\$7.85	\$16.10	\$0.00	\$73.46
	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

**Apprentice - PAINTER Local 35 - BRIDGES/TANKS**

**Effective Date - 01/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.83	\$7.85	\$0.00	\$0.00	\$31.68
2	55	\$26.21	\$7.85	\$3.66	\$0.00	\$37.72
3	60	\$28.60	\$7.85	\$3.99	\$0.00	\$40.44
4	65	\$30.98	\$7.85	\$4.32	\$0.00	\$43.15
5	70	\$33.36	\$7.85	\$14.11	\$0.00	\$55.32
6	75	\$35.75	\$7.85	\$14.44	\$0.00	\$58.04
7	80	\$38.13	\$7.85	\$14.77	\$0.00	\$60.75
8	90	\$42.89	\$7.85	\$15.44	\$0.00	\$66.18

**Effective Date - 07/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.28	\$7.85	\$0.00	\$0.00	\$32.13
2	55	\$26.71	\$7.85	\$3.66	\$0.00	\$38.22
3	60	\$29.14	\$7.85	\$3.99	\$0.00	\$40.98
4	65	\$31.56	\$7.85	\$4.32	\$0.00	\$43.73
5	70	\$33.99	\$7.85	\$14.11	\$0.00	\$55.95
6	75	\$36.42	\$7.85	\$14.44	\$0.00	\$58.71
7	80	\$38.85	\$7.85	\$14.77	\$0.00	\$61.47
8	90	\$43.70	\$7.85	\$15.44	\$0.00	\$66.99

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

DEMO: ADZEMAN <i>LABORERS - ZONE 1</i>	12/01/2014	\$34.75	\$7.30	\$12.95	\$0.00	\$55.00
	06/01/2015	\$35.50	\$7.30	\$12.95	\$0.00	\$55.75
	12/01/2015	\$36.25	\$7.30	\$12.95	\$0.00	\$56.50

For apprentice rates see "Apprentice- LABORER"

<b>Classification</b>	<b>Effective Date</b>	<b>Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
DEMO: BACKHOE/LOADER/HAMMER OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2014	\$35.75	\$7.30	\$12.95	\$0.00	\$56.00
	06/01/2015	\$36.50	\$7.30	\$12.95	\$0.00	\$56.75
	12/01/2015	\$37.25	\$7.30	\$12.95	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS <i>LABORERS - ZONE 1</i>	12/01/2014	\$35.50	\$7.30	\$12.95	\$0.00	\$55.75
	06/01/2015	\$36.25	\$7.30	\$12.95	\$0.00	\$56.50
	12/01/2015	\$37.00	\$7.30	\$12.95	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 1</i>	12/01/2014	\$35.75	\$7.30	\$12.95	\$0.00	\$56.00
	06/01/2015	\$36.50	\$7.30	\$12.95	\$0.00	\$56.75
	12/01/2015	\$37.25	\$7.30	\$12.95	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2014	\$35.50	\$7.30	\$12.95	\$0.00	\$55.75
	06/01/2015	\$36.25	\$7.30	\$12.95	\$0.00	\$56.50
	12/01/2015	\$37.00	\$7.30	\$12.95	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 1</i>	12/01/2014	\$34.75	\$7.30	\$12.95	\$0.00	\$55.00
	06/01/2015	\$35.50	\$7.30	\$12.95	\$0.00	\$55.75
	12/01/2015	\$36.25	\$7.30	\$12.95	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$58.24	\$9.80	\$18.17	\$0.00	\$86.21
	08/01/2015	\$60.34	\$9.80	\$18.17	\$0.00	\$88.31
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$41.60	\$9.80	\$18.17	\$0.00	\$69.57
	08/01/2015	\$43.10	\$9.80	\$18.17	\$0.00	\$71.07
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$62.40	\$9.80	\$18.17	\$0.00	\$90.37
	08/01/2015	\$64.65	\$9.80	\$18.17	\$0.00	\$92.62
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$87.36	\$9.80	\$18.17	\$0.00	\$115.33
	08/01/2015	\$90.51	\$9.80	\$18.17	\$0.00	\$118.48
DRAWBRIDGE OPERATOR (Construction) <i>ELECTRICIANS LOCAL 103</i>	03/01/2015	\$45.17	\$13.00	\$15.40	\$0.00	\$73.57
	09/01/2015	\$46.13	\$13.00	\$15.43	\$0.00	\$74.56
	03/01/2016	\$47.08	\$13.00	\$15.46	\$0.00	\$75.54
For apprentice rates see "Apprentice- ELECTRICIAN"						
ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2015	\$45.17	\$13.00	\$15.40	\$0.00	\$73.57
	09/01/2015	\$46.13	\$13.00	\$15.43	\$0.00	\$74.56
	03/01/2016	\$47.08	\$13.00	\$15.46	\$0.00	\$75.54

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - ELECTRICIAN - Local 103**

**Effective Date - 03/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.07	\$13.00	\$0.54	\$0.00	\$31.61
2	40	\$18.07	\$13.00	\$0.54	\$0.00	\$31.61
3	45	\$20.33	\$13.00	\$11.64	\$0.00	\$44.97
4	45	\$20.33	\$13.00	\$11.64	\$0.00	\$44.97
5	50	\$22.59	\$13.00	\$11.98	\$0.00	\$47.57
6	55	\$24.84	\$13.00	\$12.33	\$0.00	\$50.17
7	60	\$27.10	\$13.00	\$12.66	\$0.00	\$52.76
8	65	\$29.36	\$13.00	\$13.01	\$0.00	\$55.37
9	70	\$31.62	\$13.00	\$13.35	\$0.00	\$57.97
10	75	\$33.88	\$13.00	\$13.70	\$0.00	\$60.58

**Effective Date - 09/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.45	\$13.00	\$0.55	\$0.00	\$32.00
2	40	\$18.45	\$13.00	\$0.55	\$0.00	\$32.00
3	45	\$20.76	\$13.00	\$11.65	\$0.00	\$45.41
4	45	\$20.76	\$13.00	\$11.65	\$0.00	\$45.41
5	50	\$23.07	\$13.00	\$11.99	\$0.00	\$48.06
6	55	\$25.37	\$13.00	\$12.34	\$0.00	\$50.71
7	60	\$27.68	\$13.00	\$12.68	\$0.00	\$53.36
8	65	\$29.98	\$13.00	\$13.03	\$0.00	\$56.01
9	70	\$32.29	\$13.00	\$13.37	\$0.00	\$58.66
10	75	\$34.60	\$13.00	\$13.72	\$0.00	\$61.32

**Notes :**  
App Prior 1/1/03; 30/35/40/45/50/55/65/70/75/80

**Apprentice to Journeyworker Ratio:2:3\*\*\***

ELEVATOR CONSTRUCTOR ELEVATOR CONSTRUCTORS LOCAL 4	01/01/2012	\$52.45	\$8.78	\$6.96	\$0.00	\$68.19
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**Classification**

**Effective Date    Base Wage    Health    Pension    Supplemental Unemployment    Total Rate**

**Apprentice - ELEVATOR CONSTRUCTOR - Local 4**

**Effective Date - 01/01/2012**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.23	\$8.78	\$0.00	\$0.00	\$35.01
2	55	\$28.85	\$8.78	\$6.96	\$0.00	\$44.59
3	65	\$34.09	\$8.78	\$6.96	\$0.00	\$49.83
4	70	\$36.72	\$8.78	\$6.96	\$0.00	\$52.46
5	80	\$41.96	\$8.78	\$6.96	\$0.00	\$57.70

**Notes:**

Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

**Apprentice to Journeyworker Ratio:1:1**

ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2012	\$38.59	\$8.78	\$6.96	\$0.00	\$54.33
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For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

FENCE & GUARD RAIL ERECTOR <i>LABORERS - ZONE 1</i>	12/01/2014	\$34.85	\$7.30	\$12.95	\$0.00	\$55.10
	06/01/2015	\$35.60	\$7.30	\$12.95	\$0.00	\$55.85
	12/01/2015	\$36.35	\$7.30	\$12.95	\$0.00	\$56.60
	06/01/2016	\$37.10	\$7.30	\$12.95	\$0.00	\$57.35
	12/01/2016	\$38.10	\$7.30	\$12.95	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2014	\$39.59	\$10.00	\$14.18	\$0.00	\$63.77
	05/01/2015	\$40.22	\$10.00	\$14.30	\$0.00	\$64.52
	11/01/2015	\$40.80	\$10.00	\$14.30	\$0.00	\$65.10
	05/01/2016	\$41.69	\$10.00	\$14.30	\$0.00	\$65.99
	11/01/2016	\$42.28	\$10.00	\$14.30	\$0.00	\$66.58
	05/01/2017	\$43.16	\$10.00	\$14.30	\$0.00	\$67.46
	11/01/2017	\$43.89	\$10.00	\$14.30	\$0.00	\$68.19
	05/01/2018	\$44.60	\$10.00	\$14.30	\$0.00	\$68.90

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2014	\$41.02	\$10.00	\$14.18	\$0.00	\$65.20
	05/01/2015	\$41.65	\$10.00	\$14.30	\$0.00	\$65.95
	11/01/2015	\$42.24	\$10.00	\$14.30	\$0.00	\$66.54
	05/01/2016	\$43.13	\$10.00	\$14.30	\$0.00	\$67.43
	11/01/2016	\$43.73	\$10.00	\$14.30	\$0.00	\$68.03
	05/01/2017	\$44.62	\$10.00	\$14.30	\$0.00	\$68.92
	11/01/2017	\$45.35	\$10.00	\$14.30	\$0.00	\$69.65
	05/01/2018	\$46.07	\$10.00	\$14.30	\$0.00	\$70.37

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2014	\$21.35	\$10.00	\$14.18	\$0.00	\$45.53
	05/01/2015	\$21.68	\$10.00	\$14.30	\$0.00	\$45.98
	11/01/2015	\$22.02	\$10.00	\$14.30	\$0.00	\$46.32
	05/01/2016	\$22.54	\$10.00	\$14.30	\$0.00	\$46.84
	11/01/2016	\$22.89	\$10.00	\$14.30	\$0.00	\$47.19
	05/01/2017	\$23.42	\$10.00	\$14.30	\$0.00	\$47.72
	11/01/2017	\$23.84	\$10.00	\$14.30	\$0.00	\$48.14
	05/01/2018	\$24.27	\$10.00	\$14.30	\$0.00	\$48.57
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	03/01/2015	\$45.17	\$13.00	\$15.40	\$0.00	\$73.57
	09/01/2015	\$46.13	\$13.00	\$15.43	\$0.00	\$74.56
	03/01/2016	\$47.08	\$13.00	\$15.46	\$0.00	\$75.54
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS LOCAL 103</i>	03/01/2015	\$33.88	\$13.00	\$13.70	\$0.00	\$60.58
	09/01/2015	\$34.60	\$13.00	\$13.72	\$0.00	\$61.32
	03/01/2016	\$35.31	\$13.00	\$13.74	\$0.00	\$62.05
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$35.33	\$10.00	\$14.30	\$0.00	\$59.63
	06/01/2015	\$35.95	\$10.00	\$14.30	\$0.00	\$60.25
	12/01/2015	\$37.00	\$10.00	\$14.30	\$0.00	\$61.30
	06/01/2016	\$37.62	\$10.00	\$14.30	\$0.00	\$61.92
	12/01/2016	\$38.66	\$10.00	\$14.30	\$0.00	\$62.96
	06/01/2017	\$39.50	\$10.00	\$14.30	\$0.00	\$63.80
	12/01/2017	\$40.33	\$10.00	\$14.30	\$0.00	\$64.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER <i>LABORERS - ZONE 1</i>	12/01/2014	\$20.50	\$7.30	\$12.95	\$0.00	\$40.75
	06/01/2015	\$20.50	\$7.30	\$12.95	\$0.00	\$40.75
	12/01/2015	\$20.50	\$7.30	\$12.95	\$0.00	\$40.75
	06/01/2016	\$20.50	\$7.30	\$12.95	\$0.00	\$40.75
	12/01/2016	\$20.50	\$7.30	\$12.95	\$0.00	\$40.75
For apprentice rates see "Apprentice- LABORER"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</i>	09/01/2014	\$40.40	\$9.80	\$17.21	\$0.00	\$67.41

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - FLOORCOVERER - Local 2168 Zone I**

**Effective Date - 09/01/2014**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.20	\$9.80	\$1.79	\$0.00	\$31.79
2	55	\$22.22	\$9.80	\$1.79	\$0.00	\$33.81
3	60	\$24.24	\$9.80	\$11.84	\$0.00	\$45.88
4	65	\$26.26	\$9.80	\$11.84	\$0.00	\$47.90
5	70	\$28.28	\$9.80	\$13.63	\$0.00	\$51.71
6	75	\$30.30	\$9.80	\$13.63	\$0.00	\$53.73
7	80	\$32.32	\$9.80	\$15.42	\$0.00	\$57.54
8	85	\$34.34	\$9.80	\$15.42	\$0.00	\$59.56

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

<b>FORK LIFT/CHERRY PICKER</b>	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

<b>GENERATOR/LIGHTING PLANT/HEATERS</b>	12/01/2014	\$29.40	\$10.00	\$14.30	\$0.00	\$53.70
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$29.92	\$10.00	\$14.30	\$0.00	\$54.22
	12/01/2015	\$30.79	\$10.00	\$14.30	\$0.00	\$55.09
	06/01/2016	\$31.31	\$10.00	\$14.30	\$0.00	\$55.61
	12/01/2016	\$32.18	\$10.00	\$14.30	\$0.00	\$56.48
	06/01/2017	\$32.87	\$10.00	\$14.30	\$0.00	\$57.17
	12/01/2017	\$33.56	\$10.00	\$14.30	\$0.00	\$57.86

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

<b>GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)</b>	01/01/2015	\$42.95	\$7.85	\$16.10	\$0.00	\$66.90
<i>GLAZIERS LOCAL 35 (ZONE 1)</i>	07/01/2015	\$43.85	\$7.85	\$16.10	\$0.00	\$67.80
	01/01/2016	\$44.80	\$7.85	\$16.10	\$0.00	\$68.75
	07/01/2016	\$45.75	\$7.85	\$16.10	\$0.00	\$69.70
	01/01/2017	\$46.70	\$7.85	\$16.10	\$0.00	\$70.65

**Apprentice - GLAZIER - Local 35 Zone 1**

**Effective Date - 01/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.48	\$7.85	\$0.00	\$0.00	\$29.33
2	55	\$23.62	\$7.85	\$3.66	\$0.00	\$35.13
3	60	\$25.77	\$7.85	\$3.99	\$0.00	\$37.61
4	65	\$27.92	\$7.85	\$4.32	\$0.00	\$40.09
5	70	\$30.07	\$7.85	\$14.11	\$0.00	\$52.03
6	75	\$32.21	\$7.85	\$14.44	\$0.00	\$54.50
7	80	\$34.36	\$7.85	\$14.77	\$0.00	\$56.98
8	90	\$38.66	\$7.85	\$15.44	\$0.00	\$61.95

**Effective Date - 07/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.93	\$7.85	\$0.00	\$0.00	\$29.78
2	55	\$24.12	\$7.85	\$3.66	\$0.00	\$35.63
3	60	\$26.31	\$7.85	\$3.99	\$0.00	\$38.15
4	65	\$28.50	\$7.85	\$4.32	\$0.00	\$40.67
5	70	\$30.70	\$7.85	\$14.11	\$0.00	\$52.66
6	75	\$32.89	\$7.85	\$14.44	\$0.00	\$55.18
7	80	\$35.08	\$7.85	\$14.77	\$0.00	\$57.70
8	90	\$39.47	\$7.85	\$15.44	\$0.00	\$62.76

**Notes:**  
Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

HOISTING ENGINEER/CRANES/GRADALLS	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
OPERATING ENGINEERS LOCAL 4	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69

**Classification**

**Effective Date    Base Wage    Health    Pension    Supplemental Unemployment    Total Rate**

**Apprentice - OPERATING ENGINEERS - Local 4**

**Effective Date - 12/01/2014**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$23.31	\$10.00	\$0.00	\$0.00	\$33.31
2	60	\$25.43	\$10.00	\$14.30	\$0.00	\$49.73
3	65	\$27.55	\$10.00	\$14.30	\$0.00	\$51.85
4	70	\$29.67	\$10.00	\$14.30	\$0.00	\$53.97
5	75	\$31.79	\$10.00	\$14.30	\$0.00	\$56.09
6	80	\$33.91	\$10.00	\$14.30	\$0.00	\$58.21
7	85	\$36.03	\$10.00	\$14.30	\$0.00	\$60.33
8	90	\$38.15	\$10.00	\$14.30	\$0.00	\$62.45

**Effective Date - 06/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$23.73	\$10.00	\$0.00	\$0.00	\$33.73
2	60	\$25.88	\$10.00	\$14.30	\$0.00	\$50.18
3	65	\$28.04	\$10.00	\$14.30	\$0.00	\$52.34
4	70	\$30.20	\$10.00	\$14.30	\$0.00	\$54.50
5	75	\$32.36	\$10.00	\$14.30	\$0.00	\$56.66
6	80	\$34.51	\$10.00	\$14.30	\$0.00	\$58.81
7	85	\$36.67	\$10.00	\$14.30	\$0.00	\$60.97
8	90	\$38.83	\$10.00	\$14.30	\$0.00	\$63.13

**Notes:**

**Apprentice to Journeyworker Ratio:1:6**

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 17 - A	02/01/2015	\$43.28	\$10.20	\$20.54	\$2.22	\$76.24
	08/01/2015	\$44.28	\$10.20	\$20.54	\$2.22	\$77.24
	02/01/2016	\$45.28	\$10.20	\$20.54	\$2.22	\$78.24
	08/01/2016	\$46.43	\$10.20	\$20.54	\$2.22	\$79.39
	02/01/2017	\$47.53	\$10.20	\$20.54	\$2.22	\$80.49
	08/01/2017	\$48.63	\$10.20	\$20.54	\$2.22	\$81.59
	02/01/2018	\$49.78	\$10.20	\$20.54	\$2.22	\$82.74

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 103	03/01/2015	\$45.17	\$13.00	\$15.40	\$0.00	\$73.57
	09/01/2015	\$46.13	\$13.00	\$15.43	\$0.00	\$74.56
	03/01/2016	\$47.08	\$13.00	\$15.46	\$0.00	\$75.54

For apprentice rates see "Apprentice- ELECTRICIAN"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING - AIR) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2015	\$43.28	\$10.20	\$20.54	\$2.22	\$76.24
	08/01/2015	\$44.28	\$10.20	\$20.54	\$2.22	\$77.24
	02/01/2016	\$45.28	\$10.20	\$20.54	\$2.22	\$78.24
	08/01/2016	\$46.43	\$10.20	\$20.54	\$2.22	\$79.39
	02/01/2017	\$47.53	\$10.20	\$20.54	\$2.22	\$80.49
	08/01/2017	\$48.63	\$10.20	\$20.54	\$2.22	\$81.59
	02/01/2018	\$49.78	\$10.20	\$20.54	\$2.22	\$82.74
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING - WATER) <i>PIPEFITTERS LOCAL 537</i>	03/01/2015	\$48.69	\$9.70	\$16.89	\$0.00	\$75.28
	09/01/2015	\$49.69	\$9.70	\$16.89	\$0.00	\$76.28
	03/01/2016	\$50.69	\$9.70	\$16.89	\$0.00	\$77.28
	09/01/2016	\$51.69	\$9.70	\$16.89	\$0.00	\$78.28
	03/01/2017	\$52.69	\$9.70	\$16.89	\$0.00	\$79.28
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537</i>	03/01/2015	\$48.69	\$9.70	\$16.89	\$0.00	\$75.28
	09/01/2015	\$49.69	\$9.70	\$16.89	\$0.00	\$76.28
	03/01/2016	\$50.69	\$9.70	\$16.89	\$0.00	\$77.28
	09/01/2016	\$51.69	\$9.70	\$16.89	\$0.00	\$78.28
	03/01/2017	\$52.69	\$9.70	\$16.89	\$0.00	\$79.28
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 1</i>	12/01/2014	\$35.35	\$7.30	\$12.95	\$0.00	\$55.60
	06/01/2015	\$36.10	\$7.30	\$12.95	\$0.00	\$56.35
	12/01/2015	\$36.85	\$7.30	\$12.95	\$0.00	\$57.10
	06/01/2016	\$37.60	\$7.30	\$12.95	\$0.00	\$57.85
	12/01/2016	\$38.60	\$7.30	\$12.95	\$0.00	\$58.85
For apprentice rates see "Apprentice- LABORER"						
INSULATOR (PIPES & TANKS) <i>HEAT &amp; FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2014	\$43.31	\$11.25	\$12.60	\$0.00	\$67.16

**Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Boston**

**Effective Date - 09/01/2014**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.66	\$11.25	\$9.35	\$0.00	\$42.26
2	60	\$25.99	\$11.25	\$10.00	\$0.00	\$47.24
3	70	\$30.32	\$11.25	\$10.65	\$0.00	\$52.22
4	80	\$34.65	\$11.25	\$11.30	\$0.00	\$57.20

**Notes:**

Steps are 1 year

**Apprentice to Journeyworker Ratio:1:4**

IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (BOSTON AREA)</i>	03/16/2015	\$42.11	\$7.70	\$20.25	\$0.00	\$70.06
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**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - IRONWORKER - Local 7 Boston**

**Effective Date - 03/16/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$25.27	\$7.70	\$20.25	\$0.00	\$53.22
2	70	\$29.48	\$7.70	\$20.25	\$0.00	\$57.43
3	75	\$31.58	\$7.70	\$20.25	\$0.00	\$59.53
4	80	\$33.69	\$7.70	\$20.25	\$0.00	\$61.64
5	85	\$35.79	\$7.70	\$20.25	\$0.00	\$63.74
6	90	\$37.90	\$7.70	\$20.25	\$0.00	\$65.85

**Notes:**

\*\* Structural 1:6; Ornamental 1:4

**Apprentice to Journeyworker Ratio:\*\***

JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 1	12/01/2014	\$34.85	\$7.30	\$12.95	\$0.00	\$55.10
	06/01/2015	\$35.60	\$7.30	\$12.95	\$0.00	\$55.85
	12/01/2015	\$36.35	\$7.30	\$12.95	\$0.00	\$56.60
	06/01/2016	\$37.10	\$7.30	\$12.95	\$0.00	\$57.35
	12/01/2016	\$38.10	\$7.30	\$12.95	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

LABORER LABORERS - ZONE 1	12/01/2014	\$34.60	\$7.30	\$12.95	\$0.00	\$54.85
	06/01/2015	\$35.35	\$7.30	\$12.95	\$0.00	\$55.60
	12/01/2015	\$36.10	\$7.30	\$12.95	\$0.00	\$56.35
	06/01/2016	\$36.85	\$7.30	\$12.95	\$0.00	\$57.10
	12/01/2016	\$37.85	\$7.30	\$12.95	\$0.00	\$58.10

**Apprentice - LABORER - Zone 1**

**Effective Date - 12/01/2014**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$20.76	\$7.30	\$12.95	\$0.00	\$41.01
2	70	\$24.22	\$7.30	\$12.95	\$0.00	\$44.47
3	80	\$27.68	\$7.30	\$12.95	\$0.00	\$47.93
4	90	\$31.14	\$7.30	\$12.95	\$0.00	\$51.39

**Effective Date - 06/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$21.21	\$7.30	\$12.95	\$0.00	\$41.46
2	70	\$24.75	\$7.30	\$12.95	\$0.00	\$45.00
3	80	\$28.28	\$7.30	\$12.95	\$0.00	\$48.53
4	90	\$31.82	\$7.30	\$12.95	\$0.00	\$52.07

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER <i>LABORERS - ZONE 1</i>	12/01/2014	\$34.60	\$7.30	\$12.95	\$0.00	\$54.85
	06/01/2015	\$35.35	\$7.30	\$12.95	\$0.00	\$55.60
	12/01/2015	\$36.10	\$7.30	\$12.95	\$0.00	\$56.35
	06/01/2016	\$36.85	\$7.30	\$12.95	\$0.00	\$57.10
	12/01/2016	\$37.85	\$7.30	\$12.95	\$0.00	\$58.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER <i>LABORERS - ZONE 1</i>	12/01/2014	\$34.60	\$7.30	\$12.95	\$0.00	\$54.85
	06/01/2015	\$35.35	\$7.30	\$12.95	\$0.00	\$55.60
	12/01/2015	\$36.10	\$7.30	\$12.95	\$0.00	\$56.35
	06/01/2016	\$36.85	\$7.30	\$12.95	\$0.00	\$57.10
	12/01/2016	\$37.85	\$7.30	\$12.95	\$0.00	\$58.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER <i>LABORERS - ZONE 1</i>	12/01/2014	\$34.75	\$7.30	\$12.95	\$0.00	\$55.00
	06/01/2015	\$35.50	\$7.30	\$12.95	\$0.00	\$55.75
	12/01/2015	\$36.25	\$7.30	\$12.95	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER <i>LABORERS - ZONE 1</i>	12/01/2014	\$34.85	\$7.30	\$12.95	\$0.00	\$55.10
	06/01/2015	\$35.60	\$7.30	\$12.95	\$0.00	\$55.85
	12/01/2015	\$36.35	\$7.30	\$12.95	\$0.00	\$56.60
	06/01/2016	\$37.10	\$7.30	\$12.95	\$0.00	\$57.35
	12/01/2016	\$38.10	\$7.30	\$12.95	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 1</i>	12/01/2014	\$34.60	\$7.30	\$12.95	\$0.00	\$54.85
	06/01/2015	\$35.35	\$7.30	\$12.95	\$0.00	\$55.60
	12/01/2015	\$36.10	\$7.30	\$12.95	\$0.00	\$56.35
	06/01/2016	\$36.85	\$7.30	\$12.95	\$0.00	\$57.10
	12/01/2016	\$37.85	\$7.30	\$12.95	\$0.00	\$58.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER <i>LABORERS - ZONE 1</i>	12/01/2014	\$34.60	\$7.30	\$12.95	\$0.00	\$54.85
	06/01/2015	\$35.35	\$7.30	\$12.95	\$0.00	\$55.60
	12/01/2015	\$36.10	\$7.30	\$12.95	\$0.00	\$56.35
	06/01/2016	\$36.85	\$7.30	\$12.95	\$0.00	\$57.10
	12/01/2016	\$37.85	\$7.30	\$12.95	\$0.00	\$58.10
This classification applies to all tree work associated with the removal of standing trees, and trimming and removal of branches and limbs when the work is not done for a utility company for the purpose of operation, maintenance or repair of utility company equipment. For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2014	\$34.85	\$7.30	\$12.95	\$0.00	\$55.10
	06/01/2015	\$35.60	\$7.30	\$12.95	\$0.00	\$55.85
	12/01/2015	\$36.35	\$7.30	\$12.95	\$0.00	\$56.60
	06/01/2016	\$37.10	\$7.30	\$12.95	\$0.00	\$57.35
	12/01/2016	\$38.10	\$7.30	\$12.95	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE &amp; TILE</i>	02/01/2015	\$37.37	\$10.18	\$17.18	\$0.00	\$64.73
	08/01/2015	\$38.08	\$10.18	\$17.25	\$0.00	\$65.51
	02/01/2016	\$38.53	\$10.18	\$17.25	\$0.00	\$65.96
	08/01/2016	\$39.23	\$10.18	\$17.33	\$0.00	\$66.74
	02/01/2017	\$39.69	\$10.18	\$17.33	\$0.00	\$67.20

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - MARBLE & TILE FINISHER - Local 3 Marble & Tile**

**Effective Date - 02/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.69	\$10.18	\$17.18	\$0.00	\$46.05
2	60	\$22.42	\$10.18	\$17.18	\$0.00	\$49.78
3	70	\$26.16	\$10.18	\$17.18	\$0.00	\$53.52
4	80	\$29.90	\$10.18	\$17.18	\$0.00	\$57.26
5	90	\$33.63	\$10.18	\$17.18	\$0.00	\$60.99

**Effective Date - 08/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.04	\$10.18	\$17.25	\$0.00	\$46.47
2	60	\$22.85	\$10.18	\$17.25	\$0.00	\$50.28
3	70	\$26.66	\$10.18	\$17.25	\$0.00	\$54.09
4	80	\$30.46	\$10.18	\$17.25	\$0.00	\$57.89
5	90	\$34.27	\$10.18	\$17.25	\$0.00	\$61.70

**Notes:**

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**Apprentice to Journeyworker Ratio:1:3**

MARBLE MASONS, TILELAYERS & TERRAZZO MECH	02/01/2015	\$49.00	\$10.18	\$18.50	\$0.00	\$77.68
BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2015	\$49.90	\$10.18	\$18.57	\$0.00	\$78.65
	02/01/2016	\$50.47	\$10.18	\$18.57	\$0.00	\$79.22
	08/01/2016	\$51.37	\$10.18	\$18.65	\$0.00	\$80.20
	02/01/2017	\$51.94	\$10.18	\$18.65	\$0.00	\$80.77

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile**

**Effective Date - 02/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.50	\$10.18	\$18.50	\$0.00	\$53.18
2	60	\$29.40	\$10.18	\$18.50	\$0.00	\$58.08
3	70	\$34.30	\$10.18	\$18.50	\$0.00	\$62.98
4	80	\$39.20	\$10.18	\$18.50	\$0.00	\$67.88
5	90	\$44.10	\$10.18	\$18.50	\$0.00	\$72.78

**Effective Date - 08/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.95	\$10.18	\$18.57	\$0.00	\$53.70
2	60	\$29.94	\$10.18	\$18.57	\$0.00	\$58.69
3	70	\$34.93	\$10.18	\$18.57	\$0.00	\$63.68
4	80	\$39.92	\$10.18	\$18.57	\$0.00	\$68.67
5	90	\$44.91	\$10.18	\$18.57	\$0.00	\$73.66

**Notes:**

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**Apprentice to Journeyworker Ratio:1:5**

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 1) <i>MILLWRIGHTS LOCAL 1121 - Zone 1</i>	04/01/2015	\$37.64	\$9.80	\$16.21	\$0.00	\$63.65
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**Classification**

**Effective Date    Base Wage    Health    Pension    Supplemental Unemployment    Total Rate**

**Apprentice - MILLWRIGHT - Local 1121 Zone 1**

**Effective Date - 04/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$20.70	\$9.80	\$4.48	\$0.00	\$34.98
2	65	\$24.47	\$9.80	\$13.36	\$0.00	\$47.63
3	75	\$28.23	\$9.80	\$14.18	\$0.00	\$52.21
4	85	\$31.99	\$9.80	\$14.99	\$0.00	\$56.78

**Notes:**

Steps are 2,000 hours

**Apprentice to Journeyworker Ratio:1:5**

<b>MORTAR MIXER</b> <i>LABORERS - ZONE 1</i>	12/01/2014	\$34.85	\$7.30	\$12.95	\$0.00	\$55.10
	06/01/2015	\$35.60	\$7.30	\$12.95	\$0.00	\$55.85
	12/01/2015	\$36.35	\$7.30	\$12.95	\$0.00	\$56.60
	06/01/2016	\$37.10	\$7.30	\$12.95	\$0.00	\$57.35
	12/01/2016	\$38.10	\$7.30	\$12.95	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

<b>OILER (OTHER THAN TRUCK CRANES,GRADALLS)</b> <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$21.90	\$10.00	\$14.30	\$0.00	\$46.20
	06/01/2015	\$22.28	\$10.00	\$14.30	\$0.00	\$46.58
	12/01/2015	\$22.93	\$10.00	\$14.30	\$0.00	\$47.23
	06/01/2016	\$23.32	\$10.00	\$14.30	\$0.00	\$47.62
	12/01/2016	\$23.97	\$10.00	\$14.30	\$0.00	\$48.27
	06/01/2017	\$24.48	\$10.00	\$14.30	\$0.00	\$48.78
	12/01/2017	\$25.00	\$10.00	\$14.30	\$0.00	\$49.30

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

<b>OILER (TRUCK CRANES, GRADALLS)</b> <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$25.54	\$10.00	\$14.30	\$0.00	\$49.84
	06/01/2015	\$25.99	\$10.00	\$14.30	\$0.00	\$50.29
	12/01/2015	\$26.74	\$10.00	\$14.30	\$0.00	\$51.04
	06/01/2016	\$27.20	\$10.00	\$14.30	\$0.00	\$51.50
	12/01/2016	\$27.95	\$10.00	\$14.30	\$0.00	\$52.25
	06/01/2017	\$28.55	\$10.00	\$14.30	\$0.00	\$52.85
	12/01/2017	\$29.16	\$10.00	\$14.30	\$0.00	\$53.46

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

<b>OTHER POWER DRIVEN EQUIPMENT - CLASS II</b> <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE 1</i>	01/01/2015	\$47.66	\$7.85	\$16.10	\$0.00	\$71.61
	07/01/2015	\$48.56	\$7.85	\$16.10	\$0.00	\$72.51
	01/01/2016	\$49.51	\$7.85	\$16.10	\$0.00	\$73.46
	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

**Apprentice - PAINTER Local 35 - BRIDGES/TANKS**

**Effective Date - 01/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.83	\$7.85	\$0.00	\$0.00	\$31.68
2	55	\$26.21	\$7.85	\$3.66	\$0.00	\$37.72
3	60	\$28.60	\$7.85	\$3.99	\$0.00	\$40.44
4	65	\$30.98	\$7.85	\$4.32	\$0.00	\$43.15
5	70	\$33.36	\$7.85	\$14.11	\$0.00	\$55.32
6	75	\$35.75	\$7.85	\$14.44	\$0.00	\$58.04
7	80	\$38.13	\$7.85	\$14.77	\$0.00	\$60.75
8	90	\$42.89	\$7.85	\$15.44	\$0.00	\$66.18

**Effective Date - 07/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.28	\$7.85	\$0.00	\$0.00	\$32.13
2	55	\$26.71	\$7.85	\$3.66	\$0.00	\$38.22
3	60	\$29.14	\$7.85	\$3.99	\$0.00	\$40.98
4	65	\$31.56	\$7.85	\$4.32	\$0.00	\$43.73
5	70	\$33.99	\$7.85	\$14.11	\$0.00	\$55.95
6	75	\$36.42	\$7.85	\$14.44	\$0.00	\$58.71
7	80	\$38.85	\$7.85	\$14.77	\$0.00	\$61.47
8	90	\$43.70	\$7.85	\$15.44	\$0.00	\$66.99

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2015	\$44.35	\$7.85	\$16.10	\$0.00	\$68.30
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. <i>PAINTERS LOCAL 35 - ZONE 1</i>	07/01/2015	\$45.25	\$7.85	\$16.10	\$0.00	\$69.20
	01/01/2016	\$46.20	\$7.85	\$16.10	\$0.00	\$70.15
	07/01/2016	\$47.15	\$7.85	\$16.10	\$0.00	\$71.10
	01/01/2017	\$48.10	\$7.85	\$16.10	\$0.00	\$72.05

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - PAINTER Local 35 Zone 1 - Spray/Sandblast - New**

**Effective Date - 01/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.18	\$7.85	\$0.00	\$0.00	\$30.03
2	55	\$24.39	\$7.85	\$3.66	\$0.00	\$35.90
3	60	\$26.61	\$7.85	\$3.99	\$0.00	\$38.45
4	65	\$28.83	\$7.85	\$4.32	\$0.00	\$41.00
5	70	\$31.05	\$7.85	\$14.11	\$0.00	\$53.01
6	75	\$33.26	\$7.85	\$14.44	\$0.00	\$55.55
7	80	\$35.48	\$7.85	\$14.77	\$0.00	\$58.10
8	90	\$39.92	\$7.85	\$15.44	\$0.00	\$63.21

**Effective Date - 07/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.63	\$7.85	\$0.00	\$0.00	\$30.48
2	55	\$24.89	\$7.85	\$3.66	\$0.00	\$36.40
3	60	\$27.15	\$7.85	\$3.99	\$0.00	\$38.99
4	65	\$29.41	\$7.85	\$4.32	\$0.00	\$41.58
5	70	\$31.68	\$7.85	\$14.11	\$0.00	\$53.64
6	75	\$33.94	\$7.85	\$14.44	\$0.00	\$56.23
7	80	\$36.20	\$7.85	\$14.77	\$0.00	\$58.82
8	90	\$40.73	\$7.85	\$15.44	\$0.00	\$64.02

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PAINTER (SPRAY OR SANDBLAST, REPAINT)	01/01/2015	\$42.41	\$7.85	\$16.10	\$0.00	\$66.36
PAINTERS LOCAL 35 - ZONE 1	07/01/2015	\$43.31	\$7.85	\$16.10	\$0.00	\$67.26
	01/01/2016	\$44.26	\$7.85	\$16.10	\$0.00	\$68.21
	07/01/2016	\$45.21	\$7.85	\$16.10	\$0.00	\$69.16
	01/01/2017	\$46.16	\$7.85	\$16.10	\$0.00	\$70.11

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - PAINTER Local 35 Zone 1 - Spray/Sandblast - Repaint**

**Effective Date - 01/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.21	\$7.85	\$0.00	\$0.00	\$29.06
2	55	\$23.33	\$7.85	\$3.66	\$0.00	\$34.84
3	60	\$25.45	\$7.85	\$3.99	\$0.00	\$37.29
4	65	\$27.57	\$7.85	\$4.32	\$0.00	\$39.74
5	70	\$29.69	\$7.85	\$14.11	\$0.00	\$51.65
6	75	\$31.81	\$7.85	\$14.44	\$0.00	\$54.10
7	80	\$33.93	\$7.85	\$14.77	\$0.00	\$56.55
8	90	\$38.17	\$7.85	\$15.44	\$0.00	\$61.46

**Effective Date - 07/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.66	\$7.85	\$0.00	\$0.00	\$29.51
2	55	\$23.82	\$7.85	\$3.66	\$0.00	\$35.33
3	60	\$25.99	\$7.85	\$3.99	\$0.00	\$37.83
4	65	\$28.15	\$7.85	\$4.32	\$0.00	\$40.32
5	70	\$30.32	\$7.85	\$14.11	\$0.00	\$52.28
6	75	\$32.48	\$7.85	\$14.44	\$0.00	\$54.77
7	80	\$34.65	\$7.85	\$14.77	\$0.00	\$57.27
8	90	\$38.98	\$7.85	\$15.44	\$0.00	\$62.27

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PAINTER (TRAFFIC MARKINGS)	12/01/2014	\$34.60	\$7.30	\$12.95	\$0.00	\$54.85
LABORERS - ZONE 1	06/01/2015	\$35.35	\$7.30	\$12.95	\$0.00	\$55.60
	12/01/2015	\$36.10	\$7.30	\$12.95	\$0.00	\$56.35
	06/01/2016	\$36.85	\$7.30	\$12.95	\$0.00	\$57.10
	12/01/2016	\$37.85	\$7.30	\$12.95	\$0.00	\$58.10

For Apprentice rates see "Apprentice- LABORER"

PAINTER / TAPER (BRUSH, NEW) *	01/01/2015	\$42.95	\$7.85	\$16.10	\$0.00	\$66.90
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 1	07/01/2015	\$43.85	\$7.85	\$16.10	\$0.00	\$67.80
	01/01/2016	\$44.80	\$7.85	\$16.10	\$0.00	\$68.75
	07/01/2016	\$45.75	\$7.85	\$16.10	\$0.00	\$69.70
	01/01/2017	\$46.70	\$7.85	\$16.10	\$0.00	\$70.65

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - PAINTER - Local 35 Zone 1 - BRUSH NEW**

**Effective Date - 01/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.48	\$7.85	\$0.00	\$0.00	\$29.33
2	55	\$23.62	\$7.85	\$3.66	\$0.00	\$35.13
3	60	\$25.77	\$7.85	\$3.99	\$0.00	\$37.61
4	65	\$27.92	\$7.85	\$4.32	\$0.00	\$40.09
5	70	\$30.07	\$7.85	\$14.11	\$0.00	\$52.03
6	75	\$32.21	\$7.85	\$14.44	\$0.00	\$54.50
7	80	\$34.36	\$7.85	\$14.77	\$0.00	\$56.98
8	90	\$38.66	\$7.85	\$15.44	\$0.00	\$61.95

**Effective Date - 07/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.93	\$7.85	\$0.00	\$0.00	\$29.78
2	55	\$24.12	\$7.85	\$3.66	\$0.00	\$35.63
3	60	\$26.31	\$7.85	\$3.99	\$0.00	\$38.15
4	65	\$28.50	\$7.85	\$4.32	\$0.00	\$40.67
5	70	\$30.70	\$7.85	\$14.11	\$0.00	\$52.66
6	75	\$32.89	\$7.85	\$14.44	\$0.00	\$55.18
7	80	\$35.08	\$7.85	\$14.77	\$0.00	\$57.70
8	90	\$39.47	\$7.85	\$15.44	\$0.00	\$62.76

**Notes:**  
Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2015	\$41.01	\$7.85	\$16.10	\$0.00	\$64.96
PAINTERS LOCAL 35 - ZONE 1	07/01/2015	\$41.91	\$7.85	\$16.10	\$0.00	\$65.86
	01/01/2016	\$42.86	\$7.85	\$16.10	\$0.00	\$66.81
	07/01/2016	\$43.81	\$7.85	\$16.10	\$0.00	\$67.76
	01/01/2017	\$44.76	\$7.85	\$16.10	\$0.00	\$68.71

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - PAINTER Local 35 Zone 1 - BRUSH REPAINT**

**Effective Date - 01/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.51	\$7.85	\$0.00	\$0.00	\$28.36
2	55	\$22.56	\$7.85	\$3.66	\$0.00	\$34.07
3	60	\$24.61	\$7.85	\$3.99	\$0.00	\$36.45
4	65	\$26.66	\$7.85	\$4.32	\$0.00	\$38.83
5	70	\$28.71	\$7.85	\$14.11	\$0.00	\$50.67
6	75	\$30.76	\$7.85	\$14.44	\$0.00	\$53.05
7	80	\$32.81	\$7.85	\$14.77	\$0.00	\$55.43
8	90	\$36.91	\$7.85	\$15.44	\$0.00	\$60.20

**Effective Date - 07/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.96	\$7.85	\$0.00	\$0.00	\$28.81
2	55	\$23.05	\$7.85	\$3.66	\$0.00	\$34.56
3	60	\$25.15	\$7.85	\$3.99	\$0.00	\$36.99
4	65	\$27.24	\$7.85	\$4.32	\$0.00	\$39.41
5	70	\$29.34	\$7.85	\$14.11	\$0.00	\$51.30
6	75	\$31.43	\$7.85	\$14.44	\$0.00	\$53.72
7	80	\$33.53	\$7.85	\$14.77	\$0.00	\$56.15
8	90	\$37.72	\$7.85	\$15.44	\$0.00	\$61.01

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PANEL & PICKUP TRUCKS DRIVER <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2014	\$32.23	\$9.91	\$9.33	\$0.00	\$51.47
	06/01/2015	\$32.58	\$9.91	\$9.33	\$0.00	\$51.82
	08/01/2015	\$32.58	\$10.41	\$9.33	\$0.00	\$52.32
	12/01/2015	\$32.58	\$10.41	\$10.08	\$0.00	\$53.07
	06/01/2016	\$33.08	\$10.41	\$10.08	\$0.00	\$53.57
	08/01/2016	\$33.08	\$10.91	\$10.08	\$0.00	\$54.07
	12/01/2016	\$33.08	\$10.91	\$10.89	\$0.00	\$54.88
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$41.60	\$9.80	\$18.17	\$0.00	\$69.57
	08/01/2015	\$43.10	\$9.80	\$18.17	\$0.00	\$71.07
PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$41.60	\$9.80	\$18.17	\$0.00	\$69.57
	08/01/2015	\$43.10	\$9.80	\$18.17	\$0.00	\$71.07

**Apprentice - PILE DRIVER - Local 56 Zone 1**

**Effective Date - 08/01/2014**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.80	\$9.80	\$18.17	\$0.00	\$48.77
2	60	\$24.96	\$9.80	\$18.17	\$0.00	\$52.93
3	70	\$29.12	\$9.80	\$18.17	\$0.00	\$57.09
4	75	\$31.20	\$9.80	\$18.17	\$0.00	\$59.17
5	80	\$33.28	\$9.80	\$18.17	\$0.00	\$61.25
6	80	\$33.28	\$9.80	\$18.17	\$0.00	\$61.25
7	90	\$37.44	\$9.80	\$18.17	\$0.00	\$65.41
8	90	\$37.44	\$9.80	\$18.17	\$0.00	\$65.41

**Effective Date - 08/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.55	\$9.80	\$18.17	\$0.00	\$49.52
2	60	\$25.86	\$9.80	\$18.17	\$0.00	\$53.83
3	70	\$30.17	\$9.80	\$18.17	\$0.00	\$58.14
4	75	\$32.33	\$9.80	\$18.17	\$0.00	\$60.30
5	80	\$34.48	\$9.80	\$18.17	\$0.00	\$62.45
6	80	\$34.48	\$9.80	\$18.17	\$0.00	\$62.45
7	90	\$38.79	\$9.80	\$18.17	\$0.00	\$66.76
8	90	\$38.79	\$9.80	\$18.17	\$0.00	\$66.76

**Notes:**

**Apprentice to Journeyworker Ratio:1:3**

PIPEFITTER & STEAMFITTER	03/01/2015	\$48.69	\$9.70	\$16.89	\$0.00	\$75.28
PIPEFITTERS LOCAL 537	09/01/2015	\$49.69	\$9.70	\$16.89	\$0.00	\$76.28
	03/01/2016	\$50.69	\$9.70	\$16.89	\$0.00	\$77.28
	09/01/2016	\$51.69	\$9.70	\$16.89	\$0.00	\$78.28
	03/01/2017	\$52.69	\$9.70	\$16.89	\$0.00	\$79.28

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - PIPEFITTER - Local 537**

**Effective Date - 03/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.48	\$9.70	\$7.50	\$0.00	\$36.68
2	45	\$21.91	\$9.70	\$16.89	\$0.00	\$48.50
3	60	\$29.21	\$9.70	\$16.89	\$0.00	\$55.80
4	70	\$34.08	\$9.70	\$16.89	\$0.00	\$60.67
5	80	\$38.95	\$9.70	\$16.89	\$0.00	\$65.54

**Effective Date - 09/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.88	\$9.70	\$7.50	\$0.00	\$37.08
2	45	\$22.36	\$9.70	\$16.89	\$0.00	\$48.95
3	60	\$29.81	\$9.70	\$16.89	\$0.00	\$56.40
4	70	\$34.78	\$9.70	\$16.89	\$0.00	\$61.37
5	80	\$39.75	\$9.70	\$16.89	\$0.00	\$66.34

**Notes:**

\*\* 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)

**Apprentice to Journeyworker Ratio:\*\***

PIPELAYER	12/01/2014	\$34.85	\$7.30	\$12.95	\$0.00	\$55.10
LABORERS - ZONE 1	06/01/2015	\$35.60	\$7.30	\$12.95	\$0.00	\$55.85
	12/01/2015	\$36.35	\$7.30	\$12.95	\$0.00	\$56.60
	06/01/2016	\$37.10	\$7.30	\$12.95	\$0.00	\$57.35
	12/01/2016	\$38.10	\$7.30	\$12.95	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

PLUMBERS & GASFITTERS	03/01/2015	\$50.21	\$10.32	\$14.89	\$0.00	\$75.42
PLUMBERS & GASFITTERS LOCAL 12	09/01/2015	\$51.21	\$10.32	\$14.89	\$0.00	\$76.42
	03/01/2016	\$52.36	\$10.32	\$14.89	\$0.00	\$77.57
	09/01/2016	\$53.41	\$10.32	\$14.89	\$0.00	\$78.62
	03/01/2017	\$54.41	\$10.32	\$14.89	\$0.00	\$79.62

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - PLUMBER/GASFITTER - Local 12**

**Effective Date - 03/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$17.57	\$10.32	\$5.54	\$0.00	\$33.43
2	40	\$20.08	\$10.32	\$6.27	\$0.00	\$36.67
3	55	\$27.62	\$10.32	\$8.42	\$0.00	\$46.36
4	65	\$32.64	\$10.32	\$9.87	\$0.00	\$52.83
5	75	\$37.66	\$10.32	\$11.30	\$0.00	\$59.28

**Effective Date - 09/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$17.92	\$10.32	\$5.54	\$0.00	\$33.78
2	40	\$20.48	\$10.32	\$6.27	\$0.00	\$37.07
3	55	\$28.17	\$10.32	\$8.42	\$0.00	\$46.91
4	65	\$33.29	\$10.32	\$9.87	\$0.00	\$53.48
5	75	\$38.41	\$10.32	\$11.30	\$0.00	\$60.03

**Notes:**

\*\* 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr  
Step4 with lic\$56.05 Step5 with lic\$62.48

**Apprentice to Journeyworker Ratio:\*\***

PNEUMATIC CONTROLS (TEMP.) <i>PIPEFITTERS LOCAL 537</i>	03/01/2015	\$48.69	\$9.70	\$16.89	\$0.00	\$75.28
	09/01/2015	\$49.69	\$9.70	\$16.89	\$0.00	\$76.28
	03/01/2016	\$50.69	\$9.70	\$16.89	\$0.00	\$77.28
	09/01/2016	\$51.69	\$9.70	\$16.89	\$0.00	\$78.28
	03/01/2017	\$52.69	\$9.70	\$16.89	\$0.00	\$79.28

For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"

PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2014	\$34.85	\$7.30	\$12.95	\$0.00	\$55.10
	06/01/2015	\$35.60	\$7.30	\$12.95	\$0.00	\$55.85
	12/01/2015	\$36.35	\$7.30	\$12.95	\$0.00	\$56.60
	06/01/2016	\$37.10	\$7.30	\$12.95	\$0.00	\$57.35
	12/01/2016	\$38.10	\$7.30	\$12.95	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

POWDERMAN & BLASTER <i>LABORERS - ZONE 1</i>	12/01/2014	\$35.60	\$7.30	\$12.95	\$0.00	\$55.85
	06/01/2015	\$36.35	\$7.30	\$12.95	\$0.00	\$56.60
	12/01/2015	\$37.10	\$7.30	\$12.95	\$0.00	\$57.35
	06/01/2016	\$37.85	\$7.30	\$12.95	\$0.00	\$58.10
	12/01/2016	\$38.85	\$7.30	\$12.95	\$0.00	\$59.10

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$29.40	\$10.00	\$14.30	\$0.00	\$53.70
	06/01/2015	\$29.92	\$10.00	\$14.30	\$0.00	\$54.22
	12/01/2015	\$30.79	\$10.00	\$14.30	\$0.00	\$55.09
	06/01/2016	\$31.31	\$10.00	\$14.30	\$0.00	\$55.61
	12/01/2016	\$32.18	\$10.00	\$14.30	\$0.00	\$56.48
	06/01/2017	\$32.87	\$10.00	\$14.30	\$0.00	\$57.17
	12/01/2017	\$33.56	\$10.00	\$14.30	\$0.00	\$57.86
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY MIX CONCRETE DRIVERS after 4/30/10 (Drivers Hired After 4/30/2010) <i>TEAMSTERS LOCAL 25c</i>	07/01/2014	\$27.73	\$7.73	\$8.65	\$0.00	\$44.11
	05/01/2015	\$27.88	\$7.73	\$8.92	\$0.00	\$44.53
	07/01/2015	\$27.88	\$7.98	\$8.92	\$0.00	\$44.78
	05/01/2016	\$28.03	\$7.98	\$9.31	\$0.00	\$45.32
	07/01/2016	\$28.03	\$8.23	\$9.31	\$0.00	\$45.57
	05/01/2017	\$28.18	\$8.23	\$9.72	\$0.00	\$46.13
	07/01/2017	\$28.18	\$8.48	\$9.72	\$0.00	\$46.38
READY-MIX CONCRETE DRIVER <i>TEAMSTERS LOCAL 25c</i>	07/01/2014	\$29.03	\$7.73	\$8.65	\$0.00	\$45.41
	05/01/2015	\$29.18	\$7.73	\$8.92	\$0.00	\$45.83
	07/01/2015	\$29.18	\$7.98	\$8.92	\$0.00	\$46.08
	05/01/2016	\$29.33	\$7.98	\$9.31	\$0.00	\$46.62
	07/01/2016	\$29.33	\$8.23	\$9.31	\$0.00	\$46.87
	05/01/2017	\$29.48	\$8.23	\$9.72	\$0.00	\$47.43
	07/01/2017	\$29.48	\$8.48	\$9.72	\$0.00	\$47.68
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
RESIDENTIAL WOOD FRAME (All Other Work) <i>CARPENTERS -ZONE 2 (Residential Wood)</i>	04/01/2011	\$24.24	\$8.67	\$15.51	\$0.00	\$48.42
RESIDENTIAL WOOD FRAME CARPENTER ** ** 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. <i>CARPENTERS -ZONE 2 (Residential Wood)</i>	05/01/2011	\$24.24	\$6.34	\$6.23	\$0.00	\$36.81

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**

**Effective Date - 05/01/2011**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$14.54	\$6.34	\$0.00	\$0.00	\$20.88
2	60	\$14.54	\$6.34	\$6.23	\$0.00	\$27.11
3	65	\$15.76	\$6.34	\$6.23	\$0.00	\$28.33
4	70	\$16.97	\$6.34	\$6.23	\$0.00	\$29.54
5	75	\$18.18	\$6.34	\$6.23	\$0.00	\$30.75
6	80	\$19.39	\$6.34	\$6.23	\$0.00	\$31.96
7	85	\$20.60	\$6.34	\$6.23	\$0.00	\$33.17
8	90	\$21.82	\$6.34	\$6.23	\$0.00	\$34.39

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2014	\$34.85	\$7.30	\$12.95	\$0.00	\$55.10
	06/01/2015	\$35.60	\$7.30	\$12.95	\$0.00	\$55.85
	12/01/2015	\$36.35	\$7.30	\$12.95	\$0.00	\$56.60
	06/01/2016	\$37.10	\$7.30	\$12.95	\$0.00	\$57.35
	12/01/2016	\$38.10	\$7.30	\$12.95	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

ROOFER (Inc. Roofer Waterproofing & Roofer Damproofg) <i>ROOFERS LOCAL 33</i>	02/01/2015	\$40.11	\$10.50	\$11.60	\$0.00	\$62.21
	08/01/2015	\$41.01	\$10.50	\$11.60	\$0.00	\$63.11
	02/01/2016	\$41.91	\$10.50	\$11.60	\$0.00	\$64.01

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - ROOFER - Local 33**

**Effective Date - 02/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.06	\$10.50	\$3.38	\$0.00	\$33.94
2	60	\$24.07	\$10.50	\$11.60	\$0.00	\$46.17
3	65	\$26.07	\$10.50	\$11.60	\$0.00	\$48.17
4	75	\$30.08	\$10.50	\$11.60	\$0.00	\$52.18
5	85	\$34.09	\$10.50	\$11.60	\$0.00	\$56.19

**Effective Date - 08/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.51	\$10.50	\$3.38	\$0.00	\$34.39
2	60	\$24.61	\$10.50	\$11.60	\$0.00	\$46.71
3	65	\$26.66	\$10.50	\$11.60	\$0.00	\$48.76
4	75	\$30.76	\$10.50	\$11.60	\$0.00	\$52.86
5	85	\$34.86	\$10.50	\$11.60	\$0.00	\$56.96

**Notes: \*\* 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 to Journeyworker Ratio:\*\***

ROOFER SLATE / TILE / PRECAST CONCRETE ROOFERS LOCAL 33	02/01/2015	\$40.36	\$10.50	\$11.60	\$0.00	\$62.46
	08/01/2015	\$41.26	\$10.50	\$11.60	\$0.00	\$63.36
	02/01/2016	\$42.16	\$10.50	\$11.60	\$0.00	\$64.26
For apprentice rates see "Apprentice- ROOFER"						
SHEETMETAL WORKER SHEETMETAL WORKERS LOCAL 17 - A	02/01/2015	\$43.28	\$10.20	\$20.54	\$2.22	\$76.24
	08/01/2015	\$44.28	\$10.20	\$20.54	\$2.22	\$77.24
	02/01/2016	\$45.28	\$10.20	\$20.54	\$2.22	\$78.24
	08/01/2016	\$46.43	\$10.20	\$20.54	\$2.22	\$79.39
	02/01/2017	\$47.53	\$10.20	\$20.54	\$2.22	\$80.49
	08/01/2017	\$48.63	\$10.20	\$20.54	\$2.22	\$81.59
	02/01/2018	\$49.78	\$10.20	\$20.54	\$2.22	\$82.74

**Classification**

**Effective Date    Base Wage    Health    Pension    Supplemental Unemployment    Total Rate**

**Apprentice - SHEET METAL WORKER - Local 17-A**

**Effective Date - 02/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.31	\$10.20	\$4.58	\$0.00	\$32.09
2	40	\$17.31	\$10.20	\$4.58	\$0.00	\$32.09
3	45	\$19.48	\$10.20	\$9.09	\$1.16	\$39.93
4	45	\$19.48	\$10.20	\$9.09	\$1.16	\$39.93
5	50	\$21.64	\$10.20	\$9.91	\$1.25	\$43.00
6	50	\$21.64	\$10.20	\$10.16	\$1.26	\$43.26
7	60	\$25.97	\$10.20	\$11.55	\$1.43	\$49.15
8	65	\$28.13	\$10.20	\$12.38	\$1.52	\$52.23
9	75	\$32.46	\$10.20	\$14.02	\$1.70	\$58.38
10	85	\$36.79	\$10.20	\$15.16	\$1.86	\$64.01

**Effective Date - 08/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.71	\$10.20	\$4.58	\$0.00	\$32.49
2	40	\$17.71	\$10.20	\$4.58	\$0.00	\$32.49
3	45	\$19.93	\$10.20	\$9.09	\$1.18	\$40.40
4	45	\$19.93	\$10.20	\$9.09	\$1.18	\$40.40
5	50	\$22.14	\$10.20	\$9.91	\$1.27	\$43.52
6	50	\$22.14	\$10.20	\$10.16	\$1.28	\$43.78
7	60	\$26.57	\$10.20	\$11.55	\$1.45	\$49.77
8	65	\$28.78	\$10.20	\$12.38	\$1.54	\$52.90
9	75	\$33.21	\$10.20	\$14.02	\$1.72	\$59.15
10	85	\$37.64	\$10.20	\$15.16	\$1.89	\$64.89

**Notes:**  
Steps are 6 mos.

**Apprentice to Journeyworker Ratio:1:4**

SIGN ERECTOR PAINTERS LOCAL 35 - ZONE 1	06/01/2013	\$25.81	\$7.07	\$7.05	\$0.00	\$39.93
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**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - SIGN ERECTOR - Local 35 Zone 1**

**Effective Date - 06/01/2013**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$12.91	\$7.07	\$0.00	\$0.00	\$19.98
2	55	\$14.20	\$7.07	\$2.45	\$0.00	\$23.72
3	60	\$15.49	\$7.07	\$2.45	\$0.00	\$25.01
4	65	\$16.78	\$7.07	\$2.45	\$0.00	\$26.30
5	70	\$18.07	\$7.07	\$7.05	\$0.00	\$32.19
6	75	\$19.36	\$7.07	\$7.05	\$0.00	\$33.48
7	80	\$20.65	\$7.07	\$7.05	\$0.00	\$34.77
8	85	\$21.94	\$7.07	\$7.05	\$0.00	\$36.06
9	90	\$23.23	\$7.07	\$7.05	\$0.00	\$37.35

**Notes:**  
Steps are 4 mos.

**Apprentice to Journeyworker Ratio:1:1**

<b>SPECIALIZED EARTH MOVING EQUIP &lt; 35 TONS</b>		12/01/2014	\$32.69	\$9.91	\$9.33	\$0.00	\$51.93
<i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>		06/01/2015	\$33.04	\$9.91	\$9.33	\$0.00	\$52.28
		08/01/2015	\$33.04	\$10.41	\$9.33	\$0.00	\$52.78
		12/01/2015	\$33.04	\$10.41	\$10.08	\$0.00	\$53.53
		06/01/2016	\$33.54	\$10.41	\$10.08	\$0.00	\$54.03
		08/01/2016	\$33.54	\$10.91	\$10.08	\$0.00	\$54.53
		12/01/2016	\$33.54	\$10.91	\$10.89	\$0.00	\$55.34
<b>SPECIALIZED EARTH MOVING EQUIP &gt; 35 TONS</b>		12/01/2014	\$32.98	\$9.91	\$9.33	\$0.00	\$52.22
<i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>		06/01/2015	\$33.33	\$9.91	\$9.33	\$0.00	\$52.57
		08/01/2015	\$33.33	\$10.41	\$9.33	\$0.00	\$53.07
		12/01/2015	\$33.33	\$10.41	\$10.08	\$0.00	\$53.82
		06/01/2016	\$33.83	\$10.41	\$10.08	\$0.00	\$54.32
		08/01/2016	\$33.83	\$10.91	\$10.08	\$0.00	\$54.82
		12/01/2016	\$33.83	\$10.91	\$10.89	\$0.00	\$55.63
<b>SPRINKLER FITTER</b>		03/01/2015	\$54.43	\$8.42	\$14.90	\$0.00	\$77.75
<i>SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1</i>		10/01/2015	\$55.58	\$8.42	\$14.90	\$0.00	\$78.90
		01/01/2016	\$55.58	\$8.67	\$15.05	\$0.00	\$79.30
		03/01/2016	\$56.58	\$8.67	\$15.05	\$0.00	\$80.30
		10/01/2016	\$57.73	\$8.67	\$15.05	\$0.00	\$81.45
		03/01/2017	\$58.73	\$8.67	\$15.05	\$0.00	\$82.45

**Apprentice - SPRINKLER FITTER - Local 550 (Section A) Zone 1**

**Effective Date - 03/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$19.05	\$8.42	\$8.40	\$0.00	\$35.87
2	40	\$21.77	\$8.42	\$8.40	\$0.00	\$38.59
3	45	\$24.49	\$8.42	\$8.40	\$0.00	\$41.31
4	50	\$27.22	\$8.42	\$8.40	\$0.00	\$44.04
5	55	\$29.94	\$8.42	\$8.40	\$0.00	\$46.76
6	60	\$32.66	\$8.42	\$8.40	\$0.00	\$49.48
7	65	\$35.38	\$8.42	\$8.40	\$0.00	\$52.20
8	70	\$38.10	\$8.42	\$8.40	\$0.00	\$54.92
9	75	\$40.82	\$8.42	\$8.40	\$0.00	\$57.64
10	80	\$43.54	\$8.42	\$8.40	\$0.00	\$60.36

**Effective Date - 10/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$19.45	\$8.42	\$8.40	\$0.00	\$36.27
2	40	\$22.23	\$8.42	\$8.40	\$0.00	\$39.05
3	45	\$25.01	\$8.42	\$8.40	\$0.00	\$41.83
4	50	\$27.79	\$8.42	\$8.40	\$0.00	\$44.61
5	55	\$30.57	\$8.42	\$8.40	\$0.00	\$47.39
6	60	\$33.35	\$8.42	\$8.40	\$0.00	\$50.17
7	65	\$36.13	\$8.42	\$8.40	\$0.00	\$52.95
8	70	\$38.91	\$8.42	\$8.40	\$0.00	\$55.73
9	75	\$41.69	\$8.42	\$8.40	\$0.00	\$58.51
10	80	\$44.46	\$8.42	\$8.40	\$0.00	\$61.28

**Notes:** Apprentice entered prior 9/30/10:  
40/45/50/55/60/65/70/75/80/85  
Steps are 850 hours

**Apprentice to Journeyworker Ratio:1:3**

STEAM BOILER OPERATOR	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
OPERATING ENGINEERS LOCAL 4	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2015	\$33.88	\$13.00	\$13.70	\$0.00	\$60.58
	09/01/2015	\$34.60	\$13.00	\$13.72	\$0.00	\$61.32
	03/01/2016	\$35.31	\$13.00	\$13.74	\$0.00	\$62.05

**Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103**

**Effective Date - 03/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$13.55	\$13.00	\$0.41	\$0.00	\$26.96
2	40	\$13.55	\$13.00	\$0.41	\$0.00	\$26.96
3	45	\$15.25	\$13.00	\$10.87	\$0.00	\$39.12
4	45	\$15.25	\$13.00	\$10.87	\$0.00	\$39.12
5	50	\$16.94	\$13.00	\$11.11	\$0.00	\$41.05
6	55	\$18.63	\$13.00	\$11.38	\$0.00	\$43.01
7	60	\$20.33	\$13.00	\$11.64	\$0.00	\$44.97
8	65	\$22.02	\$13.00	\$11.89	\$0.00	\$46.91
9	70	\$23.72	\$13.00	\$12.15	\$0.00	\$48.87
10	75	\$25.41	\$13.00	\$12.41	\$0.00	\$50.82

**Effective Date - 09/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$13.84	\$13.00	\$0.42	\$0.00	\$27.26
2	40	\$13.84	\$13.00	\$0.42	\$0.00	\$27.26
3	45	\$15.57	\$13.00	\$10.88	\$0.00	\$39.45
4	45	\$15.57	\$13.00	\$10.88	\$0.00	\$39.45
5	50	\$17.30	\$13.00	\$11.14	\$0.00	\$41.44
6	55	\$19.03	\$13.00	\$11.39	\$0.00	\$43.42
7	60	\$20.76	\$13.00	\$11.65	\$0.00	\$45.41
8	65	\$22.49	\$13.00	\$11.90	\$0.00	\$47.39
9	70	\$24.22	\$13.00	\$12.17	\$0.00	\$49.39
10	75	\$25.95	\$13.00	\$12.43	\$0.00	\$51.38

**Notes:**

**Apprentice to Journeyworker Ratio:1:1**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TERRAZZO FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE &amp; TILE</i>	02/01/2015	\$47.90	\$10.18	\$18.50	\$0.00	\$76.58
	08/01/2015	\$48.80	\$10.18	\$18.57	\$0.00	\$77.55
	02/01/2016	\$49.37	\$10.18	\$18.57	\$0.00	\$78.12
	08/01/2016	\$50.27	\$10.18	\$18.65	\$0.00	\$79.10
	02/01/2017	\$50.84	\$10.18	\$18.65	\$0.00	\$79.67

**Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile**

**Effective Date - 02/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.95	\$10.18	\$18.50	\$0.00	\$52.63
2	60	\$28.74	\$10.18	\$18.50	\$0.00	\$57.42
3	70	\$33.53	\$10.18	\$18.50	\$0.00	\$62.21
4	80	\$38.32	\$10.18	\$18.50	\$0.00	\$67.00
5	90	\$43.11	\$10.18	\$18.50	\$0.00	\$71.79

**Effective Date - 08/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.40	\$10.18	\$18.57	\$0.00	\$53.15
2	60	\$29.28	\$10.18	\$18.57	\$0.00	\$58.03
3	70	\$34.16	\$10.18	\$18.57	\$0.00	\$62.91
4	80	\$39.04	\$10.18	\$18.57	\$0.00	\$67.79
5	90	\$43.92	\$10.18	\$18.57	\$0.00	\$72.67

**Notes:**

**Apprentice to Journeyworker Ratio:1:3**

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2014	\$35.95	\$7.30	\$13.15	\$0.00	\$56.40
	06/01/2015	\$36.70	\$7.30	\$13.15	\$0.00	\$57.15
	12/01/2015	\$37.45	\$7.30	\$13.15	\$0.00	\$57.90
	06/01/2016	\$38.20	\$7.30	\$13.15	\$0.00	\$58.65
	12/01/2016	\$39.20	\$7.30	\$13.15	\$0.00	\$59.65

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2014	\$34.67	\$7.30	\$13.15	\$0.00	\$55.12
	06/01/2015	\$35.42	\$7.30	\$13.15	\$0.00	\$55.87
	12/01/2015	\$36.17	\$7.30	\$13.15	\$0.00	\$56.62
	06/01/2016	\$36.92	\$7.30	\$13.15	\$0.00	\$57.37
	12/01/2016	\$37.92	\$7.30	\$13.15	\$0.00	\$58.37

For apprentice rates see "Apprentice- LABORER"

TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2014	\$34.55	\$7.30	\$13.15	\$0.00	\$55.00
	06/01/2015	\$35.30	\$7.30	\$13.15	\$0.00	\$55.75
	12/01/2015	\$36.05	\$7.30	\$13.15	\$0.00	\$56.50
	06/01/2016	\$36.80	\$7.30	\$13.15	\$0.00	\$57.25
	12/01/2016	\$37.80	\$7.30	\$13.15	\$0.00	\$58.25

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2014	\$33.27	\$9.91	\$9.33	\$0.00	\$52.51
	06/01/2015	\$33.62	\$9.91	\$9.33	\$0.00	\$52.86
	08/01/2015	\$33.62	\$10.41	\$9.33	\$0.00	\$53.36
	12/01/2015	\$33.62	\$10.41	\$10.08	\$0.00	\$54.11
	06/01/2016	\$34.12	\$10.41	\$10.08	\$0.00	\$54.61
	08/01/2016	\$34.12	\$10.91	\$10.08	\$0.00	\$55.11
	12/01/2016	\$34.12	\$10.91	\$10.89	\$0.00	\$55.92
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	12/01/2014	\$46.83	\$7.30	\$13.55	\$0.00	\$67.68
	06/01/2015	\$47.58	\$7.30	\$13.55	\$0.00	\$68.43
	12/01/2015	\$48.33	\$7.30	\$13.55	\$0.00	\$69.18
	06/01/2016	\$49.08	\$7.30	\$13.55	\$0.00	\$69.93
	12/01/2016	\$50.08	\$7.30	\$13.55	\$0.00	\$70.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2014	\$48.83	\$7.30	\$13.55	\$0.00	\$69.68
	06/01/2015	\$49.58	\$7.30	\$13.55	\$0.00	\$70.43
	12/01/2015	\$50.33	\$7.30	\$13.55	\$0.00	\$71.18
	06/01/2016	\$51.08	\$7.30	\$13.55	\$0.00	\$71.93
	12/01/2016	\$52.08	\$7.30	\$13.55	\$0.00	\$72.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2014	\$38.90	\$7.30	\$13.55	\$0.00	\$59.75
	06/01/2015	\$39.65	\$7.30	\$13.55	\$0.00	\$60.50
	12/01/2015	\$40.40	\$7.30	\$13.55	\$0.00	\$61.25
	06/01/2016	\$41.15	\$7.30	\$13.55	\$0.00	\$62.00
	12/01/2016	\$42.15	\$7.30	\$13.55	\$0.00	\$63.00
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2014	\$40.90	\$7.30	\$13.55	\$0.00	\$61.75
	06/01/2015	\$41.65	\$7.30	\$13.55	\$0.00	\$62.50
	12/01/2015	\$42.40	\$7.30	\$13.55	\$0.00	\$63.25
	06/01/2016	\$43.15	\$7.30	\$13.55	\$0.00	\$64.00
	12/01/2016	\$44.15	\$7.30	\$13.55	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2014	\$32.69	\$9.91	\$9.33	\$0.00	\$51.93
	06/01/2015	\$33.04	\$9.91	\$9.33	\$0.00	\$52.28
	08/01/2015	\$33.04	\$10.41	\$9.33	\$0.00	\$52.78
	12/01/2015	\$33.04	\$10.41	\$10.08	\$0.00	\$53.53
	06/01/2016	\$33.54	\$10.41	\$10.08	\$0.00	\$54.03
	08/01/2016	\$33.54	\$10.91	\$10.08	\$0.00	\$54.53
	12/01/2016	\$33.54	\$10.91	\$10.89	\$0.00	\$55.34

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
WAGON DRILL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2014	\$34.85	\$7.30	\$12.95	\$0.00	\$55.10
	06/01/2015	\$35.60	\$7.30	\$12.95	\$0.00	\$55.85
	12/01/2015	\$36.35	\$7.30	\$12.95	\$0.00	\$56.60
	06/01/2016	\$37.10	\$7.30	\$12.95	\$0.00	\$57.35
	12/01/2016	\$38.10	\$7.30	\$12.95	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69	
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS &amp; GASFITTERS LOCAL 12</i>	03/01/2015	\$50.21	\$10.32	\$14.89	\$0.00	\$75.42
	09/01/2015	\$51.21	\$10.32	\$14.89	\$0.00	\$76.42
	03/01/2016	\$52.36	\$10.32	\$14.89	\$0.00	\$77.57
	09/01/2016	\$53.41	\$10.32	\$14.89	\$0.00	\$78.62
	03/01/2017	\$54.41	\$10.32	\$14.89	\$0.00	\$79.62
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
<b>Outside Electrical - East</b>						
CABLE TECHNICIAN (Power Zone) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$25.66	\$8.70	\$4.48	\$0.00	\$38.84
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$36.55	\$8.70	\$6.58	\$0.00	\$51.83
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$29.94	\$8.70	\$6.05	\$0.00	\$44.69
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$23.52	\$8.70	\$5.24	\$0.00	\$37.46
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$36.35	\$8.70	\$9.43	\$0.00	\$54.48
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$32.08	\$8.70	\$6.59	\$0.00	\$47.37
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$23.52	\$8.70	\$3.72	\$0.00	\$35.94
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$19.25	\$8.70	\$2.85	\$0.00	\$30.80
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$42.77	\$8.70	\$11.78	\$0.00	\$63.25

**Apprentice - LINEMAN (Outside Electrical) - East Local 104**

**Effective Date - 09/01/2013**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$25.66	\$8.70	\$4.24	\$0.00	\$38.60
2	65	\$27.80	\$8.70	\$4.71	\$0.00	\$41.21
3	70	\$29.94	\$8.70	\$5.43	\$0.00	\$44.07
4	75	\$32.08	\$8.70	\$6.16	\$0.00	\$46.94
5	80	\$34.22	\$8.70	\$6.88	\$0.00	\$49.80
6	85	\$36.35	\$8.70	\$7.62	\$0.00	\$52.67
7	90	\$38.49	\$8.70	\$8.83	\$0.00	\$56.02

**Notes:**

**Apprentice to Journeyworker Ratio:1:2**

TELEDATA CABLE SPLICER <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	07/16/2012	\$26.33	\$4.18	\$2.79	\$0.00	\$33.30
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TELEDATA LINEMAN/EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	07/16/2012	\$24.78	\$4.18	\$2.74	\$0.00	\$31.70
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TELEDATA WIREMAN/INSTALLER/TECHNICIAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	07/16/2012	\$24.78	\$4.18	\$2.74	\$0.00	\$31.70
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TREE TRIMMER <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/29/2012	\$17.18	\$3.37	\$0.00	\$0.00	\$20.55
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This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is not on the ground. This classification does not apply to wholesale tree removal.

TREE TRIMMER GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/29/2012	\$15.15	\$3.37	\$0.00	\$0.00	\$18.52
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This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is on the ground. This classification does not apply to wholesale tree removal.

**Additional Apprentice 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, ss. 11E-11L.

All steps are six months (1000 hours.)

Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified.

\*\* Multiple ratios are listed in the comment field.

\*\*\* APP to JM; 1:1, 2:2, 2:3, 3:4, 4:4, 4:5, 4:6, 5:7, 6:7, 6:8, 6:9, 7:10, 8:10, 8:11, 8:12, 9:13, 10:13, 10:14, etc.

\*\*\*\* APP to JM; 1:1, 1:2, 2:3, 2:4, 3:5, 4:6, 4:7, 5:8, 6:9, 6:10, 7:11, 8:12, 8:13, 9:14, 10:15, 10:16, etc.

# City of Chelsea Chelsea High School

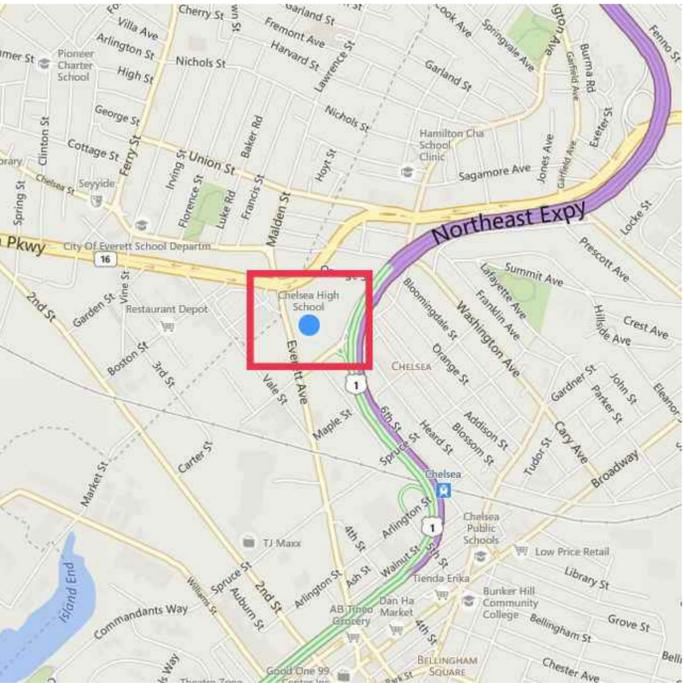
299 Everett Avenue  
Chelsea, MA 02150



## For The Replacement of **BOILERS** at Chelsea High School

TASK ORDER 2015 - 028  
DATE: APRIL 15, 2015

Locus Map:



Project Team:



343 Congress Street  
Suite 2100  
Boston, MA 02210

V: 617.242.9222  
F: 617.242.9824

A part of the Jacobs Engineering Group, Inc.

### Drawing List:

SHEET NO.	CONTENTS OF DRAWINGS
A-0	ARCHITECTURAL SYMBOLS, ABBREVIATIONS, AND SPECIFICATIONS SHEET 1 of 2
A-0.1	ARCHITECTURAL SPECIFICATIONS SHEET 2 of 2
A-1	ROOF PLAN AND DETAILS
M-0	MECHANICAL GENERAL NOTES AND SPECIFICATION
MD-1	BOILER ROOM MECHANICAL DEMOLITION PLAN
M-1	BOILER ROOM MECHANICAL LAYOUT PLAN
M-2	MECHANICAL SCHEMATICS, SCHEDULES AND NOTES
E-1	ELECTRICAL SYMBOLS, ABBREVIATIONS AND SCHEDULES
E-2	ELECTRICAL SPECIFICATIONS
E-3	BOILER ROOM ELECTRICAL POWER PLAN
E-4	ELECTRICAL SCHEDULE, DETAILS AND PART. PLAN
PD-1	BOILER ROOM PLUMBING DEMOLITION PLAN
P-1	BOILER ROOM PLUMBING PLAN
P-2	BOILER ROOM PLUMBING SPECIFICATIONS

### Code Summary:

- PROJECT DESCRIPTION:  
REPLACE EXISTING BOILERS IN MECHANICAL ROOM WITH NEW CONDENSING BOILERS
  - APPLICABLE CODES:
 

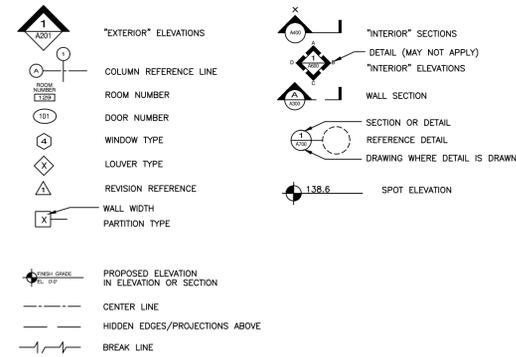
2009 INTERNATIONAL CODES (I-CODES)  IBC - INTERNATIONAL BUILDING CODE IEBC - INTERNATIONAL EXISTING BUILDING CODE IMC - INTERNATIONAL MECHANICAL CODE IECC - INTERNATIONAL ENERGY CONSERVATION CODE	MASSACHUSETTS REGULATIONS  780 CMR - MA AMENDMENTS TO THE IBC 527 CMR - MA FIRE PREVENTION & ELEC.REGULATIONS 248 CMR - MA PLUMBING REGULATIONS
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  - AREA OF WORK PROPOSED: 1,600 SF
  - SCOPE OF WORK DOES NOT INCLUDE CHANGES TO EXISTING LAYOUT OF THE MECHANICAL ROOM  
**IEBC PRESCRIPTIVE COMPLIANCE METHOD**
- SECTION 403 - ALTERATIONS  
403.1 GENERAL. EXCEPT AS PROVIDED BY SECTION 401.2 OR THIS SECTION, ALTERATIONS TO ANY BUILDING OR STRUCTURE SHALL COMPLY WITH THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE FOR NEW CONSTRUCTION. ALTERATIONS SHALL BE SUCH THAT THE EXISTING BUILDING OR STRUCTURE IS NO LESS CONFORMING TO THE PROVISIONS OF THE INTERNATIONAL BUILDING CODE THAN THE EXISTING BUILDING OR STRUCTURE WAS PRIOR TO THE ALTERATION.*

GENERAL NOTES

PRIOR TO COMMENCEMENT OF WORK OR FABRICATION OF COMPONENTS, CONTRACTOR SHALL INVESTIGATE AND VERIFY IN THE FIELD ALL CONDITIONS, DIMENSIONS, AND ELEVATIONS OF THE EXISTING CONSTRUCTION. ALL DISCREPANCIES BETWEEN FIELD-VERIFIED CONDITIONS, DIMENSIONS AND ELEVATIONS AND THOSE INDICATED ON THE DRAWINGS SHALL BE IMMEDIATELY MADE KNOWN TO THE ARCHITECT IN WRITING. THE USE OF (V.I.F.) OR (+/-) OR OTHER SIMILAR NOTES AT CERTAIN LOCATIONS ON THE DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR VERIFYING ALL CONDITIONS AS DESCRIBED ABOVE.

ARCHITECTURAL SYMBOLS LEGEND

NOT ALL SYMBOLS USED IN DRAWINGS



SPECIFICATIONS TABLE OF CONTENT

Table listing specifications sections: DIVISION 1 - GENERAL CONDITIONS (SHEET A-0), SECTION 011000 - SUMMARY OF WORKS, SECTION 015500 - HOT WORKS, DIVISION 5- METALS (SHEET A-0.1), SECTION 055000 - MISC. METALS FABRICATION, DIVISION 7- THERMAL AND MOISTURE PROTECTION (SHEET A-0.1), SECTION 070150 - MODIFICATIONS TO EXISTING ROOF, SECTION 078400 - FIRESTOPPING, DIVISION 22 - PLUMBING (SHEET P-2), DIVISION 23 - MECHANICAL (SHEET M-2), DIVISION 26 - ELECTRICAL (SHEET E-2), SECTION 260010 - ELECTRICAL GENERAL REQUIREMENTS, SECTION 260505 - DEMOLITION, RELOCATION AND ALTERATION, SECTION 260553 - IDENTIFICATION, SECTION 260300 - SUBMITTALS, SECTION 260011 - CONNECTIONS TO EQUIPMENT AND MOTORS, SECTION 260535 - LOCATION AND HEIGHTS OF OUTLETS, SECTION 260010 - ELECTRICAL MATERIALS, SECTION 260533 - CONDUIT, SECTION 260513 - WIRES AND CABLES, SECTION 260534 - JUNCTION AND PULL BOXES, SECTION 262726 - WIRING DEVICES, OUTLETS AND PLATES, SECTION 262415 - PANELBOARDS AND CIRCUIT BREAKERS, SECTION 262816 - SAFETY SWITCHES AND FUSES

ARCHITECTURAL SPECIFICATIONS (CONT.)

DIVISION 1 - GENERAL CONDITIONS

SECTION 011000 - SUMMARY OF WORKS

THIS SECTION USES THE TERM 'ARCHITECT/ENGINEER.' CHANGE THIS TERM TO MATCH THAT USED TO IDENTIFY THE DESIGN PROFESSIONAL AS DEFINED ELSEWHERE IN CONTRACT.

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND OTHER DIVISION 1 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.
B. THE LATEST REVISION OR VERSION OF CODES AND STANDARDS REFERENCED WITHIN THE CONTRACT SPECIFICATION SECTION SHALL BE USED.

1.2 PROJECT INFORMATION

- A. IDENTIFY NAME AND LOCATION OF PROJECT AND NAME OF OWNER AND ARCHITECT.
1. PROJECT IDENTIFICATION: PROJECT CONSISTS OF REPLACEMENT OF EXISTING BOILERS AT CHELSEA HIGH SCHOOL.
2. PROJECT LOCATION: CHELSEA HIGH SCHOOL, 299 EVERETT AVE., CHELSEA MASSACHUSETTS, 02150.
3. OWNER: CHELSEA PUBLIC SCHOOLS, 500 BROADWAY, CHELSEA, MA 02150.
B. ENGINEER IDENTIFICATION: THE CONTRACT DOCUMENTS, DATED 2015, WERE PREPARED FOR THE PROJECT BY JACOBS PROJECT MANAGEMENT COMPANY, 343 CONGRESS STREET, BOSTON, MASSACHUSETTS, 02210.
C. CONSTRUCTION MANAGER: CONSTRUCTION MANAGER FOR THIS PROJECT AND SHALL BE PROJECT'S CONSTRUCTOR. IN DIVISIONS 1 THROUGH 26 SPECIFICATIONS, THE TERMS 'CONSTRUCTION MANAGER' AND 'CONTRACTOR' ARE SYNONYMOUS.
D. PROJECT COORDINATOR: MR. PETER KAMBOUR, DIRECTOR OF FACILITIES MANAGEMENT, CHELSEA PUBLIC SCHOOLS, OR HIS APPOINTEE FOR THE PROJECT COORDINATOR.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. IN GENERAL, THE WORK SHALL CONSIST OF BUT NOT BE LIMITED TO:
1. REMOVAL OF THE EXISTING BOILERS.
2. REMOVE EXISTING BOILER FLUE STACK.
3. REMOVE EXISTING BOILER ROOM AIR HANDLING UNIT.
4. INSTALLATION OF NEW REPLACEMENT CONDENSING BOILERS.
5. CONNECTION OF EXISTING PIPEWORK TO NEW BOILERS & MODIFICATIONS TO EXISTING PIPEWORK.
6. INSTALL INDUCTION FAN IN HOT WATER BOILER VENT ON ROOF.
7. REMOVAL OF EXISTING ELECTRICAL EQUIPMENT, CONDUIT AND CABLES SERVING THE EXISTING BOILERS.
8. INSTALLATION OF NEW ELECTRICAL EQUIPMENT, CONDUIT AND CABLES FOR NEW BOILERS.
9. CONNECT NEW BOILER CONTROLLERS TO EXISTING BUILDING CONTROL SYSTEM.
10. PROTECTION OF ROOFING SYSTEMS AND REPAIR DAMAGE AS NECESSARY DURING CONSTRUCTION OF NEW FLUES.
11. CUTTING AND PATCHING NECESSARY TO ACCOMPLISH CONSTRUCTION ACTIVITIES.
12. TESTING, COMMISSIONING AND START-UP FOR THE CONDENSING BOILERS.
13. PROVIDING FIRE WATCH DETAILS (CHELSEA FIRE DEPARTMENT) FOR DEMOLITION AND REPAIRS REQUIRING WELDING OR CUTTING.
14. EXTEND EXISTING ROOF CURB AT FLUES TO ACCOMMODATE NEW FLUES.

PROJECT WILL BE CONSTRUCTED UNDER A GENERAL CONSTRUCTION CONTRACT WITH THE MECHANICAL CONTRACTOR ACTING AS THE GENERAL CONTRACTOR.

1.4 WORK SEQUENCE AND SCHEDULE

- A. THE CONSTRUCTION SCHEDULE SHALL BE BASED ON THE WORK BEING COMPLETED BY AUGUST 30, 2015, OR OTHER DATE AS AGREED TO BY THE DIRECTOR OF FACILITIES MANAGEMENT FOR THE CHELSEA SCHOOL DEPARTMENT.
B. CONTRACTOR SHALL SUBMIT A SCHEDULE FOR EACH PHASE OF THE WORK INDICATING SCHEDULED COMPLETION OF WORK AND IDENTIFYING THESE INTERMEDIATE MILESTONES:
a. START OF PROJECT CONSTRUCTION.
b. DELIVERY OF SUBMITTALS.
c. DELIVERY OF MAJOR EQUIPMENT.
d. COMPLETION OF NEW INSTALLATIONS.
e. TESTING AND COMMISSIONING.
f. PROJECT COMPLETION/CLOSEOUT.
C. THE CONSTRUCTION SCHEDULE SHALL REFLECT THESE MILESTONE DATES:
a. CONSTRUCTION SITE STAGING.
b. EQUIPMENT DELIVERY SCHEDULE.
c. START OF DEMOLITION AND CONSTRUCTION ACTIVITY.
d. COMPLETION OF NEW INSTALLATION.
e. COMPLETION OF COOLING SYSTEM WORK.
f. PROJECT COMPLETION/CLOSEOUT.

1.5 USE OF PREMISES/PERMITS/FEES

- A. GENERAL: CONTRACTOR WILL HAVE LIMITED USE OF PREMISES FOR CONSTRUCTION OPERATIONS DURING CONSTRUCTION PERIOD.
B. SPECIFIC AREAS FOR STAGING AND STORAGE OF CONSTRUCTION MATERIALS WILL BE IDENTIFIED BY THE PROJECT COORDINATOR. STORAGE OF MATERIALS SHALL BE IN CONTRACTOR FURNISHED LOCKED CONTAINERS. NO ADDITIONAL CHARGES WILL BE ACCEPTED FOR LOST OR STOLEN MATERIAL AND TOOLS.
C. CONTRACTOR IS ADVISED THAT SCHOOL IS IN SESSION AND WORK WILL BE ACCOMPLISHED DURING NORMAL SCHOOL ACTIVITIES. NO DISRUPTION, INTERRUPTION, OR ANY OTHER CONTRACTOR ACTIVITY, INCLUDING LIFTING AND RIGGING OPERATIONS, WILL ADVERSELY AFFECT SCHOOL OPERATIONS. CONTRACTOR SHALL PROVIDE SECURITY FOR HIS TOOLS, CONSUMABLES, AND TO THE VARIOUS WORK AREAS DURING THE PERIOD OF CONSTRUCTION.
D. CONTRACTOR IS ADVISED THAT THE SCHOOL IS LOCATED IN A RESIDENTIAL/COMMERCIAL SECTION OF THE CITY AND VEHICULAR ACCESS MAY AT TIMES BECOME CONGESTED AND/OR DIFFICULT. THE MOVEMENT OF THE CRANE USED TO ACCESS THE ROOF LEVELS, MAY REQUIRE MOVEMENT IN OFF-PEAK HOURS AND THE USE OF PREMIUM LABOR. SCHEDULED COMPLETION OF THE VARIOUS PHASES OF THE WORK MAY ALSO REQUIRE PREMIUM TIME. CONTRACTOR SHALL SCHEDULE THIS WORK ACCORDINGLY.
E. CONTRACTOR IS ALSO ADVISED THE INSTALLATION OF BOILERS AND RELATED COMPONENTS PRESENTS SOME CHALLENGES FOR ACCESS AT THE HIGH SCHOOL. ALL DAMAGES AND REPAIRS TO EXISTING FACILITIES, INCLUDING BALL FIELDS OR OTHER FIELDS, AS A RESULT OF LIFTING, RIGGING AND RELATED CONSTRUCTION ACTIVITIES, SHALL BE REPAIRED TO THE OWNERS SATISFACTION, AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
F. CONTRACTOR SHALL OBTAIN ALL PERMITS AND PAY ALL FEES TO FACILITATE MOVEMENT OF CRANE AND SUBSEQUENT LIFTING ACTIVITIES, INCLUDING, BUT NOT LIMITED TO, CITY OF CHELSEA POLICE DEPARTMENT TRAFFIC DETAILS.

1.6 SPECIFICATION FORMATS AND CONVENTIONS

- A. SPECIFICATION FORMAT: THE SPECIFICATIONS ARE ORGANIZED INTO DIVISIONS AND SECTIONS USING THE 26-DIVISION FORMAT AND CSI/CSO'S 'MASTERFORMAT' NUMBERING SYSTEM.
B. SPECIFICATION CONTENT: THE SPECIFICATIONS USE CERTAIN CONVENTIONS FOR THE STYLE OF LANGUAGE AND THE INTENDED MEANING OF CERTAIN TERMS, WORDS, AND PHRASES WHEN USED IN PARTICULAR SITUATIONS. THESE CONVENTIONS ARE AS FOLLOWS:
C. ABBREVIATED LANGUAGE: LANGUAGE USED IN THE SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS IS ABBREVIATED. WORDS AND MEANINGS SHALL BE INTERPRETED AS APPROPRIATE. WORDS IMPLIED, BUT NOT STATED, SHALL BE INFERRED AS THE SENSE REQUIRES. SINGULAR WORDS SHALL BE INTERPRETED AS PLURAL AND PLURAL WORDS SHALL BE INTERPRETED AS SINGULAR WHERE APPLICABLE AS THE CONTEXT OF THE CONTRACT DOCUMENTS INDICATES.
D. IMPERATIVE MOOD AND STREAMLINED LANGUAGE ARE GENERALLY USED IN THE SPECIFICATIONS. REQUIREMENTS EXPRESSED IN THE IMPERATIVE MOOD ARE TO BE PERFORMED BY CONTRACTOR. OCCASIONALLY, THE INDICATIVE OR SUBJUNCTIVE MOOD MAY BE USED IN THE SECTION TEXT FOR CLARITY TO DESCRIBE RESPONSIBILITIES THAT MUST BE FULFILLED INDIRECTLY BY CONTRACTOR OR BY OTHERS WHEN SO NOTED.
a. THE WORDS 'SHALL,' 'SHALL BE,' OR 'SHALL COMPLY WITH,' DEPENDING ON THE CONTEXT, ARE IMPLIED WHERE A COLON (:) IS USED WITHIN A SENTENCE OR PHRASE.

1.7 SUBMITTALS

- A. FIVE (5) COPIES OF EACH SUBMITTAL, AS REQUIRED BY THESE SPECIFICATIONS, SHALL BE DELIVERED FOR REVIEW BY THE ENGINEER. ALL SUBMITTALS SHALL CONFORM TO THE FORMAT AS SPECIFIED HEREIN.
B. SUBMITTALS SHALL BE IN A BOUND FORMAT, WITH A TITLE PAGE INDICATING THE PROJECT IDENTIFICATION, SUBMITTAL TITLE AND SPECIFICATION REFERENCE.
C. SUBMITTALS SHALL BE MADE TO EXPEDITE MATERIAL AND EQUIPMENT DELIVERY. NO CLAIM FOR DELAY WILL BE

ARCHITECTURAL SPECIFICATIONS (CONT.)

ENTERTAINED DUE TO DRAWING SUBMITTAL REVIEW.

D. PAYMENT WILL BE MADE ON A MONTHLY BASIS PREDICATED ON ENGINEERS AND OWNERS REPRESENTATIVE REVIEW OF THE WORK AND TIMELY RECEIPT OF SHOP DRAWINGS. DELAYS IN RECEIPT OF SHOP DRAWINGS WILL BE CAUSE FOR DELAYS IN PAYMENT FOR WORK COMPLETED. CONTRACTOR IS ADVISED THAT HIS WORK WILL BE ACCOMPLISHED 'AT RISK' WITHOUT ENGINEER APPROVED SHOP DRAWINGS.

END OF SECTION 011000

SECTION 015500 - HOT WORK

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. WORK INCLUDED: THIS SECTION SPECIFIES 'HOT WORK' FIRE CONTROL PROCEDURES FOR CONTRACTORS AND THEIR PERSONNEL, INCLUDING CUTTERS, WELDERS AND OPERATORS OF HEATING EQUIPMENT. 'HOT WORK' IS ANY WORK THAT UTILIZES OR PRODUCES AN IGNITION SOURCE.

1.2 SUBMITTALS

- A. PERFORM 'HOT WORK' OPERATIONS AS FOLLOWS:
1. ENSURE THE SAFE HANDLING OF 'HOT WORK' EQUIPMENT AND THE SAFE USE OF THE PARTICULAR 'HOT WORK' PROCESS.
2. DETERMINE THE COMBUSTIBLE MATERIALS AND HAZARDOUS AREAS PRESENT OR LIKELY TO BE PRESENT IN THE WORK LOCATIONS.
3. PROTECT COMBUSTIBLES FROM IGNITION BY THE FOLLOWING:
a. HAVE WORK MOVED TO A LOCATION FREE FROM DANGEROUS COMBUSTIBLES.
b. IF THE WORK CANNOT BE MOVED, HAVE THE COMBUSTIBLES MOVED TO A SAFE DISTANCE FROM THE WORK OR HAVE THE COMBUSTIBLE PROPERLY SHIELDED AGAINST IGNITION.
c. SEE THAT 'HOT WORK' IS SO SCHEDULED THAT ANY OPERATION WHICH MIGHT EXPOSE COMBUSTIBLES TO IGNITION IS NOT STARTED DURING THE 'HOT WORK'.
4. GIVE NOTICE TO THE PROJECT OFFICE OF THE NEED TO PERFORM 'HOT WORK' OPERATIONS AND SECURE AUTHORIZATION FROM THE ENGINEER.
5. ENSURE THAT THE CUTTER OR WELDER SECURES HIS OR HER SUPERVISOR'S APPROVAL THAT CONDITIONS ARE SAFE BEFORE GOING AHEAD WITH THE WORK.
6. ENSURE THAT FIRE PROTECTION AND EXTINGUISHING EQUIPMENT ARE PROPERLY LOCATED AT THE SITE.
7. WHERE FIRE WATCHERS ARE REQUIRED, SEE THAT THEY ARE AVAILABLE AT THE SITE.
8. SHALL NOT USE SINGLE RAIL SYSTEM OF A SINGLE RAIL TRACK CIRCUIT AS A NEGATIVE RETURN.
B. ENSURE THE WORKER HANDLES THE 'HOT WORK' EQUIPMENT SAFELY AND USES IT SO AS NOT TO ENDANGER LIVES OR PROPERTY AND:
• HAS THE APPROVAL OF HIS OR HER SUPERVISOR AND THE CHELSEA PUBLIC SCHOOLS PROJECT OFFICE BEFORE STARTING ANY 'HOT WORK';
• DOES NOT PERFORM ANY 'HOT WORK' WHERE CONDITIONS ARE NOT SAFE;
• CONTINUES TO PERFORM 'HOT WORK' ONLY SO LONG AS CONDITIONS ARE UNCHANGED FROM THOSE UNDER WHICH APPROVAL WAS GRANTED.

1.3 FIRE PREVENTION PRECAUTIONS

- A. PERMIT 'HOT WORK' ONLY IN AREAS THAT ARE OR HAVE BEEN MADE FIRE-SAFE, WITHIN THE CONFINES OF A BUILDING OR OTHER ENCLOSED STRUCTURE. PERFORM CUTTING AND WELDING OPERATIONS PREFERABLY IN A SPECIFIC AREA DESIGNED OR APPROVED FOR SUCH WORK, SUCH AS A MAINTENANCE SHOP OR A DETACHED OUTSIDE LOCATION. ENSURE THAT SUCH AREAS ARE OF NONCOMBUSTIBLE OR FIRE RESISTIVE CONSTRUCTION, ESSENTIALLY FREE OF COMBUSTIBLE AND FLAMMABLE CONTENTS, AND SUITABLY SEGREGATED FROM ADJACENT AREAS.
B. WHEN WORK CANNOT BE MOVED PRACTICALLY, AS IN MOST CONSTRUCTION WORK, MAKE THE AREA FIRE-SAFE BY REMOVING COMBUSTIBLES OR PROTECTING COMBUSTIBLES FROM IGNITION SOURCES.
C. DO NOT PERMIT 'HOT WORK' IN THE FOLLOWING SITUATIONS:
1. IN AREAS NOT AUTHORIZED BY THE SCHOOL;
2. IN SPRINKLERED BUILDINGS WHILE SUCH PROTECTION IS IMPAIRED;
3. IN THE PRESENCE OF EXPLOSIVE ATMOSPHERES (MIXTURES OF FLAMMABLE GASES, VAPORS, LIQUIDS OR DUSTS WITH AIR) OR EXPLOSIVE ATMOSPHERES THAT MAY DEVELOP INSIDE UNCLEANED OR IMPROPERLY PREPARED TANKS OR EQUIPMENT WHICH HAVE PREVIOUSLY CONTAINED SUCH MATERIALS, OR THAT MAY DEVELOP IN AREAS WITH AN ACCUMULATION OF COMBUSTIBLE DUSTS;
4. IN AREAS NEAR THE STORAGE OF LARGE QUANTITIES OF EXPOSED, READILY IGNITABLE MATERIALS SUCH AS BULK SULPHUR, BALED PAPER OR COTTON.
C. BEFORE 'HOT WORK' IS PERMITTED, THE ENGINEER WILL GIVE NOTIFICATION AUTHORIZING THE 'HOT WORK' AND DESIGNATE PRECAUTIONS TO BE FOLLOWED. HE WILL HAVE DESIGNATED CHELSEA PUBLIC SCHOOLS PERSONNEL INSPECT THE WORK AREA FOR FIRE SAFETY. AS INDICATED HEREIN, AND WHICH PERSONNEL WILL COMPLETE A 'HOT WORK' CHECKLIST. THE ENGINEER WILL ALSO ASSURE HIMSELF OF THE FOLLOWING:
1. THE 'HOT WORK' EQUIPMENT TO BE USED IS IN SATISFACTORY OPERATING CONDITION AND IN GOOD REPAIR.
2. WHERE THERE ARE COMBUSTIBLE MATERIALS SUCH AS PAPER CLIPPINGS, WOOD SHAVINGS OR TEXTILE FIBERS ON THE FLOOR, SWEEP THE FLOOR CLEAN FOR A RADIUS OF 35 FEET. KEEP COMBUSTIBLE FLOORS WET, COVERED WITH DAMP SAND, OR PROTECTED BY FIRE RESISTANT SHIELDS. WHERE FLOORS HAVE BEEN WET DOWN, PROTECT PERSONNEL OPERATING ARC WELDING OR CUTTING EQUIPMENT FROM POSSIBLE SHOCK.
3. WHERE PRACTICABLE, RELOCATE COMBUSTIBLES AT LEAST 35 FEET FROM THE WORK SITE. WHERE RELOCATION IS IMPRACTICABLE, PROTECT COMBUSTIBLES WITH FLAME PROOFED COVERS OR OTHERWISE SHIELD WITH METAL OR FIRE RESISTANT GUARDS OR CURTAINS. SECURE EDGES OF COVERS AT THE FLOOR SO THEY ARE TIGHT TO PREVENT SPARKS FROM GOING UNDER THEM. THIS PRECAUTION IS ALSO IMPORTANT AT OVERLAPS WHERE SEVERAL COVERS ARE USED TO PROTECT A LARGE PIECE.
4. TIGHTLY COVER WALL OR FLOOR OPENINGS OR CRACKS WITHIN 35 FEET OF THE SITE TO PREVENT THE PASSAGE OF SPARKS TO ADJACENT AREAS.
5. SUITABLY PROTECT OR SHUT DOWN DUCTS AND CONVEYOR SYSTEMS THAT MIGHT CARRY SPARKS TO DISTANT COMBUSTIBLES.
6. WHERE 'HOT WORK' IS DONE NEAR WALLS, PARTITIONS, CEILINGS OR ROOFS, OR COMBUSTIBLE CONSTRUCTION, PROVIDE FIRE RESISTANT SHIELDS OR GUARDS TO PREVENT IGNITION. IF WELDING IS TO BE DONE ON A METAL WALL, PARTITION, CEILING OR ROOF, TAKE PRECAUTIONS TO PREVENT IGNITION OF COMBUSTIBLES ON THE OTHER SIDE, DUE TO CONDUCTION OR RADIATION, PREFERABLY BY RELOCATING COMBUSTIBLES. WHERE COMBUSTIBLES ARE NOT RELOCATED, PROVIDE A FIRE WATCH ON THE OPPOSITE SIDE OF THE WORK. DO NOT ATTEMPT WELDING ON A METAL PARTITION, WALL, CEILING OR ROOF HAVING A COMBUSTIBLE COVERING, NOR ON WALLS OR PARTITIONS OF COMBUSTIBLE SANDWICH TYPE PANEL CONSTRUCTION.
7. DO NOT UNDERTAKE TO PERFORM 'HOT WORK' ON PIPES OR OTHER METAL IN CONTACT WITH COMBUSTIBLE WALLS, PARTITIONS, CEILINGS OR ROOFS IF THE WORK IS CLOSE ENOUGH TO CAUSE IGNITION BY CONDUCTION.
8. PROVIDE SUFFICIENT QUANTITIES OF PORTABLE FIRE EXTINGUISHERS, APPROPRIATE FOR THE TYPE OF POSSIBLE FIRE, AT THE WORK AREA, WHERE HOSE LINES ARE AVAILABLE, CONNECT THEM SO THEY ARE READY FOR SERVICE.
9. SUITABLY PROTECT NEARBY PERSONNEL AGAINST HEAT, SPARKS, SLAG, ETC.

- D. REQUIRE THE SERVICES OF FIRE WATCHERS WHENEVER 'HOT WORK' IS PERFORMED IN LOCATIONS WHERE OTHER THAN A MINOR FIRE MIGHT DEVELOP, OR WHERE THE FOLLOWING CONDITIONS EXIST:
1. APPRECIABLE COMBUSTIBLE MATERIAL IN THE BUILDING CONSTRUCTION OR CONTENTS IS CLOSER THAN 35 FEET TO THE POINT OF OPERATION.
2. APPRECIABLE COMBUSTIBLES ARE MORE THAN 35 FEET AWAY, BUT ARE EASILY IGNITED BY SPARKS.
3. WALL OR FLOOR OPENINGS WITHIN A 35 FOOT RADIUS EXPOSE COMBUSTIBLE MATERIAL IN ADJACENT AREAS INCLUDING CONCEALED SPACES IN WALLS OR FLOORS.
4. COMBUSTIBLE MATERIALS ARE ADJACENT TO THE OPPOSITE SIDE OF METAL PARTITIONS, WALLS, CEILINGS OR ROOFS, AND ARE LIKELY TO BE IGNITED BY CONDUCTION OR RADIATION.
E. FIRE WATCHER'S RESPONSIBILITIES INCLUDE:
1. HAVE FIRE EXTINGUISHING EQUIPMENT READILY AVAILABLE AND BE TRAINED IN ITS USE.
2. BE FAMILIAR WITH FACILITIES FOR SOUNDING AN ALARM IN THE EVENT OF FIRE.
3. WATCH FOR FIRES IN EXPOSED AREAS, AND TRY TO EXTINGUISH THEM ONLY WHEN OBVIOUSLY WITHIN THE CAPACITY OF THE EQUIPMENT AVAILABLE, OR OTHERWISE SOUND THE ALARM.

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- 4. MAINTAIN A FIRE WATCH FOR AT LEAST ONE HALF HOUR AFTER COMPLETION OF 'HOT WORK' OPERATIONS TO DETECT AND EXTINGUISH POSSIBLE SMOLDERING FIRES.
F. WHERE A FIRE WATCH IS NOT REQUIRED, MAKE A FINAL CHECK UP ONE HALF HOUR AFTER THE COMPLETION OF 'HOT WORK' OPERATIONS TO DETECT AND EXTINGUISH POSSIBLE SMOLDERING FIRES.
G. HAVE 'HOT TAPPING' OPERATIONS OR OTHER CUTTING OR WELDING ON A FLAMMABLE GAS OR LIQUID TRANSMISSION OR DISTRIBUTION UTILITY PIPELINE PERFORMED ONLY BY A CREW QUALIFIED TO MAKE HOT TAPS.
H. LIMIT THE AMOUNT OF COMBUSTIBLES IN THE CONSTRUCTION AREA AND DISPOSE OF COMBUSTIBLE RUBBISH SAFELY AND PROMPTLY.
END OF SECTION 015500

DIVISION 5 - METALS

SECTION 055000 - MISCELLANEOUS METALS

- 1. DESCRIPTION OF WORK
• THIS SECTION SPECIFIES THE MISCELLANEOUS METAL ITEMS TO BE PART OF THE ROOF EXHAUST FLUE INSTALLATION.
• ANY MISCELLANEOUS FRAMING MEMBERS AS NECESSARY PER DRAWINGS.
2. PERFORMANCE REQUIREMENTS
A. THERMAL MOVEMENTS: PROVIDE EXTERIOR METAL FABRICATIONS THAT ALLOW FOR THERMAL MOVEMENTS RESULTING FROM THE FOLLOWING MAXIMUM CHANGE (RANGE) IN AMBIENT AND SURFACE TEMPERATURES BY PREVENTING BUCKLING, OPENING OF JOINTS, OVERSTRESSING OF COMPONENTS, FAILURE OF CONNECTIONS, AND OTHER DETRIMENTAL EFFECTS. BASE ENGINEERING CALCULATION ON SURFACE TEMPERATURES OF MATERIALS DUE TO BOTH SOLAR HEAT GAIN AND NIGHTTIME HEAT LOSS. TEMPERATURE CHANGE (RANGE): 120 DEG F AMBIENT; 180 DEG F MATERIAL SURFACES.
3. SUBMITTALS
A. PRODUCT DATA. FOR EACH TYPE OF PRODUCT INDICATED ON DRAWINGS OR SPECIFICATIONS.
B. SHOP DRAWINGS: SHOW FABRICATION AND INSTALLATION DETAILS FOR METAL FABRICATIONS.
C. CERTIFICATES: WELDER AND WELD PROCEDURE QUALIFICATIONS AND WELD INSPECTION REPORTS.
4. QUALITY ASSURANCE
A. WELDING: QUALIFY PROCEDURES AND PERSONNEL ACCORDING TO THE FOLLOWING:
1. AWS D1.1, 'STRUCTURAL WELDING CODE-STEEL'.
2. AWS D1.3, 'STRUCTURAL WELDING CODE-SHEET STEEL'.
B. METAL SURFACES: GENERAL: PROVIDE MATERIALS WITH SMOOTH, FLAT SURFACES, UNLESS OTHERWISE INDICATED. FOR METAL FABRICATIONS EXPOSED TO VIEW IN THE COMPLETED WORK, PROVIDE MATERIALS WITHOUT SEAM MARKS, ROLLER MARKS, ROLLED TRADE NAMES, OR BLEMISHES.
C. GALVANIZER QUALIFICATIONS: ENGAGE THE SERVICES OF A QUALIFIED GALVANIZER WHO HAS DEMONSTRATED A MINIMUM OF FIVE YEARS EXPERIENCE IN THE SUCCESSFUL APPLICATION OF GALVANIZED COATINGS SPECIFIED IN THIS SECTION IN THE FACILITY WHERE THE WORK IS TO BE PERFORMED AND WHO WILL APPLY THE COATINGS WITHIN THE SAME FACILITY.
D. PRE-INSTALLATION CONFERENCE: CONTRACTOR SHALL SCHEDULE A MEETING TO BE ATTENDED BY CONTRACTOR, ENGINEER, FABRICATOR, AND GALVANIZER PRIOR TO STARTING WORK. AGENDA SHALL INCLUDE THE FOLLOWING: PROJECT SCHEDULE, SOURCE FOR EACH FABRICATION, COORDINATION BETWEEN FABRICATOR AND GALVANIZER AND ADJACENT WORK, FINISH OF SURFACES, APPLICATION OF COATINGS, SUBMITTALS, AND APPROVALS.
E. INSPECTION: EXCEPT AS OTHERWISE SPECIFIED, ONLY VISUAL INSPECTION OF WELDS, MATERIALS, WORKMANSHIP, FINISHED PRODUCTS, AND INSTALLATION IS REQUIRED.
5. PROJECT CONDITIONS
A. FIELD MEASUREMENTS: VERIFY ACTUAL LOCATIONS OF WALLS AND OTHER CONSTRUCTION CONTIGUOUS WITH METAL FABRICATIONS BY FIELD MEASUREMENTS BEFORE FABRICATION AND INDICATE MEASUREMENTS ON SHOP DRAWINGS. PROVIDE ALLOWANCE FOR TRIMMING AND FITTING AT SITE.
6. COORDINATION
A. COORDINATE INSTALLATION OF ANCHORAGES FOR METAL FABRICATIONS. FURNISH SETTING DRAWINGS, TEMPLATES, AND DIRECTIONS FOR INSTALLING ANCHORAGES, INCLUDING SLEEVES, CONCRETE INSERTS, ANCHOR BOLTS, AND ITEMS WITH INTEGRAL ANCHORS, THAT ARE TO BE EMBEDDED IN CONCRETE OR MASONRY. DELIVER SUCH ITEMS TO PROJECT SITE IN TIME FOR INSTALLATION.
7. SCHEDULE
A. METAL FABRICATIONS INCLUDE, BUT ARE NOT LIMITED TO, METAL PIECES AS REQUIRED FOR INSTALLATION OF ROOF TOP EXHAUST FLUES AND COVER PLATE AS INDICATED ON ARCHITECTURAL DRAWINGS. REQUIREMENTS FOR MATERIALS AND COATINGS/FINISHES WHICH ARE INCLUDED AS PART OF THE WORK SPECIFIED IN THIS SECTION SHALL BE PROVIDED TO ARCHITECT FOR REVIEW AND APPROVAL.
8. FASTENERS
A. GENERAL: UNLESS OTHERWISE INDICATED, PROVIDE TYPE 316 STAINLESS-STEEL FASTENERS FOR EXTERIOR USE AND ZINC-PLATED FASTENERS WITH COATING COMPLYING WITH ASTM B 633, CLASS FE/ZN 5, WITH EXTERIOR WALLS. PROVIDE STAINLESS-STEEL FASTENERS FOR FASTENING ALUMINUM. SELECT FASTENERS FOR TYPE, GRADE, AND CLASS REQUIRED.
9. FABRICATION, GENERAL
A. SHOP ASSEMBLY: PRE-ASSEMBLE ITEMS IN THE SHOP TO GREATEST EXTENT POSSIBLE. DISASSEMBLE UNITS ONLY AS NECESSARY FOR SHIPPING AND HANDLING LIMITATIONS. USE CONNECTIONS THAT MAINTAIN STRUCTURAL VALUE OF JOINED PIECES. CLEARLY MARK UNITS FOR REASSEMBLY AND COORDINATED INSTALLATION.
B. CUT, DRILL, AND PUNCH METALS CLEANLY AND ACCURATELY. REMOVE BURRS AND EASE EDGES TO A RADIUS OF APPROXIMATELY 1/32 INCH, UNLESS OTHERWISE INDICATED. REMOVE SHARP OR ROUGH AREAS ON EXPOSED SURFACES.
C. FORM BENT-METAL CORNERS TO SMALLEST RADIUS POSSIBLE WITHOUT CAUSING GRAIN SEPARATION OR OTHERWISE IMPAIRING WORK.
D. FORM EXPOSED WORK TRUE TO LINE AND LEVEL WITH ACCURATE ANGLES AND SURFACES AND STRAIGHT EDGES.
E. WELD CORNERS AND SEAMS CONTINUOUSLY TO COMPLY WITH THE FOLLOWING:
1. USE MATERIALS AND METHODS THAT MINIMIZE DISTORTION AND DEVELOP STRENGTH AND CORROSION RESISTANCE OF BASE METALS.
2. OBTAIN FUSION WITHOUT UNDERCUT OR OVERLAP.
3. REMOVE WELDING FLUX IMMEDIATELY.
4. AT EXPOSED CONNECTIONS, FINISH EXPOSED WELDS AND SURFACES SMOOTH AND BLENDED SO NO ROUGHNESS SHOWS AFTER FINISHING AND CONTOUR OF WELDED SURFACE MATCHES THAT OF ADJACENT SURFACE.
F. FORM EXPOSED CONNECTIONS WITH HAIRLINE JOINTS; FLUSH AND SMOOTH USING CONCEALED FASTENERS WHERE POSSIBLE. WHERE EXPOSED FASTENERS ARE REQUIRED, USE PHILLIPS FLAT-HEAD (COUNTERSUNK) SCREWS OR BOLTS, UNLESS OTHERWISE INDICATED. LOCATE JOINTS WHERE LEAST CONSPICUOUS.
G. FABRICATE SEAMS AND OTHER CONNECTIONS THAT WILL BE EXPOSED TO WEATHER IN A MANNER TO EXCLUDE WATER. PROVIDE WEEP HOLES WHERE WATER MAY ACCUMULATE.
H. CUT, REINFORCE, DRILL, AND TAP METAL FABRICATIONS AS INDICATED TO RECEIVE FINISH HARDWARE, SCREWS, AND SIMILAR ITEMS.
I. PROVIDE FOR ANCHORAGE OF TYPE INDICATED; COORDINATE WITH SUPPORTING STRUCTURE. SPACE ANCHORING DEVICES TO SECURE METAL FABRICATIONS RIGIDLY IN PLACE AND TO SUPPORT INDICATED LOADS.
10. MISCELLANEOUS FRAMING AND SUPPORTS
A. GENERAL: PROVIDE STEEL FRAMING AND SUPPORTS NOT SPECIFIED IN OTHER SECTIONS AS NEEDED TO COMPLETE THE WORK.
B. FABRICATE UNITS FROM STEEL SHAPES, PLATES, AND BARS OF WELDED CONSTRUCTION, UNLESS OTHERWISE INDICATED. FABRICATE TO SIZES, SHAPES, AND PROFILES INDICATED AND AS NECESSARY TO RECEIVE ADJACENT CONSTRUCTION RETAINED BY FRAMING AND SUPPORTS. CUT, DRILL, AND TAP UNITS TO RECEIVE HARDWARE, HANGERS, AND SIMILAR ITEMS.
1. FABRICATE UNITS FROM SLOTTED CHANNEL FRAMING WHERE INDICATED.
2. FURNISH INSERTS IF UNITS ARE INSTALLED AFTER CONCRETE IS PLACED.
11. MISCELLANEOUS STEEL TRIM
A. UNLESS OTHERWISE INDICATED, FABRICATE UNITS FROM STEEL SHAPES, PLATES, AND BARS OF PROFILES SHOWN WITH CONTINUOUSLY WELDED JOINTS AND SMOOTH EXPOSED EDGES. MITER CORNERS AND USE CONCEALED FIELD SPLICES WHERE POSSIBLE.
B. PROVIDE CUTOUTS, FITTINGS, AND ANCHORAGES AS NEEDED TO COORDINATE ASSEMBLY AND INSTALLATION WITH OTHER WORK. PROVIDE WITH INTEGRALLY WELDED STEEL STRAP ANCHORS FOR EMBEDDING IN CONCRETE OR MASONRY CONSTRUCTION.
12. FINISHES, GENERAL (CONTINUED ON A0.1)

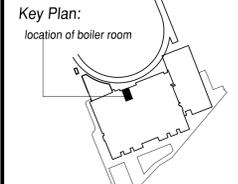
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CONSULTANTS

Revision: Date: By: Description:

CLIENT AND/OR PROJECT INFO.

CHELSEA HIGH SCHOOL 299 EVERETT AVE. CHELSEA, MA



Scale: AS NOTED

Jacobs Project No.: R7W71628

Drawing Title: ARCHITECTURAL SYMBOLS ABBREVIATIONS AND SPECIFICATIONS SHEET 1 of 2

Date: February 09, 2015

Designed By: L.W. Drawn By: L.W. Checked By: C.W.H. Drawing No.: A-0

ARCHITECTURAL SPECIFICATIONS (CONT.)

A. COMPLY WITH THE NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS (NAAMM) "METAL FINISHES MANUAL FOR ARCHITECTURAL AND METAL PRODUCTS" FOR RECOMMENDATIONS FOR APPLYING AND DESIGNATING FINISHES.
B. FINISH METAL FABRICATIONS AFTER ASSEMBLY.
13. STEEL AND IRON FINISHES
A. PREPARATION FOR SHOP PRIMING: PREPARE UNCOATED FERROUS-METAL SURFACES TO COMPLY WITH MINIMUM REQUIREMENTS INDICATED BELOW FOR SSPC SURFACE PREPARATION SPECIFICATIONS AND ENVIRONMENTAL EXPOSURE CONDITIONS OF INSTALLED METAL FABRICATIONS.
1. INTERIORS (SSPC ZONE 1A): SSPC-SP 7, "BRUSH OFF BLAST CLEANING".
2. APPLY SHOP PRIMER TO UNCOATED SURFACES OF METAL FABRICATIONS, EXCEPT THOSE TO BE FIELD WELDED, UNLESS OTHERWISE INDICATED. EXTEND PRIMING OF PARTIALLY EMBEDDED MEMBERS TO A DEPTH OF 2 INCHES.
3. COMPLY WITH SSPC-PA 1, "PAINT APPLICATION SPECIFICATION NO. 1: SHOP, FIELD, AND MAINTENANCE PAINTING OF STEEL", FOR SHOP PAINTING.
4. COMPLY WITH SSPC-PA 2, "MEASUREMENT OF DRY COATING THICKNESS WITH MAGNETIC GAGES".
14. INSTALLATION, GENERAL
A. CUTTING, FITTING, AND PLACEMENT: PERFORM CUTTING, DRILLING, AND FITTING REQUIRED FOR INSTALLING METAL FABRICATIONS. SET METAL FABRICATIONS ACCURATELY IN LOCATION, ALIGNMENT, AND ELEVATION, WITH EDGES AND SURFACES LEVEL, PLUMB, TRUE, AND FREE OF RACK; AND MEASURED FROM ESTABLISHED LINES AND LEVELS.
B. FIT EXPOSED CONNECTIONS ACCURATELY TOGETHER TO FORM HAIRLINE JOINTS. WELD CONNECTIONS THAT ARE NOT TO BE LEFT AS EXPOSED JOINTS BUT CANNOT BE SHOP WELDED BECAUSE OF SHIPPING SIZE LIMITATIONS, DO NOT WELD, CUT, OR ABRASE SURFACES OF EXTERIOR UNITS THAT HAVE BEEN HOT-DIP GALVANIZED AFTER FABRICATION AND ARE FOR BOLTED OR SCREWED FIELD CONNECTIONS.
C. FIELD WELDING: COMPLY WITH THE FOLLOWING REQUIREMENTS:
1. USE MATERIALS AND METHODS THAT MINIMIZE DISTORTION AND DEVELOP STRENGTH AND CORROSION RESISTANCE OF BASE METALS.
2. OBTAIN FUSION WITHOUT UNDERCUT OR OVERLAP.
3. REMOVE WELDING FLUX IMMEDIATELY.
4. AT EXPOSED CONNECTIONS, FINISH EXPOSED WELDS AND SURFACES SMOOTH AND BLENDED SO NO ROUGHNESS SHOWS AFTER FINISHING AND CONTOUR OF WELDED SURFACE MATCHES THAT OF ADJACENT SURFACE.
D. FASTENING TO IN-PLACE CONSTRUCTION: PROVIDE ANCHORAGE DEVICES AND FASTENERS WHERE METAL FABRICATIONS ARE REQUIRED TO BE FASTENED TO IN-PLACE CONSTRUCTION. PROVIDE THREADED FASTENERS FOR USE WITH CONCRETE AND MASONRY INSERTS, TOGGLE BOLTS, THROUGH BOLTS, LAG BOLTS, WOOD SCREWS, AND OTHER CONNECTORS.
15. INSTALLING MISCELLANEOUS FRAMING AND SUPPORTS
A. GENERAL: INSTALL FRAMING AND SUPPORTS TO COMPLY WITH REQUIREMENTS OF ITEMS BEING SUPPORTED, INCLUDING MANUFACTURER'S WRITTEN INSTRUCTIONS AND REQUIREMENTS INDICATED ON SHOP DRAWINGS. ANCHOR SUPPORTS FOR OPERABLE PARTITIONS SECURELY TO AND RIGIDLY BRACE FROM BUILDING STRUCTURE.
16. ADJUSTING AND CLEANING
A. GALVANIZED SURFACES: CLEAN FIELD WELDS, BOLTED CONNECTIONS, AND ABRASED AREAS AND REPAIR GALVANIZING
B. TO COMPLY WITH ASTM A 780.
END OF SECTION 055000
DIVISION 7 - THERMAL AND MOISTURE PROTECTION
SECTION 070150 - MODIFICATIONS TO EXISTING ROOFING
1. GENERAL PROVISIONS
A. ATTENTION IS DIRECTED TO THE CONTRACT AND GENERAL CONDITIONS AND ALL SECTIONS WITHIN DIVISION 01 - GENERAL REQUIREMENTS WHICH ARE HEREBY MADE A PART OF THIS SECTION OF THE SPECIFICATIONS.
2. DESCRIPTION OF WORK
A. WORK INCLUDED: PROVIDE LABOR, MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE WORK OF THIS SECTION, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
1. MODIFY EXISTING ROOFING SYSTEMS AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION OF EXHAUST FLUES FOR THE NEW BOILERS
3. DEFINITIONS
A. ROOFING TERMINOLOGY: REFER TO ASTM D 1079 AND GLOSSARY OF NRCA'S "THE NRCA ROOFING AND WATERPROOFING MANUAL" FOR DEFINITION OF TERMS RELATED TO ROOFING WORK IN THIS SECTION.
4. PERFORMANCE REQUIREMENTS
A. GENERAL: PROVIDE INSTALLED ROOFING MEMBRANE AND BASE FLASHINGS THAT REMAIN WATERTIGHT; DO NOT PERMIT THE PASSAGE OF WATER; AND RESIST SPECIFIED UPLIFT PRESSURES, THERMALLY INDUCED MOVEMENT, AND EXPOSURE TO WEATHER WITHOUT FAILURE.
B. MATERIAL COMPATIBILITY: PROVIDE ROOFING MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER UNDER CONDITIONS OF SERVICE AND APPLICATION REQUIRED, AS DEMONSTRATED BY ROOFING MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE.
C. ROOFING SYSTEM DESIGN: ROOFING SYSTEM SHALL BE DESIGNED TO WITHSTAND CODE REQUIRED LOADS AND WIND SPEEDS.
D. FLASHINGS: PROVIDE BASE FLASHINGS, PERIMETER FLASHINGS, DETAIL FLASHINGS AND COMPONENT MATERIALS THAT COMPLY WITH REQUIREMENTS AND RECOMMENDATIONS IN FMG 1-49 LOSS PREVENTION DATA SHEET FOR PERIMETER FLASHINGS; FMG 1-29 LOSS PREVENTION DATA SHEET FOR ABOVE DECK ROOF COMPONENTS; NRCA ROOFING AND WATERPROOFING MANUAL, (FOURTH EDITION) FOR CONSTRUCTION DETAILS AND MACNA ARCHITECTURAL SHEET METAL MANUAL, (FIFTH EDITION) FOR CONSTRUCTION DETAILS, AS APPLICABLE.
E. CERTIFICATION: UPON COMPLETION OF WORK OF THIS SECTION, SUBMIT CERTIFICATION BY EXISTING ROOF MANUFACTURER ACKNOWLEDGING THAT ALL WORK PERFORMED IS ACCEPTABLE AND THAT THE ENTIRE ROOF REMAINS UNDER WARRANTY.
5. SUBMITTALS
A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
B. SHOP DRAWINGS: FOR ROOFING SYSTEM, INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, AND ATTACHMENTS TO OTHER WORK.
1. BASE FLASHINGS AND MEMBRANE TERMINATIONS.
2. TAPERED INSULATION, INCLUDING SLOPES.
3. INSULATION ATTACHMENT PATTERNS.
4. SETTING DRAWINGS SHOWING LAYOUT, SIZES, SECTIONS, PROFILES, AND JOINT DETAILS OF CONCRETE PAVERS WITH PAYER SUPPORT ASSEMBLES.
C. INSTALLER CERTIFICATES: SIGNED BY ROOFING SYSTEM MANUFACTURER CERTIFYING THAT INSTALLER IS APPROVED, AUTHORIZED, OR LICENSED BY MANUFACTURER TO INSTALL ROOFING SYSTEM.
D. QUALIFICATION DATA: FOR INSTALLER AND MANUFACTURER.

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E. MAINTENANCE DATA: FOR ROOFING SYSTEM TO INCLUDE IN MAINTENANCE MANUALS.
F. INSPECTION REPORT: COPY OF ROOFING SYSTEM MANUFACTURER'S INSPECTION REPORT OF COMPLETED ROOFING INSTALLATION.
6. QUALITY ASSURANCE
A. SOURCE LIMITATIONS: OBTAIN COMPONENTS FOR ROOFING SYSTEM FROM OR APPROVED BY ROOFING SYSTEM MANUFACTURER.
B. PREINSTALLATION CONFERENCE: CONDUCT CONFERENCE AT PROJECT SITE. REVIEW METHODS AND PROCEDURES RELATED TO ROOFING SYSTEM INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:
1. MEET WITH THE ARCHITECT, OWNER, OWNER'S INSURER IF APPLICABLE, TESTING AND INSPECTING AGENCY REPRESENTATIVE, ROOFING INSTALLER, ROOFING SYSTEM MANUFACTURER'S REPRESENTATIVE, DECK INSTALLER, AND INSTALLERS WHOSE WORK INTERFERES WITH OR AFFECTS ROOFING INCLUDING INSTALLERS OF ROOF ACCESSORIES AND ROOF-MOUNTED EQUIPMENT.
2. REVIEW METHODS AND PROCEDURES RELATED TO ROOFING INSTALLATION, INCLUDING MANUFACTURER'S WRITTEN INSTRUCTIONS.
3. REVIEW AND FINALIZE CONSTRUCTION SCHEDULE AND VERIFY AVAILABILITY OF MATERIALS, INSTALLER'S PERSONNEL, EQUIPMENT, AND FACILITIES NEEDED TO MAKE PROGRESS AND AVOID DELAYS.
4. EXAMINE DECK SUBSTRATE CONDITIONS AND FINISHES FOR COMPLIANCE WITH REQUIREMENTS, INCLUDING FLATNESS AND FASTENING.
5. REVIEW STRUCTURAL LOADING LIMITATIONS OF ROOF DECK DURING AND AFTER ROOFING.
6. REVIEW BASE FLASHINGS, SPECIAL ROOFING DETAILS, ROOF DRAINAGE, ROOF PENETRATIONS, EQUIPMENT CURBS, AND CONDITION OF OTHER CONSTRUCTION THAT WILL AFFECT ROOFING SYSTEM.
7. REVIEW TEMPORARY PROTECTION REQUIREMENTS FOR ROOFING SYSTEM DURING AND AFTER INSTALLATION.
8. REVIEW ROOF OBSERVATION AND REPAIR PROCEDURES AFTER ROOFING INSTALLATION.
7. DELIVERY, STORAGE, AND HANDLING
A. DELIVER ROOFING MATERIALS TO PROJECT SITE IN ORIGINAL CONTAINERS WITH SEALS UNBROKEN AND LABELED WITH MANUFACTURER'S NAME, PRODUCT BRAND NAME AND TYPE, DATE OF MANUFACTURE, AND DIRECTIONS FOR STORING AND MIXING WITH OTHER COMPONENTS.
B. STORE LIQUID MATERIALS IN THEIR ORIGINAL UNDAMAGED CONTAINERS IN A CLEAN, DRY, PROTECTED LOCATION AND WITHIN THE TEMPERATURE RANGE REQUIRED BY ROOFING SYSTEM MANUFACTURER. PROTECT STORED LIQUID MATERIAL FROM DIRECT SUNLIGHT.
C. PROTECT ROOF INSULATION MATERIALS FROM PHYSICAL DAMAGE AND FROM DETERIORATION BY SUNLIGHT, MOISTURE, SOILING, AND OTHER SOURCES. STORE IN A DRY LOCATION, COMPLY WITH INSULATION MANUFACTURER'S WRITTEN INSTRUCTIONS FOR HANDLING, STORING, AND PROTECTING DURING INSTALLATION.
D. HANDLE AND STORE ROOFING MATERIALS AND PLACE EQUIPMENT IN A MANNER TO AVOID PERMANENT DEFLECTION OF DECK.
8. PROJECT CONDITIONS
A. WEATHER LIMITATIONS: PROCEED WITH INSTALLATION ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS PERMIT ROOFING SYSTEM TO BE INSTALLED ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND WARRANTY REQUIREMENTS.
9. WARRANTY
A. ROOFING CONTRACTOR'S WARRANTY: THE ROOFING SUBCONTRACTOR SHALL SUPPLY OWNER WITH A MINIMUM TWO-YEAR WORKMANSHIP WARRANTY FOR EACH ROOF. IN THE EVENT ANY WORK RELATED TO THE ROOFING, FLASHING, OR METAL WORK IS FOUND TO BE DEFECTIVE WITHIN TWO YEARS OF SUBSTANTIAL COMPLETION, THE ROOFING CONTRACTOR SHALL REMOVE AND REPLACE SUCH AT NO ADDITIONAL COST TO THE OWNER. A COPY OF THE ROOFING SIGNED WARRANTY SHALL BE SENT TO THE ROOFING SYSTEMS MANUFACTURER.
1. THE DURATION OF THE ROOFING CONTRACTOR'S TWO-YEAR WARRANTY SHALL RUN CONCURRENT WITH THE ROOFING SYSTEMS MANUFACTURER'S EXISTING WARRANTY.
B. ROOFING SYSTEMS MANUFACTURER'S WARRANTY: MAINTAIN EXISTING WARRANTIES. COORDINATE WITH OWNER.
10. MATERIALS
B. COMPATIBILITY: PROVIDE PRODUCTS RECOMMENDED BY MANUFACTURERS TO BE FULLY COMPATIBLE WITH INDICATED SUBSTRATES. PROVIDE SEPARATION MATERIALS AS REQUIRED TO ELIMINATE CONTACT BETWEEN INCOMPATIBLE MATERIALS.
1. FURNISH SPECIFIC PRODUCT ACCEPTABLE TO MANUFACTURER OF ROOFING MEMBRANE WHICH WILL NOT COMPROMISE THE ROOFING MANUFACTURER'S WARRANTY.
11. EXAMINATION
A. EXAMINE SUBSTRATES, AREAS, AND CONDITIONS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH THE FOLLOWING REQUIREMENTS AND OTHER CONDITIONS AFFECTING PERFORMANCE OF ROOFING SYSTEM:
1. VERIFY THAT ROOF OPENINGS AND PENETRATIONS ARE IN PLACE AND SET AND BRACED AND THAT ROOF DRAINS ARE SECURELY CLAMPED IN PLACE.
2. VERIFY THAT WOOD BLOCKING, CURBS, AND NAILERS ARE SECURELY ANCHORED TO ROOF DECK AT PENETRATIONS AND TERMINATIONS AND THAT NAILERS MATCH THICKNESSES OF INSULATION.
3. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
12. PREPARATION
A. CLEAN SUBSTRATE OF DUST, DEBRIS, MOISTURE, AND OTHER SUBSTANCES DETRIMENTAL TO ROOFING INSTALLATION ACCORDING TO ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS. REMOVE SHARP PROJECTIONS.
B. PREVENT MATERIALS FROM ENTERING AND CLOGGING ROOF DRAINS AND CONDUCTORS AND FROM SPILLING OR MIGRATING ONTO SURFACES OF OTHER CONSTRUCTION. REMOVE ROOF-DRAIN PLUGS WHEN NO WORK IS TAKING PLACE OR WHEN RAIN IS FORECAST.
C. COMPLETE TERMINATIONS AND BASE FLASHINGS AND PROVIDE TEMPORARY SEALS TO PREVENT WATER FROM ENTERING COMPLETED SECTIONS OF ROOFING SYSTEM AT THE END OF THE WORKDAY OR WHEN RAIN IS FORECAST. REMOVE AND DISCARD TEMPORARY SEALS BEFORE BEGINNING WORK ON ADJOINING ROOFING.
D. COORDINATE INSTALLING MEMBRANE ROOFING SYSTEM COMPONENTS SO UNDERLAYMENT, VAPOR RETARDER, INSULATION, AND COVER BOARDS ARE NOT EXPOSED TO PRECIPITATION OR LEFT EXPOSED AT THE END OF THE WORKDAY.
13. UNDERLAYMENT INSTALLATION
A. INSTALL UNDERLAYMENT BOARD IN A SINGLE LAYER OVER AREA TO ROOF DECK SUBSTRATE WITH MECHANICAL FASTENERS.
14. VAPOR-RETARDER INSTALLATION
A. INSTALL LAMINATED-SHEET VAPOR RETARDER IN A SINGLE LAYER OVER AREA TO RECEIVE VAPOR RETARDER, SIDE AND END LAPPING EACH SHEET A MINIMUM OF 2 INCHES AND 6 INCHES RESPECTIVELY. STAGGER JOINTS FROM UNDERLAYMENT BOARD LAYER BELOW. BOND VAPOR RETARDER TO UNDERLAYMENT BOARD AS FOLLOWS:
1. APPLY ADHESIVE AT RATE RECOMMENDED BY VAPOR-RETARDER MANUFACTURER. SEAL LAPS WITH ADHESIVE.
B. COMPLETELY SEAL VAPOR RETARDER AT TERMINATIONS, OBSTRUCTIONS, AND

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PENETRATIONS TO PREVENT AIR MOVEMENT INTO MEMBRANE ROOFING SYSTEM.
15. INSULATION AND COVERBOARD INSTALLATION
A. COMPLY WITH MEMBRANE ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLING ROOF INSULATION.
B. INSTALL TAPERED INSULATION UNDER AREA OF ROOFING TO CONFORM TO SLOPES INDICATED.
C. INSTALL LAYERS OF INSULATION UNDER AREA OF ROOFING TO ACHIEVE REQUIRED THICKNESS. INSTALL 2 OR MORE LAYERS WITH JOINTS OF EACH SUCCEEDING LAYER STAGGERED FROM JOINTS OF PREVIOUS LAYER A MINIMUM OF 6 INCHES IN EACH DIRECTION.
D. TRIM SURFACE OF INSULATION WHERE NECESSARY AT ROOF DRAINS SO COMPLETED SURFACE IS FLUSH AND DOES NOT RESTRICT FLOW OF WATER.
E. INSTALL INSULATION WITH LONG JOINTS OF INSULATION IN A CONTINUOUS STRAIGHT LINE WITH END JOINTS STAGGERED BETWEEN ROWS. ABUTTING EDGES AND ENDS BETWEEN BOARDS. FILL GAPS EXCEEDING 1/4 INCH WITH INSULATION.
1. CUT AND FIT INSULATION WITHIN 1/4 INCH OF NAILERS, PROJECTIONS, AND PENETRATIONS.
F. ADHESIVELY APPLIED INSULATION: INSTALL EACH LAYER OF INSULATION AND SECURE TO DECK USING ADHESIVE SPECIFICALLY DESIGNED AND SIZED FOR ADHERING SPECIFIED BOARD-TYPE ROOF INSULATION TO DECK TYPE.
1. ADHERE INSULATION ACCORDING TO REQUIREMENTS IN FMGS "APPROVAL GUIDE" FOR SPECIFIED WINDSTORM RESISTANCE CLASSIFICATION.
2. ADHERE INSULATION TO RESIST UPLIFT PRESSURE AT CORNERS, PERIMETER, AND FIELD OF ROOF.
G. INSTALL COVER BOARD IN A SINGLE LAYER OVER AREA TO ROOF DECK SUBSTRATE AS INDICATED. STAGGER JOINTS FROM INSULATION LAYER BELOW.
16. BASE FLASHING INSTALLATION
A. INSTALL SHEET FLASHINGS AND PREFORMED FLASHING ACCESSORIES AND ADHERE TO SUBSTRATES ACCORDING TO MEMBRANE ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS.
B. APPLY SOLVENT-BASED BONDING ADHESIVE TO SUBSTRATE AND UNDERSIDE OF SHEET FLASHING AT REQUIRED RATE AND ALLOW TO PARTIALLY DRY. DO NOT APPLY BONDING ADHESIVE TO SEAM AREA OF FLASHING.
C. FLASH PENETRATIONS AND FIELD-FORMED INSIDE AND OUTSIDE CORNERS WITH CURED OR UNCURED SHEET FLASHING.
D. CLEAN SPICE AREAS, APPLY SPLICING CEMENT, AND FIRMLY ROLL SIDE AND END LAPS OF OVERLAPPING SHEETS TO ENSURE A WATERTIGHT SEAM INSTALLATION. APPLY LAP SEALANT AND SEAL EXPOSED EDGES OF SHEET FLASHING TERMINATIONS.
E. TERMINATE AND SEAL TOP OF SHEET FLASHINGS.
17. FIELD QUALITY CONTROL
A. TESTING AGENCY: COORDINATE WITH OWNER'S INDEPENDENT TESTING AGENCY TO PERFORM ROOF TESTS AND INSPECTIONS AND TO PREPARE TEST REPORTS.
B. MANUFACTURER'S TECHNICAL REPRESENTATIVE: ENGAGE A QUALIFIED MANUFACTURER'S TECHNICAL REPRESENTATIVE TO PERFORM ROOF TESTS AND INSPECTIONS AND TO PREPARE TEST REPORTS.
C. FINAL ROOF INSPECTION: ENGAGE ROOFING SYSTEM MANUFACTURER'S TECHNICAL PERSONNEL TO INSPECT ROOFING INSTALLATION ON COMPLETION AND SUBMIT REPORT TO ARCHITECT.
1. NOTIFY ARCHITECT AND THE OWNER 48 HOURS IN ADVANCE OF DATE AND TIME OF INSPECTION.
D. REPAIR OR REMOVE AND REPLACE COMPONENTS OF MEMBRANE ROOFING SYSTEM WHERE TEST RESULTS OR INSPECTIONS INDICATE THAT THEY DO NOT COMPLY WITH SPECIFIED REQUIREMENTS.
E. ADDITIONAL TESTING AND INSPECTING, AT CONTRACTOR'S EXPENSE, WILL BE PERFORMED TO DETERMINE COMPLIANCE OF REPLACED OR ADDITIONAL WORK WITH SPECIFIED REQUIREMENTS.
18. PROTECTING AND CLEANING
A. PROTECT MEMBRANE ROOFING SYSTEM FROM DAMAGE AND WEAR DURING REMAINDER OF CONSTRUCTION PERIOD. WHEN REMAINING CONSTRUCTION WILL NOT AFFECT OR ENDANGER ROOFING, INSPECT ROOFING FOR DETERIORATION AND DAMAGE, DESCRIBING ITS NATURE AND EXTENT IN A WRITTEN REPORT, WITH COPIES TO ARCHITECT AND THE OWNER.
B. CORRECT DEFICIENCIES IN OR REMOVE MEMBRANE ROOFING SYSTEM THAT DOES NOT COMPLY WITH REQUIREMENTS. REPAIR SUBSTRATES, AND REPAIR OR REINSTALL MEMBRANE ROOFING SYSTEM TO A CONDITION FREE OF DAMAGE AND DETERIORATION AT TIME OF SUBSTANTIAL COMPLETION AND ACCORDING TO WARRANTY REQUIREMENTS.
END OF SECTION 071050
SECTION 078400 - FIRESTOPPING
PART 1 - GENERAL
1.1 DESCRIPTION OF WORK
A. WORK INCLUDED: THIS SECTION SPECIFIES THE FOLLOWING:
1. THROUGH-PENETRATION FIRESTOP SYSTEMS FOR PENETRATIONS THROUGH FIRE-RESISTANCE-RATED CONSTRUCTIONS, INCLUDING BOTH EMPTY OPENINGS AND OPENINGS CONTAINING PENETRATING ITEMS.
2. FIRE-RESISTIVE JOINT SYSTEMS FOR FLOOR, WALL, AND HEAD-OF-WALL JOINTS.
1.2 PERFORMANCE REQUIREMENTS
A. GENERAL: FOR PENETRATIONS THROUGH FIRE-RESISTANCE-RATED CONSTRUCTIONS, INCLUDING BOTH EMPTY OPENINGS AND OPENINGS CONTAINING PENETRATING ITEMS, PROVIDE THROUGH-PENETRATION FIRESTOP SYSTEMS THAT ARE PRODUCED AND INSTALLED TO RESIST SPREAD OF FIRE ACCORDING TO REQUIREMENTS INDICATED, RESIST PASSAGE OF SMOKE AND OTHER GASES, AND MAINTAIN ORIGINAL FIRE-RESISTANCE RATING OF CONSTRUCTION PENETRATED.
B. F-RATED SYSTEMS: PROVIDE THROUGH-PENETRATION FIRESTOP SYSTEMS WITH F-RATINGS INDICATED, BUT NOT LESS THAN THAT EQUALLED OR EXCEEDING FIRE-RESISTANCE RATING OF CONSTRUCTIONS PENETRATED, AS DETERMINED PER ASTM E 814.
C. FOR THROUGH-PENETRATION FIRESTOP SYSTEMS EXPOSED TO VIEW, TRAFFIC, MOISTURE, AND PHYSICAL DAMAGE, PROVIDE PRODUCTS THAT, AFTER CURING, DO NOT DETERIORATE WHEN EXPOSED TO THESE CONDITIONS BOTH DURING AND AFTER CONSTRUCTION.
1. FOR PIPING PENETRATIONS FOR PLUMBING AND WET-PIPE SPRINKLER SYSTEMS, PROVIDE MOISTURE-RESISTANT THROUGH-PENETRATION FIRESTOP SYSTEMS.
2. FOR FLOOR PENETRATIONS WITH ANNULAR SPACES EXCEEDING 4 INCHES IN WIDTH AND EXPOSED TO POSSIBLE LOADING AND TRAFFIC, PROVIDE FIRESTOP SYSTEMS CAPABLE OF SUPPORTING FLOOR LOADS INVOLVED, EITHER BY INSTALLING FLOOR PLATES OR BY OTHER MEANS.
3. FOR PENETRATIONS INVOLVING INSULATED PIPING, PROVIDE THROUGH-PENETRATION FIRESTOP SYSTEMS NOT REQUIRING REMOVAL OF INSULATION.
1.3 SUBMITTALS
A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
B. SHOP DRAWINGS: FOR EACH THROUGH-PENETRATION FIRESTOP SYSTEM, SHOW EACH TYPE OF CONSTRUCTION CONDITION PENETRATED, RELATIONSHIPS TO ADJOINING CONSTRUCTION, AND TYPE OF PENETRATING ITEM. INCLUDE FIRESTOP DESIGN DESIGNATION OF QUALIFIED TESTING AND INSPECTING AGENCY THAT EVIDENCES COMPLIANCE WITH REQUIREMENTS FOR EACH CONDITION INDICATED. SUBMIT DOCUMENTATION, INCLUDING ILLUSTRATIONS, FROM A QUALIFIED TESTING AND INSPECTING AGENCY THAT IS APPLICABLE TO EACH THROUGH-PENETRATION FIRESTOP SYSTEM CONFIGURATION FOR CONSTRUCTION AND PENETRATING ITEMS.
C. THROUGH-PENETRATION FIRESTOP SYSTEM SCHEDULE: INDICATE LOCATIONS OF EACH THROUGH-PENETRATION FIRESTOP SYSTEM, ALONG WITH THE FOLLOWING INFORMATION:
1. TYPES OF PENETRATING ITEMS.
2. TYPES OF CONSTRUCTIONS PENETRATED, INCLUDING FIRE-RESISTANCE RATINGS AND, WHERE APPLICABLE, THICKNESSES OF CONSTRUCTION PENETRATED.
3. THROUGH-PENETRATION FIRESTOP SYSTEMS FOR EACH LOCATION IDENTIFIED BY FIRESTOP DESIGN DESIGNATION OF QUALIFIED TESTING AND INSPECTING AGENCY.
D. QUALIFICATION DATA: FOR INSTALLER AND INSPECTION AND TESTING AGENCY.
1.4 QUALITY ASSURANCE
A. INSTALLER QUALIFICATIONS: EITHER A FIRM THAT HAS BEEN APPROVED BY FM GLOBAL ACCORDING TO FMG 4991, "APPROVAL OF FIRESTOP COORDINATORS" OR A FIRM EXPERIENCED IN INSTALLING THROUGH-PENETRATION FIRESTOP SYSTEMS SIMILAR IN MATERIAL, DESIGN, AND EXTENT TO THAT INDICATED FOR THIS PROJECT, WHOSE WORK HAS RESULTED IN CONSTRUCTION OF A MINIMUM OF FIVE PROJECTS WITH A RECORD OF SUCCESSFUL PERFORMANCE. QUALIFICATIONS INCLUDE HAVING THE NECESSARY EXPERIENCE, STAFF, AND TRAINING TO INSTALL MANUFACTURER'S PRODUCTS PER SPECIFIED REQUIREMENTS.
B. SOURCE LIMITATIONS: OBTAIN THROUGH-PENETRATION FIRESTOP SYSTEMS, FOR EACH KIND OF PENETRATION AND CONSTRUCTION CONDITION INDICATED, THROUGH ONE SOURCE FROM A SINGLE MANUFACTURER.
C. FIRE-TEST-RESPONSE CHARACTERISTICS: PROVIDE THROUGH-PENETRATION FIRESTOP SYSTEMS THAT COMPLY WITH THE FOLLOWING REQUIREMENTS AND THOSE SPECIFIED IN PART 1 "PERFORMANCE REQUIREMENTS" ARTICLE:
1. FIRESTOP TESTS ARE PERFORMED BY A QUALIFIED TESTING AND INSPECTING AGENCY.

ARCHITECTURAL SPECIFICATIONS (CONT.)

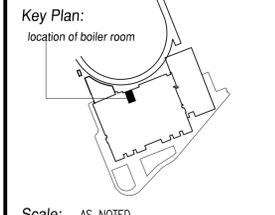
2. THROUGH-PENETRATION FIRESTOP SYSTEMS ARE IDENTICAL TO THOSE TESTED PER TESTING STANDARD REFERENCED IN PART 1 "PERFORMANCE REQUIREMENTS" ARTICLE. PROVIDE RATED SYSTEMS COMPLYING WITH THE FOLLOWING REQUIREMENTS:
a. THROUGH-PENETRATION FIRESTOP SYSTEM PRODUCTS BEAR CLASSIFICATION MARKING OF QUALIFIED TESTING AND INSPECTING AGENCY.
b. THROUGH-PENETRATION FIRESTOP SYSTEMS CORRESPOND TO THOSE INDICATED BY REFERENCE TO THROUGH-PENETRATION FIRESTOP SYSTEM DESIGNATIONS LISTED IN THE UL "FIRE RESISTANCE DIRECTORY".
15. DELIVERY, STORAGE, AND HANDLING
A. DELIVER THROUGH-PENETRATION FIRESTOP SYSTEM PRODUCTS TO PROJECT SITE IN ORIGINAL, UNOPENED CONTAINERS OR PACKAGES WITH INTACT AND LEGIBLE MANUFACTURER'S LABELS IDENTIFYING PRODUCT AND MANUFACTURER, DATE OF MANUFACTURE, LOT NUMBER, SHELF LIFE, APPLICABLE QUALIFIED TESTING AND INSPECTING AGENCY'S CLASSIFICATION MARKING APPLICABLE TO PROJECT, CURING TIME, AND MIXING INSTRUCTIONS FOR MULTICOMPONENT MATERIALS.
B. STORE AND HANDLE MATERIALS FOR THROUGH-PENETRATION FIRESTOP SYSTEMS TO PREVENT THEIR DETERIORATION OR DAMAGE DUE TO MOISTURE, TEMPERATURE CHANGES, CONTAMINANTS, OR OTHER CAUSES.
16. PROJECT CONDITIONS
A. ENVIRONMENTAL LIMITATIONS: DO NOT INSTALL THROUGH-PENETRATION FIRESTOP SYSTEMS WHEN AMBIENT OR SUBSTRATE TEMPERATURES ARE OUTSIDE LIMITS PERMITTED BY THROUGH-PENETRATION FIRESTOP SYSTEM MANUFACTURERS OR WHEN SUBSTRATES ARE WET DUE TO RAIN, FROST, CONDENSATION, OR OTHER CAUSES.
B. VENTILATE THROUGH-PENETRATION FIRESTOP SYSTEMS PER MANUFACTURER'S WRITTEN INSTRUCTIONS BY NATURAL MEANS OR, WHERE THIS IS INADEQUATE, FORCED-AIR CIRCULATION.
17. COORDINATION
A. COORDINATE CONSTRUCTION OF OPENINGS AND PENETRATING ITEMS TO ENSURE THAT THROUGH-PENETRATION FIRESTOP SYSTEMS ARE INSTALLED ACCORDING TO SPECIFIED REQUIREMENTS.
B. COORDINATE SIZING OF SLEEVES, OPENINGS, CORE-DRILLED HOLES, OR CUT OPENINGS TO ACCOMMODATE THROUGH-PENETRATION FIRESTOP SYSTEMS.
C. DO NOT COVER UP THROUGH-PENETRATION FIRESTOP SYSTEM INSTALLATIONS THAT WILL BECOME CONCEALED BEHIND OTHER CONSTRUCTION UNTIL EACH INSTALLATION HAS BEEN INSPECTED BY THE BUILDING INSPECTOR, IF REQUIRED BY AUTHORITIES HAVING JURISDICTION.
PART 2 - PRODUCTS
2.1 MANUFACTURERS
A. AVAILABLE PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, THROUGH-PENETRATION FIRESTOP SYSTEMS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
1. HILTI, INC.
2. BIOFIRESHIELD, RECTORSAL CORPORATION.
3. 3M: FIRE PROTECTION PRODUCTS DIVISION.
4. OR APPROVED EQUAL.
2.2 FIRESTOPPING MATERIALS
A. COMPATIBILITY: PROVIDE THROUGH-PENETRATION FIRESTOP SYSTEMS THAT ARE COMPATIBLE WITH ONE ANOTHER, WITH THE SUBSTRATES FORMING OPENINGS; AND WITH THE ITEMS, IF ANY, PENETRATING THROUGH-PENETRATION FIRESTOP SYSTEMS, UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY THROUGH-PENETRATION FIRESTOP SYSTEM MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE.
B. MATERIALS: PROVIDE THROUGH-PENETRATION FIRESTOP SYSTEMS CONTAINING PRIMARY MATERIALS AND FILL MATERIALS WHICH ARE PART OF THE TESTED ASSEMBLY AS INDICATED IN THE THROUGH-PENETRATION FIRESTOP SYSTEM SCHEDULE AT THE END OF PART 3. FILL MATERIALS ARE THOSE REFERRED TO IN DIRECTORIES OF REFERENCED TESTING AND INSPECTING AGENCIES AS "FILL", "VOID" OR "CAVITY" MATERIALS.
C. ACCESSORIES: PROVIDE COMPONENTS FOR EACH THROUGH-PENETRATION FIRESTOP SYSTEM THAT ARE NEEDED TO INSTALL FILL MATERIALS AND TO COMPLY WITH REQUIREMENTS IN THIS SECTION. USE ONLY COMPONENTS SPECIFIED BY THROUGH-PENETRATION FIRESTOP SYSTEM MANUFACTURER AND APPROVED BY QUALIFIED TESTING AND INSPECTING AGENCY FOR FIRESTOP SYSTEMS INDICATED.
2.3 MIXING
A. FOR THOSE PRODUCTS REQUIRING MIXING BEFORE APPLICATION, COMPLY WITH THROUGH-PENETRATION FIRESTOP SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS FOR ACCURATE PROPORTIONING OF MATERIALS, WATER (IF REQUIRED), TYPE OF MIXING EQUIPMENT, SELECTION OF MIXER SPEEDS, MIXING CONTAINERS, MIXING TIME, AND OTHER ITEMS OR PROCEDURES NEEDED TO PRODUCE PRODUCTS OF UNIFORM QUALITY WITH OPTIMUM PERFORMANCE CHARACTERISTICS FOR APPLICATION INDICATED.
PART 3 - EXECUTION
3.1 EXAMINATION
A. EXAMINE SUBSTRATES AND CONDITIONS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR OPENING CONFIGURATIONS, PENETRATING ITEMS, SUBSTRATES, AND OTHER CONDITIONS AFFECTING PERFORMANCE OF WORK. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
3.2 PREPARATION
A. SURFACE CLEANING: CLEAN OUT OPENINGS IMMEDIATELY BEFORE INSTALLING THROUGH-PENETRATION FIRESTOP SYSTEMS TO COMPLY WITH FIRESTOP SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS AND WITH THE FOLLOWING REQUIREMENTS:
1. REMOVE FROM SURFACES OF OPENING SUBSTRATES AND FROM PENETRATING ITEMS FOREIGN MATERIALS THAT COULD INTERFERE WITH ADHESION OF THROUGH-PENETRATION FIRESTOP SYSTEMS.
2. CLEAN OPENING SUBSTRATES AND PENETRATING ITEMS TO PRODUCE CLEAN, SOUND SURFACES CAPABLE OF DEVELOPING OPTIMUM BOND WITH THROUGH-PENETRATION FIRESTOP SYSTEMS. REMOVE LOOSE PARTICLES REMAINING FROM CLEANING OPERATION.
3. REMOVE LAITANCE AND FORM-RELEASE AGENTS FROM CONCRETE.
B. PRIMING: PRIME SUBSTRATES WHERE RECOMMENDED IN WRITING BY THROUGH-PENETRATION FIRESTOP SYSTEM MANUFACTURER USING THAT MANUFACTURER'S RECOMMENDED PRODUCTS AND METHODS. CONFINE PRIMERS TO AREAS OF BOND, DO NOT ALLOW SPILLAGE AND MIGRATION ONTO EXPOSED SURFACES.
C. MASKING TAPE: USE MASKING TAPE TO PREVENT THROUGH-PENETRATION FIRESTOP SYSTEMS FROM CONTACTING ADJOINING SURFACES THAT WILL REMAIN EXPOSED ON COMPLETION OF WORK AND THAT WOULD OTHERWISE BE PERMANENTLY STAINED OR DAMAGED BY SUCH CONTACT OR BY CLEANING METHODS USED TO REMOVE SMEARS FROM FIRESTOP SYSTEM MATERIALS. REMOVE TAPE AS SOON AS POSSIBLE WITHOUT DISTURBING FIRESTOP SYSTEMS SEAL WITH SUBSTRATES.
3.3 THROUGH-PENETRATION FIRESTOP SYSTEM INSTALLATION
A. GENERAL: INSTALL THROUGH-PENETRATION FIRESTOP SYSTEMS TO COMPLY WITH REQUIREMENTS IN THIS SECTION AND WITH FIRESTOP SYSTEM MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND PUBLISHED DRAWINGS FOR PRODUCTS AND APPLICATIONS INDICATED.
B. INSTALL FORMING/DAMMING/BACKING MATERIALS AND OTHER ACCESSORIES OF TYPES REQUIRED TO SUPPORT FILL MATERIALS DURING THEIR APPLICATION AND IN THE POSITION NEEDED TO PRODUCE CROSS-SECTIONAL SHAPES AND DEPTHS REQUIRED TO ACHIEVE FIRE RATINGS INDICATED.
C. INSTALL FILL MATERIALS FOR FIRESTOP SYSTEMS BY PROVEN TECHNIQUES TO PRODUCE THE FOLLOWING RESULTS:
1. FILL VOIDS AND CAVITIES FORMED BY OPENINGS, FORMING MATERIALS, ACCESSORIES, AND PENETRATING ITEMS AS REQUIRED TO ACHIEVE FIRE-RESISTANCE RATINGS INDICATED.
2. APPLY MATERIALS SO THEY CONTACT AND ADHERE TO SUBSTRATES FORMED BY OPENINGS AND PENETRATING ITEMS.
3. FOR FILL MATERIALS THAT WILL REMAIN EXPOSED AFTER COMPLETING WORK, FINISH TO PRODUCE SMOOTH, UNIFORM SURFACES THAT ARE FLUSH WITH ADJOINING FINISHES.
3.4 FIELD QUALITY CONTROL
A. INSPECTING AGENCY: ENGAGE A QUALIFIED, INDEPENDENT INSPECTING AGENCY TO INSPECT THROUGH-PENETRATION FIRESTOPS. INDEPENDENT INSPECTING AGENCY SHALL COMPLY WITH ASTM E 2174 REQUIREMENTS INCLUDING THOSE RELATED TO QUALIFICATIONS, CONDUCTING INSPECTIONS, AND PREPARING TEST REPORTS.
B. WHERE DEFICIENCIES ARE FOUND, REPAIR OR REPLACE THROUGH-PENETRATION FIRESTOP SYSTEMS SO THEY COMPLY WITH REQUIREMENTS.
C. PROCEED WITH ENCLOSING THROUGH-PENETRATION FIRESTOP SYSTEMS WITH OTHER CONSTRUCTION ONLY AFTER INSPECTION REPORTS ARE ISSUED AND FIRESTOP INSTALLATIONS COMPLY WITH REQUIREMENTS.
3.5 CLEANING AND PROTECTING
A. CLEAN OFF EXCESS FILL MATERIALS ADJACENT TO OPENINGS AS WORK PROGRESSES BY METHODS AND WITH CLEANING MATERIALS THAT ARE APPROVED IN WRITING BY THROUGH-PENETRATION FIRESTOP SYSTEM MANUFACTURERS AND THAT DO NOT DAMAGE MATERIALS IN WHICH OPENINGS OCCUR.
B. PROVIDE FINAL PROTECTION AND MAINTAIN CONDITIONS DURING AND AFTER INSTALLATION THAT ENSURE THAT THROUGH-PENETRATION FIRESTOP SYSTEMS ARE WITHOUT DAMAGE OR DETERIORATION AT TIME OF SUBSTANTIAL COMPLETION. IF, DESPITE SUCH PROTECTION, DAMAGE OR DETERIORATION OCCURS, CUT OUT AND REMOVE DAMAGED OR DETERIORATED THROUGH-PENETRATION FIRESTOP SYSTEMS IMMEDIATELY AND INSTALL NEW MATERIALS TO PRODUCE SYSTEMS COMPLYING WITH SPECIFIED REQUIREMENTS.
END OF SECTION 078400

CONSULTANTS

Revision: Date: By: Description:

CLIENT AND/OR PROJECT INFO.

CHELSEA HIGH SCHOOL 299 EVERETT AVE. CHELSEA, MA



Jacobs Project No.: R7W71628 Drawing Title:

ARCHITECTURAL SPECIFICATIONS SHEET 2 of 2

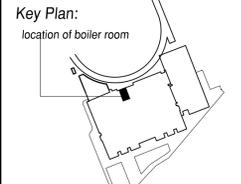
Date: February 2015 Designed By: L.W. Drawing No.: A-0.1 Drawn By: L.W. Checked By: C.W.H.

CONSULTANTS

Revision:  
Date: By: Description:

CLIENT AND/OR PROJECT INFO.

**CHELSEA HIGH SCHOOL**  
**299 EVERETT AVE.**  
**CHELSEA, MA**



Scale: AS NOTED

Jacobs Project No.: R7W1628

Drawing Title:

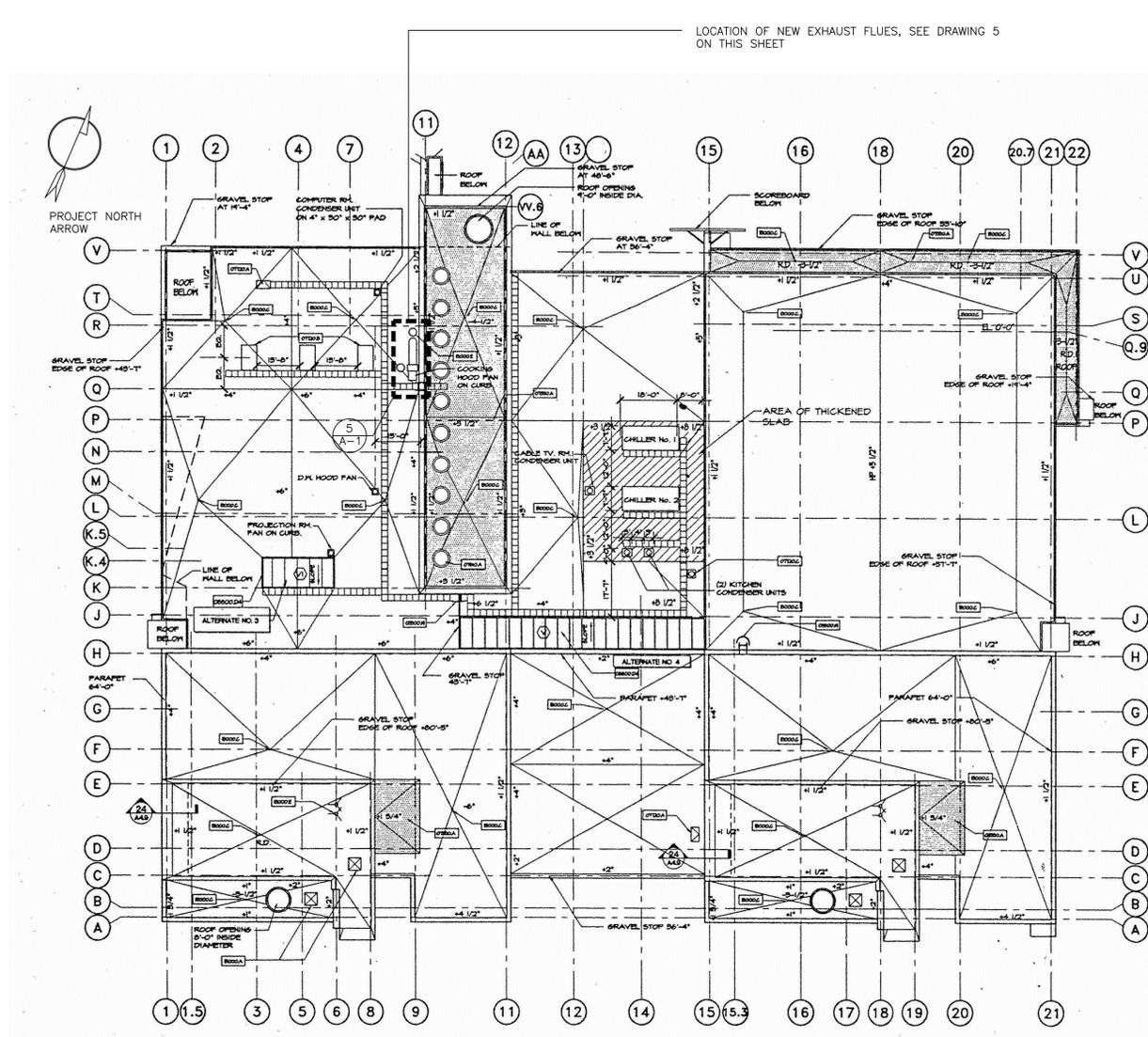
ROOF PLAN AND DETAILS

Date: February 2015

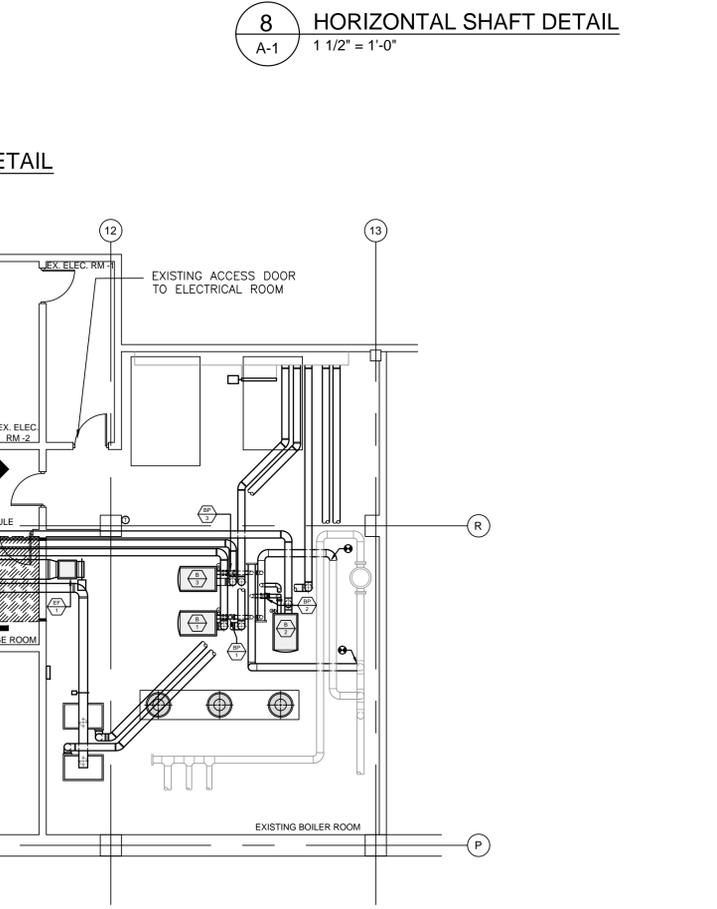
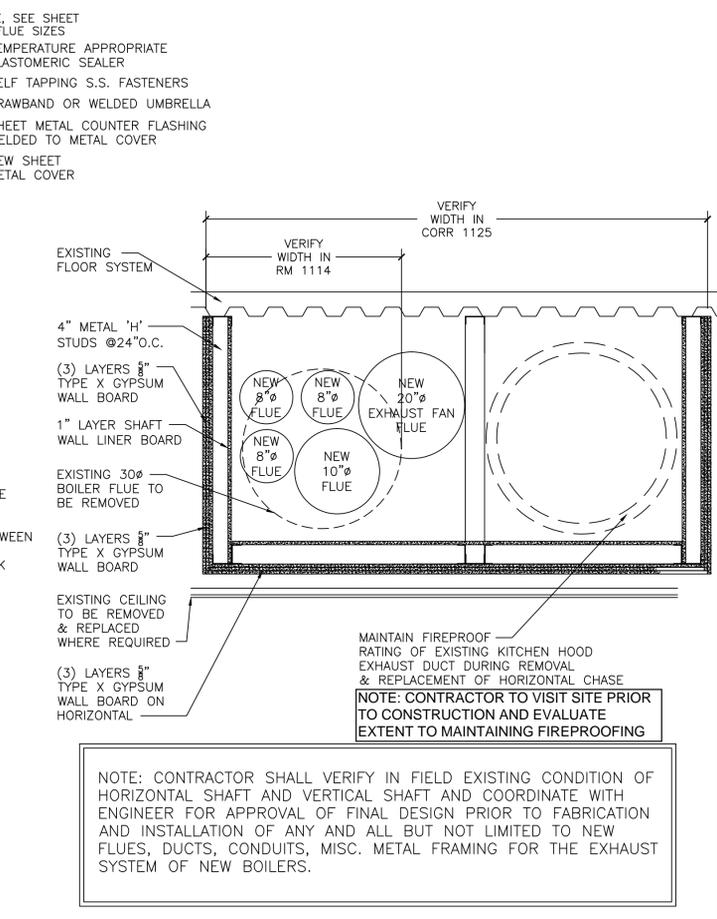
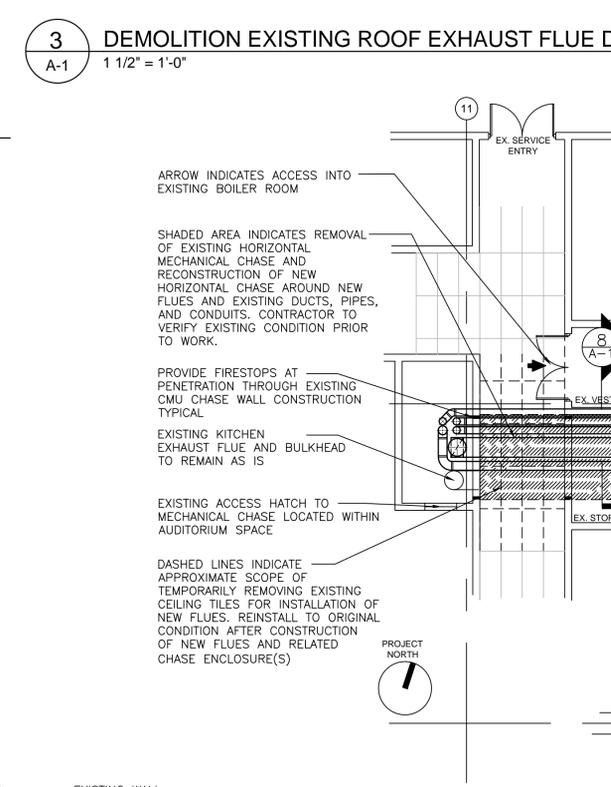
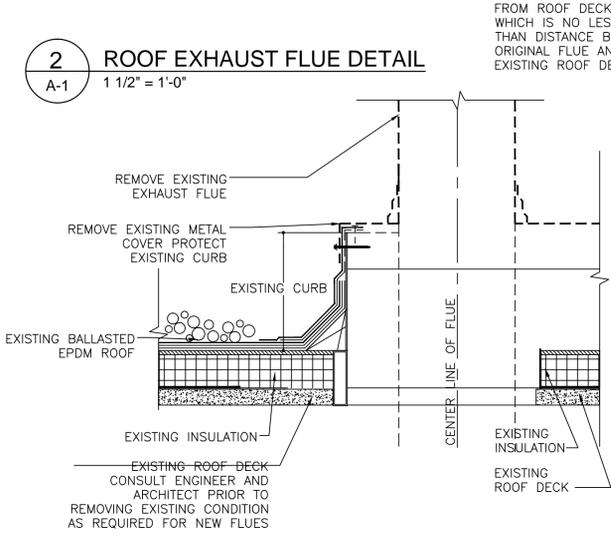
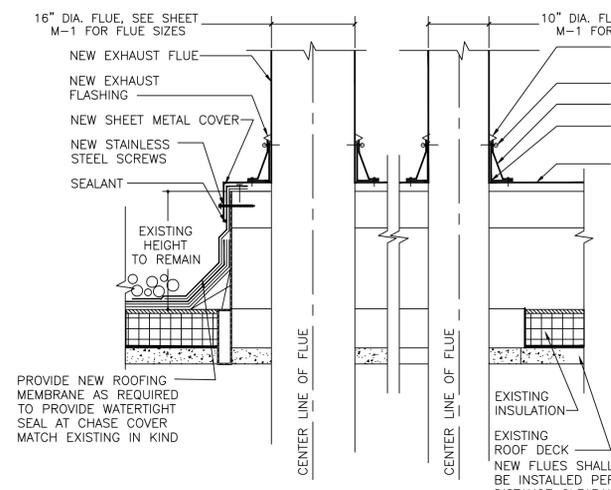
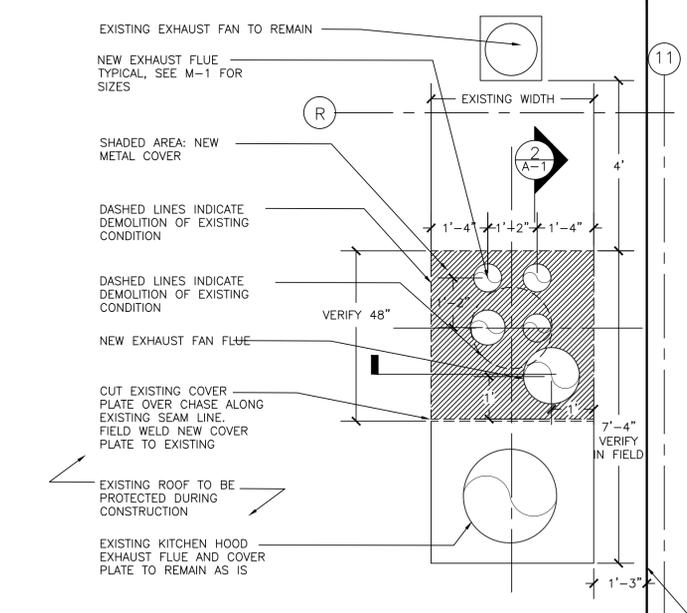
Designed By: D.C. Drawing No.:

Drawn By: D.C. **A-1**

Checked By: L.W.



EXISTING CONDITION OF EXHAUST FLUES ON ROOF PER DATE OF THIS DRAWING



Jacobs - Chelsea Public Schools R7W1628 - HS boiler replacement 700 CAD0701 - Architecture A-1 - ROOF PLAN AND DETAILS.dwg [Layout] February 13, 2015 - 8:17am ChaoDD

GENERAL NOTES

- A. CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS... INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SET.

MECHANICAL GENERAL NOTES

- A. ALL MECHANICAL EQUIPMENT AND INSTALLATIONS SHALL CONFORM WITH THE REQUIREMENTS OF THE 2009 INTERNATIONAL MECHANICAL CODE, THE 2009 INTERNATIONAL BUILDING CODE, THE 2012 INTERNATIONAL ENERGY CONSERVATION CODE, 2009 INTERNATIONAL FIRE CODE AND ALL APPLICABLE LOCAL CODES AND ORDINANCES.

MECHANICAL SPECIFICATIONS

- DIVISION 23 - MECHANICAL
A. DEFINITIONS: FURNISH MEANS TO SUPPLY AND DELIVER TO PROJECT SITE, READY FOR INSTALLATION. INSTALL MEANS TO PLACE IN POSITION AND MAKE CONNECTIONS FOR SERVICE OR USE.

MECHANICAL SPECIFICATIONS

- 10. INSTALL UNIONS IN PIPING, NPS 2 AND SMALLER, ADJACENT TO VALVES, AT FINAL CONNECTIONS OF EQUIPMENT, AND ELSEWHERE AS INDICATED.
11. INSTALL FLANGES IN PIPING, NPS 2-1/2 AND LARGER, AT FINAL CONNECTIONS OF EQUIPMENT AND ELSEWHERE AS INDICATED.

MECHANICAL SPECIFICATIONS (CONT.)

- 9.3. PIPE ROLLER: MISS SP-58, TYPE 44 FOR MULTIPLE HORIZONTAL PIPING 20 FEET (6 M) OR LONGER, SUPPORTED ON A TRAPEZE.
9.4. INSTALL HANGERS FOR STEEL PIPING WITH THE FOLLOWING MAXIMUM SPACING AND MINIMUM ROD SIZES:
NPS 3/4: MAXIMUM SPAN, 7 FEET
NPS 1: MAXIMUM SPAN, 7 FEET
NPS 1-1/2: MAXIMUM SPAN, 9 FEET
NPS 2: MAXIMUM SPAN, 10 FEET
NPS 2-1/2: MAXIMUM SPAN, 11 FEET
NPS 3 AND LARGER: MAXIMUM SPAN, 12 FEET

MECHANICAL SPECIFICATIONS (CONT.)

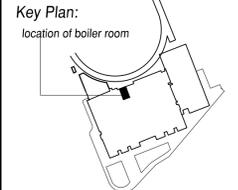
- H. BOILER:
1. SUBMITTALS: PRIOR TO FLUE VENT INSTALLATION, SUBMIT ENGINEERED CALCULATIONS AND DRAWINGS TO THOROUGHLY DEMONSTRATE THAT SIZE AND CONFIGURATION CONFORM TO RECOMMENDED SIZE, LENGTH AND FOOTPRINT FOR EACH SUBMITTED BOILER.
2. WARRANTY:
2.1. BOILERS SHALL INCLUDE MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF BOILERS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.

CONSULTANTS

Revision: Date: By: Description:

CLIENT AND/OR PROJECT INFO.

CHELSEA HIGH SCHOOL 299 EVERETT AVE. CHELSEA, MA



Scale: N.T.S.

Jacobs Project No.: R7W1628

Drawing Title:

MECHANICAL GENERAL NOTES AND SPECIFICATION

Date: February 2015

Designed By: L.W. Drawing No.:

Drawn By: L.W. M-0

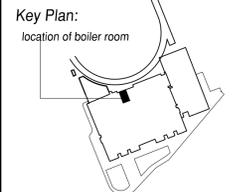
Checked By: C.W.H.

CONSULTANTS

Revision:  
Date: By: Description:

CLIENT AND/OR PROJECT INFO.

**CHELSEA HIGH SCHOOL**  
**299 EVERETT AVE.**  
CHELSEA, MA



Scale: 1/4"=1'-0"

Jacobs Project No.: R7W71628

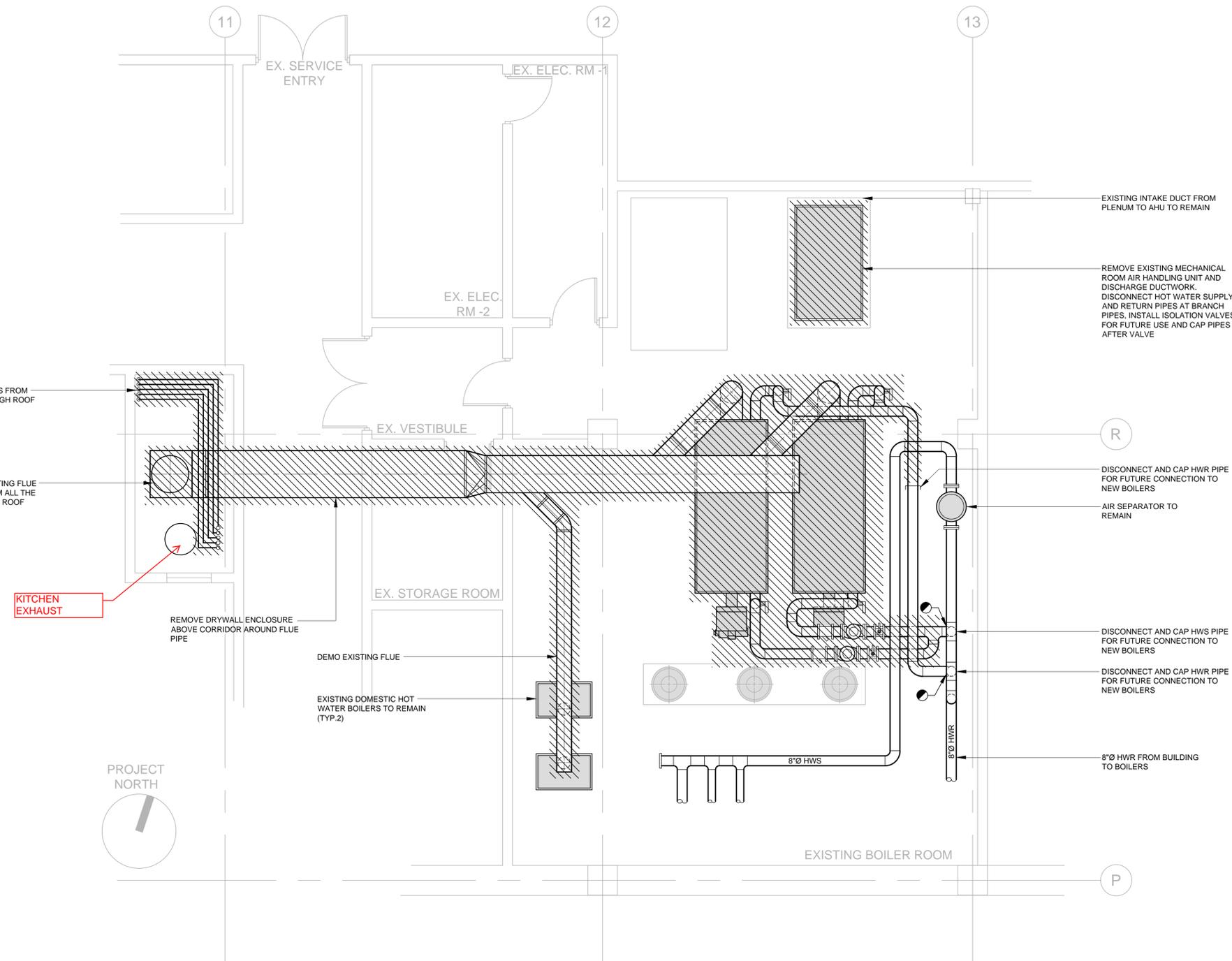
Drawing Title:  
**BOILER ROOM  
MECHANICAL DEMO PLAN**

Date: February 2015

Designed By: L.W. Drawing No.:

Drawn By: L.W.

Checked By: C.W.H. **MD-1**



**1** BOILER ROOM MECHANICAL DEMO  
MD-1 1/4" = 1'-0"

SHEET NOTES	
<b>GENERAL NOTES:</b>	
1.	THIS SHEET INDICATES EXISTING EQUIPMENT AND PIPEWORK TO BE REMOVED.
2.	THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.
<b>DEMO NOTES:</b>	
1.	REMOVE EXISTING CAST IRON SECTIONAL BOILERS AND ALL ASSOCIATED FITTINGS AND TRIM.
2.	REMOVE ALL EXISTING PIPEWORK INDICATED WITHIN THE HATCHED AREA.
3.	DISCONNECT EXISTING FLUE FROM BOILERS AND CAP OPEN END.
4.	REMOVE EXISTING BOILERS FROM THE CONTROL SYSTEM.
5.	CAP ALL OPEN ENDED PIPES FOR FUTURE CONNECTION TO NEW BOILERS.

CONSULTANTS

Revision:  
Date: By: Description:

CLIENT AND/OR PROJECT INFO.

**CHELSEA HIGH SCHOOL**  
**299 EVERETT AVE.**  
**CHELSEA, MA**

Key Plan:



Scale: 1/4"=1'-0"

Jacobs Project No.: R7W71628

Drawing Title:

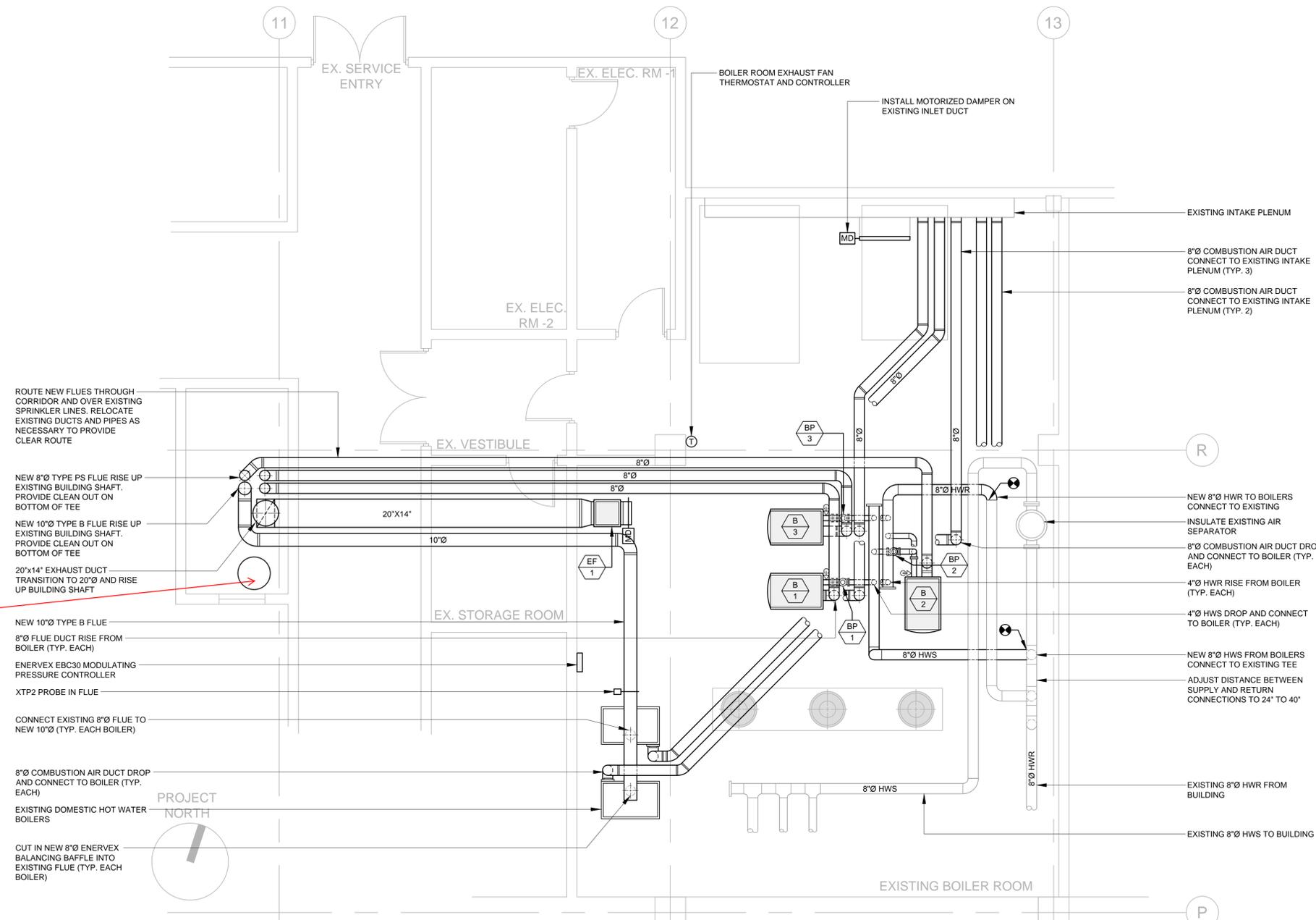
**BOILER ROOM  
MECHANICAL LAYOUT**

Date: February 2015

Designed By: L.W. | Drawing No.:

Drawn By: L.W.

Checked By: C.W.H. | **M-1**



KITCHEN EXHAUST

ROUTE NEW FLUES THROUGH CORRIDOR AND OVER EXISTING SPRINKLER LINES. RELOCATE EXISTING DUCTS AND PIPES AS NECESSARY TO PROVIDE CLEAR ROUTE

NEW 8" O.D. TYPE PS FLUE RISE UP EXISTING BUILDING SHAFT. PROVIDE CLEAN OUT ON BOTTOM OF TEE

NEW 10" O.D. TYPE B FLUE RISE UP EXISTING BUILDING SHAFT. PROVIDE CLEAN OUT ON BOTTOM OF TEE

20"x14" EXHAUST DUCT TRANSITION TO 20" O.D. AND RISE UP BUILDING SHAFT

NEW 10" O.D. TYPE B FLUE

8" O.D. FLUE DUCT RISE FROM BOILER (TYP. EACH)

ENERVEX EBC30 MODULATING PRESSURE CONTROLLER

XTP2 PROBE IN FLUE

CONNECT EXISTING 8" O.D. FLUE TO NEW 10" O.D. (TYP. EACH BOILER)

8" O.D. COMBUSTION AIR DUCT DROP AND CONNECT TO BOILER (TYP. EACH)

EXISTING DOMESTIC HOT WATER BOILERS

CUT IN NEW 8" O.D. ENERVEX BALANCING BAFFLE INTO EXISTING FLUE (TYP. EACH BOILER)



**1 BOILER ROOM MECHANICAL LAYOUT**  
1/4" = 1'-0"

**2 PART ROOF PLAN**  
1/4" = 1'-0"

**SHEET NOTES**

**GENERAL NOTES:**

- THIS SHEET INDICATES NEW EQUIPMENT AND PIPEWORK TO BE INSTALLED.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.

**INSTALLATION NOTES:**

- ALL NEW PIPEWORK SHALL BE INSULATED PER THE SPECIFICATION.
- INSULATE COMBUSTION AIR DUCTS WITH MINIMUM R-5 INSULATION WITH ASJ FACTORY APPLIED JACKET.
- INSTALL DRAIN COCK AT LOW POINT AT EACH BOILER.
- PROVIDE AND INSTALL ALL REQUIRED ENERVEX FORCED DRAFT COMPONENTS AND INSTALL THE SYSTEM PER THE MANUFACTURERS INSTRUCTIONS.
- INSTALL 1/2" PVC CONDENSATE DRAIN FROM EACH BOILER TO EXISTING FLOOR DRAIN. INSTALL CONDENSATE NEUTRALIZATION KIT IN DRAIN LINE. INSTALL DRAIN AND KIT IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
- TERMINATE EXHAUST DUCT OPEN END TO EF-1 WITH 1" SQUARE WIRE MESH SCREEN.

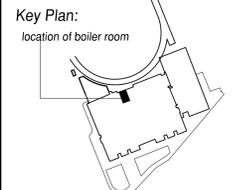
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Revision:  
Date: By: Description:

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**CHELSEA HIGH SCHOOL**  
**299 EVERETT AVE.**  
**CHELSEA, MA**



Scale: N.T.S.

Jacobs Project No.: R7W71628

Drawing Title:

MECHANICAL SCHEMATICS,  
SCHEDULES AND NOTES

Date: February 2015

Designed By: L.W. Drawing No.:

Drawn By: L.W. **M-2**

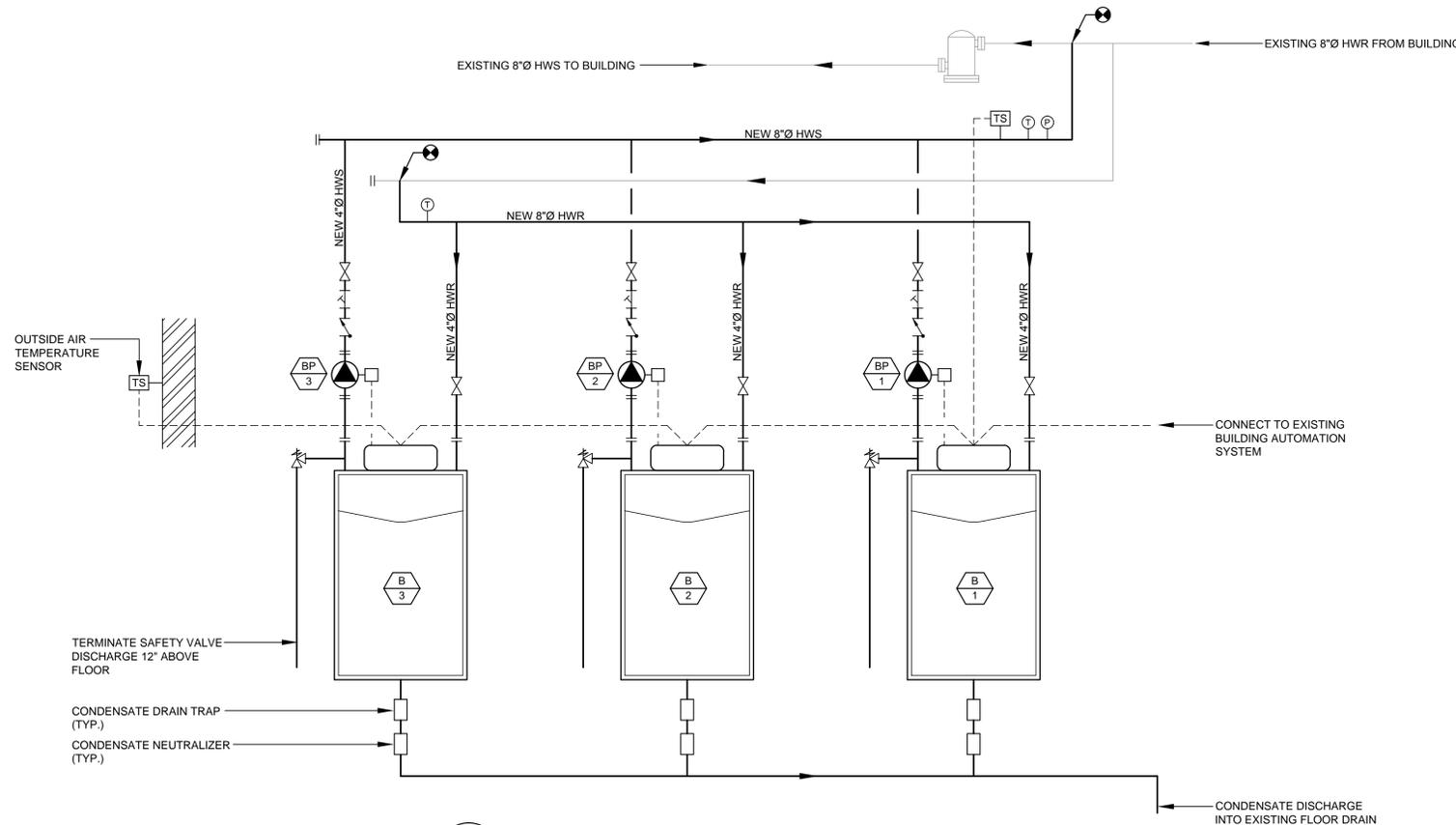
Checked By: C.W.H.

**GENERAL NOTES:**

- ALL WORK IS INDICATED DIAGRAMMATICALLY. EXACT LOCATIONS OF ALL COMPONENTS ARE TO BE DETERMINED ON SITE AND BY THE ACTUAL BUILDING CONDITIONS. EXISTING DUCTS, PIPING OR EQUIPMENT INTERFERING WITH OTHER INSTALLATIONS SHALL BE RELOCATED AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
- MECHANICAL CONTRACTOR SHALL EXAMINE THE SITE TO COMPARE THE CONTRACT DRAWINGS WITH THE SITE CONDITIONS TO DETERMINE THE EXACT SCOPE OF WORK. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. NO ALLOWANCE SHALL BE MADE FOR ANY EXTRA EXPENSE DUE TO FAILURE TO MAKE SUCH EXAMINATION.
- GIVE ALL NOTICES, FILE PLANS, OBTAIN PERMITS AND LICENSES, PAY FEES AND BACK CHARGES, AND OBTAIN NECESSARY APPROVALS FROM AUTHORITIES HAVING JURISDICTION AS REQUIRED TO PERFORM WORK.
- ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES BEFORE INSTALLATION.
- ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE & LOCAL CODES, MANUFACTURER'S APPROVED PUBLISHED LITERATURE, AND AUTHORITIES HAVING JURISDICTION.
- THE MECHANICAL CONTRACTOR SHALL GUARANTEE THE PERFORMANCE OF THE EQUIPMENT, CONTROLS, MATERIAL AND INSTALLATION THEREOF FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK.
- INSTALLATION OF EQUIPMENT SHALL PERMIT ACCESSIBILITY FOR SERVICE AND/OR REPLACEMENT.
- MECHANICAL CONTRACTOR SHALL COORDINATE ALL WALL, CEILING, FLOOR, ROOF, AND BEAM PENETRATIONS WITH ARCHITECT AND STRUCTURAL ENGINEER.
- MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, PATCHING AND DRILLING, AND ALL NECESSARY MISCELLANEOUS STEEL FOR SUPPORT OF MATERIAL AND EQUIPMENT.
- ALL HVAC EQUIPMENT SHALL BE AS SHOWN ON EQUIPMENT SCHEDULES OR APPROVED EQUAL.
- COOPERATE AND COORDINATE WITH OTHER TRADES IN EXECUTING THE WORK, PERFORM WORK SO THAT PROGRESS OF THE ENTIRE PROJECT SHALL NOT BE DELAYED. PROVIDE INFORMATION TO OTHER TRADES, AS REQUESTED AND OBTAIN FINAL ROUGHING DIMENSIONS AS REQUIRED TO COMPLETE THE WORK.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND PRODUCT INFORMATION TO THE ENGINEER. NO WORK SHALL PROCEED WITHOUT WRITTEN APPROVAL ON EACH ITEM SCHEDULED SPECIFIED OR SHOWN ON PLAN.
- THE CONTRACTOR SHALL PROVIDE THREE COPIES OF THE OPERATION AND MAINTENANCE MANUAL AT PRACTICAL COMPLETION. FINAL PAYMENT WILL NOT BE AUTHORIZED UNTIL THESE HAVE BEEN SUBMITTED AND APPROVED.
- THE CONTRACTOR SHALL MAINTAIN AN ACCURATE RECORD OF ALL DEVIATIONS FROM THE DRAWINGS. UPON PROJECT COMPLETION, THE CONTRACTOR SHALL PROVIDE THREE SETS OF RECORD DRAWINGS AND A CD CONTAINING THE DIGITAL COPIES IN THE LATEST RELEASE OF AUTOCAD. THESE SHALL BE SUBMITTED WITHIN THE O&M MANUALS.

**SEQUENCE OF OPERATION:**

- BOILERS:**
  - BOILERS SHALL BE WIRED TOGETHER TO OPERATE BY THEIR INTERNAL CONTROLS IN LEAD/LAG CONFIGURATION. A MAXIMUM OF TWO BOILERS SHALL OPERATE SIMULTANEOUSLY, THE THIRD BOILER IS REDUNDANT.
  - WIRE EACH PUMP TO ITS ASSOCIATED BOILER. WIRE OUTSIDE AIR TEMPERATURE SENSOR AND HOT WATER SUPPLY TEMPERATURE SENSOR TO THE MASTER BOILER.
  - BOILER SYSTEM SHALL BE INITIATED BY THE BUILDING AUTOMATION CONTROL SYSTEM AT OPTIMUM START TIME TO HEAT THE BUILDING JUST IN TIME FOR OCCUPANCY.
  - PROGRAM EXISTING BAS HEAD END CONTROLLER TO CONTROL THE NEW BOILERS.
  - BOILER SEQUENCE CONTROLLER SHALL MODULATE THE SUPPLY WATER TEMPERATURE FROM THE BOILERS WITH RESPECT TO THE OUTSIDE AIR TEMPERATURE.
  - ON A CALL TO START EACH BOILER SHALL START ITS ASSOCIATED PUMP, THE BOILER SHALL FIRE AFTER A TIME DELAY.
  - IF ANY BOILER OR PUMP FAILS TO START AN ALARM SHALL BE GENERATED FROM THE BOILER MASTER CONTROLLER AND SENT TO THE BAS. PROGRAM THESE ALARMS AT THE BAS HEAD END CONTROLLER.
- BOILER ROOM VENTILATION:**
  - VENTILATION SHALL BE CONTROLLED BY A STAND ALONE THERMOSTAT CONTROLLER CONTROLLING THE MAKE UP AIR DAMPER AND EXHAUST FAN.
  - BELOW 75 DEG.F THE MAKE UP AND EXHAUST AIR DAMPERS SHALL BE SHUT AND EXHAUST FAN SHALL BE OFF.
  - IF TEMPERATURE EXCEEDS 75 DEG.F THE MAKE UP AIR DAMPER AND EXHAUST FAN DAMPER SHALL OPEN.
  - IF TEMPERATURE REACHES 80 DEG.F THE EXHAUST FAN SHALL START.
  - ON A DROP IN TEMPERATURE THE REVERSE SEQUENCE SHALL OCCUR.



**1 BOILER INSTALLATION AND CONTROLS SCHEMATIC**  
M-2 N.T.S.

**BOILER (B) SCHEDULE**

REFERENCE	MANUFACTURER	MODEL	INPUT (MBH)	OUTPUT (MBH)	WATER FLOW RATE (GPM)	WORKING PRESS. (P.S.I.G.)	MIN. GAS PRESS. (W.C.)	MAX. GAS PRESS. (W.C.)	SUPPLY WATER TEMP (DEG.F)	RETURN WATER TEMP (DEG.F)	FLUE SIZE (INCHES)	VENT SIZE (INCHES)	GAS CONSUMP. (CFH)	TURNDOWN RATIO	VOLTAGE	FLA	DESCRIPTION	NOTES
B 1	AERCO	BMK-2000	2,000	1,700	113.0	30.0	4"	14"	180.0	150.0	8.0	8.0	1915.0	20:1	120/1/60	16.0	NATURAL GAS CONDENSING BOILER	NOTE 1
B 2	AERCO	BMK-2000	2,000	1,700	113.0	30.0	4"	14"	180.0	150.0	8.0	8.0	1915.0	20:1	120/1/60	16.0	NATURAL GAS CONDENSING BOILER	NOTE 1
B 3	AERCO	BMK-2000	2,000	1,700	113.0	30.0	4"	14"	180.0	150.0	8.0	8.0	1915.0	20:1	120/1/60	16.0	NATURAL GAS CONDENSING BOILER	NOTE 1

**NOTES:**  
1: SUPPLIED AND INSTALLED COMPLETE WITH TRIM, GAS TRAIN WITH MODULATING GAS VALVE, CONDENSATE NEUTRALIZING KIT AND CONTROLLER

**EXHAUST FAN (EF) SCHEDULE**

REF	SERVICE	LOCATION	MANUFACTURER	MODEL	DRIVE	C.F.M.	STATIC (inches)	DISCHARGE VELOCITY	H.P.	VOLTAGE	F.L.A.	M.O.P.	DESCRIPTION	OP WT (lbs)	NOTES
EF 1	BOILER ROOM	INLINE	GREENHECK	SQ-140-VG	DIRECT	2,000	0.4"	-	3/4	208/1/60	6.6	15.0	INLINE CENTRIF.	92.0	NOTE 1
EF 2	WATER HEATERS	ROOF	ENERVEX	RSV-250	DIRECT	600	0.3"	2,222	0.2	115/1/60	2.9	15.0	UP BLAST CENTRIF.	88.0	NOTE 2

**NOTES:**  
1: SUPPLIED AND INSTALLED COMPLETE WITH STARTER, DISCONNECT, MOTORIZED DAMPER, ANTI VIBRATION SPRING HANGERS AND CONTROLLED BY ROOM THERMOSTAT  
2: SUPPLIED AND INSTALLED COMPLETE WITH VARIABLE SPEED MOTOR, DISCONNECT, CHIMNEY ADAPTOR AND CONTROLLED BY EBC30 CONTROLLER IN BOILER ROOM

**LEGEND:**

- GATE VALVE
- CHECK VALVE
- STRAINER
- PRESSURE GAUGE
- TEMPERATURE GAUGE
- PIPE RISE
- PIPE DROP
- HWS HOT WATER SUPPLY
- HWR HOT WATER RETURN
- CONNECT TO EXISTING
- DISCONNECT FROM EXISTING

**BOILER EFFICIENCIES**

E.W.T.	100% FIRE	50% FIRE	7% FIRE
160°F	87%	87%	87%
140°F	88%	88%	88%
120°F	89%	90%	90.5%
100°F	93.7%	95%	95%
80°F	96%	98%	98.6%

BOILERS SHALL MEET THE ABOVE MINIMUM EFFICIENCIES

**PUMP (BP) SCHEDULE**

REF	CIRCUIT	MANUFACTURER	MODEL	FLANGE SIZE (inch)	WATER FLOW RATE (GPM)	HEAD (FT)	R.P.M.	H.P.	WEIGHT (lbs)	VOLTAGE	DESCRIPTION	NOTES
BP 1	BOILER CIRCULATION	TACO	KV3007	3"	113.0	18.0	1,160	1.5	140.0	480/3/60	INLINE CENTRIF.	NOTE 1
BP 2	BOILER CIRCULATION	TACO	KV3007	3"	113.0	18.0	1,160	1.5	140.0	480/3/60	INLINE CENTRIF.	NOTE 1
BP 3	BOILER CIRCULATION	TACO	KV3007	3"	113.0	18.0	1,160	1.5	140.0	480/3/60	INLINE CENTRIF.	NOTE 1

**NOTES:**  
1: PUMPS SHALL BE SUPPLIED AND INSTALLED COMPLETE WITH PREMIUM EFFICIENT MOTOR, STARTERS AND DISCONNECTS

**2 SCHEDULES**  
M-2 N.T.S.

CONSULTANTS

Revision: Date: By: Description:

CLIENT AND/OR PROJECT INFO.

CHELSEA HIGH SCHOOL 299 EVERETT AVE. CHELSEA, MA

Key Plan:

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ELECTRICAL SYMBOLS, ABBREVIATIONS AND SCHEDULE

Date: January 2015 Designed By: E.L. Drawn By: E.L. Checked By: S.J. Drawing No.: E-1

GENERAL NOTES:

- 1. ALL WIRING AND EQUIPMENT SHALL BE UL LISTED & LABELED, NEW AND INSTALLED IN CONFORMANCE WITH THE MASSACHUSETTS STATE BUILDING, ELECTRICAL CODES AND NFPA 72.
2. PATCHING AND MAINTAINING FIRE RATINGS ARE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3. NEW INSTALLED CONDUITS IN OUTDOOR LOCATIONS SHALL BE RIGID GALVANIZED STEEL NOT ALL CONDUITS AND JUNCTION BOXES ARE SHOWN. COORDINATE ROUTING OF CONDUITS AND THE INSTALLATION OF JUNCTION BOXES IN THE FIELD.
4. ELECTRICAL CONTRACTOR TO CORE DRILL FOR CONDUITS ENTERING AND LEAVING THE FACILITY. ALL PENETRATIONS SHALL BE FIRE SEALED WITH HLTI FIRE SEAL OR OWNER APPROVED SEAL TO MAINTAIN THE FACILITY EXISTING FIRE RATING. NOTIFY THE OWNER OF PROPOSED CORE DRILL LOCATIONS PRIOR TO DRILLING.
5. UNLESS OTHERWISE INDICATED, ALL WIRING SHALL BE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. CONDUIT SHALL BE 3/4" MINIMUM.
6. THE DRAWINGS ARE SCHEMATIC AND ARE NOT INTENDED TO SHOW ALL EXISTING INTERIOR WALLS OR EVERY PROPOSED OFFSET OR FITTING. THE DRAWINGS ARE NOT INTENDED TO SERVE AS SHOP DRAWINGS.
7. ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF LUMINAIRES WITH OTHER TRADES.
8. ELECTRICAL CONTRACTOR SHALL PICK UP ALL LOOSE MATERIALS AND TRASH EVERY NIGHT.
9. ELECTRICAL CONTRACTOR TO FURNISH A COPY OF THE ELECTRICAL PERMIT APPLICATION AND COMPLETED PERMIT TO THE OWNER.
10. ELECTRICAL CONTRACTOR SHALL IMMEDIATELY CHECK ALL DRAWINGS FURNISHED UPON THEIR RECEIPT AND SHALL PROMPTLY NOTIFY THE AUTHORITY OF ANY DISCREPANCIES.
11. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ALL MEASUREMENTS BEFORE LAYING OUT THE WORK AND SHALL BE RESPONSIBLE FOR ANY ERRORS WHICH MIGHT HAVE BEEN AVOIDED THEREBY.
12. PROVIDE EACH 120V, 20A BRANCH CIRCUIT FROM LIGHTING AND APPLIANCE PANELBOARDS WITH A SEPARATE NEUTRAL FOR EACH PHASE CONDUCTOR. NO SHARED NEUTRALS ARE PERMITTED UNLESS OTHERWISE INDICATED. BRANCH CIRCUIT HOME RUN WIRINGS MAY BE COMBINED UP TO MAXIMUM OF (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT SIZED PER NFPA 70. NEUTRALS SHALL BE INCLUDED AS CURRENT CARRYING CONDUCTORS.
13. PROVIDE NO 12 AWG PHASE, NEUTRAL AND GROUND CONDUCTOR FOR 120VOLT, 20 AMPERE BRANCH CIRCUITS NOT EXCEEDING 100 FEET. PROVIDE 10 AWG PHASE, NEUTRAL, AND GROUND CONDUCTORS FOR 120 VOLT, 20 AMPERE BRANCH CIRCUITS EXCEEDING 100 FEET AND FOR 277 VOLT, 20 AMPERE CIRCUITS EXCEEDING 200 FEET.
14. PANEL LOAD AMPS INDICATE PROJECT LOADS ONLY. ELECTRICAL CONTRACTOR TO METER ASSOCIATED EXISTING PANEL POWER DEMAND OVER A 15 MINUTE PERIOD FOR 30 CONTINUOUS DAYS DURING OCCUPIED BUILDING OPERATION THAT ADDED LOAD DOES NOT EXCEED 80% OF MAIN/FEEDER CIRCUIT BREAKER RATING PRIOR CONNECTING TO NEW LOAD.
15. FIXTURE DESIGNATED AS EMERGENCY LIFE SAFETY SHALL BE CONNECTED TO THE EXISTING EMERGENCY LIFE SAFETY CIRCUIT.
16. VERIFY EXACT MOUNTING CONDITIONS AND PROVIDE APPROPRIATE ACCESSORIES AND HARDWARE TO ACCOMMODATE REQUIREMENTS.
17. PROVIDE INFILL CEILING SYSTEM TO MATCH EXISTING IN AREAS WHERE EXISTING LUMINAIRES ARE REMOVED AND NOT REPLACED WITH NEW LUMINAIRES.
18. CIRCUIT BREAKER TO BE REUSED SHALL BE TEST PER NETA STANDARD INCLUDING CURRENT INJECTION TEST AND REINSTALLED.

GENERAL DEMOLITION NOTES:

- 1. REFER TO SPECIFICATIONS FOR ADDITIONAL DEMOLITION REQUIREMENTS.
2. GENERAL DEMOLITION WORK SHALL BE DONE BY THE ELECTRICAL CONTRACTOR UNLESS OTHERWISE INDICATED. COORDINATE ALL WORK CONCERNING EXISTING EQUIPMENT AND SERVICES REMAINING IN THE BUILDING. DE-ENERGIZE CIRCUITS AND RECONNECT CIRCUITS TO REMAIN THAT ARE DISRUPTED DURING DEMOLITION.
3. VISIT SITE AND FIELD VERIFY THE NUMBER OF DEVICES WITHIN THE CONSTRUCTION PHASE AREA PRIOR TO THE BID AND REMOVAL. THE DRAWINGS DO NOT LIMIT THE AMOUNT OF DEMOLITION WORK REQUIRED. ELECTRICAL CONTRACTOR MUST PERFORM THE DEMOLITION WORK AS INDICATED ON THE DEMOLITION DRAWINGS AND AS REQUIRED FOR THE NEW WORK.
4. MAINTAIN AND RESTORE, IF INTERRUPTED BY REMOVALS OR IN PATH OF NEW CONSTRUCTION, ALL CIRCUITS, CONDUITS AND FEEDERS PASSING THROUGH AND SERVING UNDISTURBED AREAS (SHOWN OR NOT SHOWN). VERIFY CIRCUITS, DEVICES, AND EQUIPMENT SCHEDULED FOR REMOVAL TO ASSURE THAT THEIR REMOVAL WILL NOT ADVERSELY AFFECT ADJACENT AREAS NOT BEING RENOVATED.
5. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE INTEGRITY AND CONDITION OF THE EXISTING BRANCH CIRCUIT WIRING WHICH IS TO BE RE-USED FOR NEW EQUIPMENT. WIRING FOUND TO BE NON-FUNCTIONAL SHALL BE REPLACED.
6. WHERE EXISTING EQUIPMENT IS TO BE RELOCATED, THE EXISTING WIRING SHALL BE EXTENDED TO THE NEW LOCATION OR REMOVED BACK TO PANELBOARD AND NEW WIRING INSTALLED AS INDICATED.
7. COORDINATE WORK CONCERNING EXISTING EQUIPMENT AND SERVICES IN THE BUILDING. COORDINATE REQUIRED POWER INTERRUPTIONS AND PERFORM AT TIME CONVENIENT TO THE OWNER. INCLUDE COSTS FOR REQUIRED PREMIUM TIME.
8. WIRING INDICATED TO BE RE-USED OR SERVING EQUIPMENT TO BE REPLACED AND RELOCATED SHALL BE REMOVED TO THE NEXT JUNCTION BOX UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL NOT ABANDON BRANCH CIRCUIT WIRING IN EXISTING WALLS AND CEILINGS. CONDUIT UNDERGROUND OR IN CONCRETE SLABS SHALL BE MADE FLUSH AND SEALED WATERTIGHT AND GASTIGHT USING O.Z. GEDNEY OR EQUAL FITTINGS.
9. DISCONNECT, MAKE SAFE AND REMOVE ALL TEMPORARY AND ABANDONED WIRE WITHIN THE SPACE.
10. INVENTORY ELECTRICAL ITEMS THAT ARE REMOVED AND PROVIDE A LIST TO THE OWNER FOR THEIR SELECTION OF ITEMS TO BE RETAINED. ALL ITEMS REJECTED BY THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
ELECTRICAL CONTRACTOR SHALL COORDINATE THE SEQUENCE OF POWER INTERRUPTIONS TO THE ELECTRICAL SYSTEM WITH THE OWNER. DO NOT INTERRUPT EXISTING SERVICES WITHOUT APPROVAL. CARRY A PRICE FOR INTERRUPTIONS TO OCCUR DURING NON PEAK HOURS SUCH AS WEEKEND OR A TIME THAT WILL HAVE MINIMAL IMPACT TO THE BUILDING OPERATION.

ABBREVIATIONS

Table with 2 columns: Abbreviation and Description. Includes terms like AMP, AC, AF, AFF, AFU, AHU, AIC, AS, AM, AT, ATS, AUX, AV, AWG, BAS, BKR, BLDG, BP, BSC, C, C/CDT, CATV, CB, CCTV, CKT, CLG, CO, COAX, COL, COMM, CP, CPT, CPU, CR, CRT, CS, CU, CUH, CT, D, DDC, DEMO, DIA, DN, DISC, DIST, DWG, E, EF, EFC, EL, ELECT, ELEV, EMT, EO, EOL, EPO, EQ, EQUIP, ER, EWC, EX, F, FFC, FCU, FDDI, FH, FIP, FIXT, FLA, FLR, FL, FLUOR, FO, FPB, FU, FUT, FVR, FVNR, G, GA, GEN, GF, GFI, GND, GRD, GPS, GRC, HH, HID, HOA, HP, HT, HWP, HV, HZ, I/INST, ICM, ICR, IG, IMC, INSTR, JB, JBOX, K, KA, KCM, KEF, KW, KWH, KV, KVA, KVAR, L, LA, LAB, LAN, LT, LTG, LP.

ABBREVIATIONS

Table with 2 columns: Abbreviation and Description. Includes terms like M, mm, mm2, MAX, MCB, MCC, MCCB, MDF, MECH, MFR, MH, MI, MIN, MIC, MIN, MLO, MPS, MTD, MTG, MTS, MV, N, NEC, NC, NIC, NORM, NTS, NWP, OCB, OL, ON-CENTER, OS, PA, PB, PBX, PC, PDU, PF, PFCC, PH, PNL, PP, PR, PRI, PT, PVC, PWR, QTY, RE, REC, RECP, REMOTE, REQ, REQ, RF, RIM, RM, RO, RP, RVAT, RTD, RUY, SCA, SD, SEC, SF, SFB, SPEC, SPKR, SS, ST, STD, STP, STS, SW, SWBD, SWGR, SYM, SYS, T, TB, TELECOM, TDR, TEF, TEL, TELE, TR, TVSS, TYP, UC, UH, UL, UNO, UON, UPS, UTP, V, VA, VAV, VFD, VM, VS, W, WCR, WM, WP, WT, XFMR, XPN, ZI, AY, 2S2W, 2SR2W.

RECEPTACLE SYMBOLS

Table with 2 columns: Symbol and Description. Includes symbols for typical receptacle circuit designation, duplex receptacle, single receptacle, clock hanger, double duplex, isolated ground duplex, and raised floor power outlet.

RECEPTACLE NOTES: 1. "L" NEXT TO RECEPTACLE INDICATES LOCKING TYPE (E.G. NEMA L6-30R)

ELECTRICAL SYMBOLS

Table with 2 columns: Symbol and Description. Includes symbols for junction box, panelboard, drawout circuit breaker, drawout fuses, circuit breaker, motor connection, disconnect switch, fused disconnect switch, combination magnetic motor starter, enclosed circuit breaker, variable frequency drive, equipment identification tags, wire/conduit exposed, wire/conduit concealed, and home run indication.

LIGHTING SYMBOLS

Table with 2 columns: Symbol and Description. Includes symbols for typical luminaire designations, fluorescent luminaire, ceiling or wall mounted luminaire, industrial type fluorescent luminaire, pendant mounted luminaire, luminaire for night light operation, luminaire, pole mounted, industrial type fluorescent luminaire powered by emergency source, wall mounted exit sign, ceiling mtd. exit sign, emergency battery unit luminaire, control coil, and photo cell.

SWITCH SYMBOLS

Table with 2 columns: Symbol and Description. Includes symbols for single pole switch, three-way switch, four-way switch, dimmer control, single pole switch with pilot light, single pole switch (key-operated), low voltage switch, and occupancy sensor wall switch.

DEMOLITION SYMBOLS

Table with 2 columns: Symbol and Description. Includes symbols for existing luminaire to be removed, existing to remain, remove existing, existing to be relocated, new location of relocated item, existing items to remain inside this area, remove existing items inside this area, existing items to be relocated inside this area, and relocation of existing items inside this area.

COPPER WIRE AND CONDUIT SCHEDULE

Table with 2 columns: (2) WIRE and (3) WIRE. Lists wire and conduit specifications for various sizes and types.

**ELECTRICAL SPECIFICATIONS**

**DIVISION 26 - ELECTRICAL**

**SECTION 260010 - ELECTRICAL GENERAL REQUIREMENTS**

- A. PROVIDE WORK AS INDICATED ON CONTRACT DOCUMENTS. PROVIDE COMPLETE AND WORKING ELECTRICAL EQUIPMENT, SYSTEMS AND COMPONENTS INCLUDING SUPPORTING SERVICES OF GENERAL, MECHANICAL AND SPECIALTY TRADES.
- B. UNLESS DIMENSIONED, WORK INDICATED ON DRAWINGS IS DIAGRAMMATIC ONLY TO INDICATE GENERAL ARRANGEMENT.
- C. PROVIDE ACCESSORIES AND APPURTENANCES REQUIRED FOR COMPLETE OPERATING SYSTEMS. INSTALLATION SHALL BE IN ACCORDANCE WITH NECA 1-STANDARD PRACTICES FOR GOOD WORKMANSHIP IN ELECTRICAL CONTRACTING.
- D. GENERAL REQUIREMENTS IN DIVISION 1 APPLIES TO OR AFFECTS ELECTRICAL WORK. REFER TO DIVISION 23 FOR MECHANICAL ITEMS WHICH IMPACT ELECTRICAL: DIVISION 26 WORK.
- E. ALL WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE CODES, REGULATIONS AND STANDARDS. COORDINATE WORK WITH ALL OTHER TRADES AND THE DESIGN PROFESSIONAL. ANY DISCREPANCIES BETWEEN THE FIELD CONDITIONS AND/OR BETWEEN DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING WITH THE WORK.

**SECTION 260505 - DEMOLITION, RELOCATION AND ALTERATION**

- A. PROVIDE REMOVAL, RELOCATION, REROUTING AND RECONNECTION OF EXISTING ELECTRICAL SYSTEMS, AS REQUIRED, TO ACCOMPLISH ALTERATION, RESTORATION AND NEW WORK. PROVIDE ALL TEMPORARY EQUIPMENT AND WORK TO KEEP ALL EXISTING SYSTEMS IN OPERATION. COORDINATE WORK WITH OWNER. MINIMIZE INTERRUPTIONS OF SERVICES AND COORDINATE INTERRUPTIONS WITH OWNER.
- B. VERIFY BY INTERNATIONAL ELECTRICAL TESTING ASSOCIATION (NETA) STANDARDS THAT ALL EQUIPMENT INDICATED OR PROPOSED FOR REUSE IS IN WORKING ORDER. OWNER'S REPRESENTATIVE WILL REVIEW TEST RESULTS AND ACCEPT OR REJECT REUSE OF EQUIPMENT.
- C. DELIVER MATERIAL AND EQUIPMENT INDICATED FOR SALVAGE TO LOCATION DIRECTED BY THE OWNER'S REPRESENTATIVE. ALL OTHER DEMOLITION MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROMPTLY REMOVED FROM THE SITE.
- D. CAP AND SEAL ELECTRICAL OPENINGS THAT ARE NOT USED.
- E. EXISTING CONDITIONS WERE OBTAINED FROM AVAILABLE DRAWINGS AND ARE NOT GUARANTEED TO BE COMPLETE OR CORRECT. SURVEY AND VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID AND STARTING WORK.

**SECTION 260553 - IDENTIFICATION**

- A. IDENTIFY EACH STARTER, PANELBOARD, SAFETY SWITCH, CONTROL PANEL WITH A NAMEPLATE. EQUIPMENT NAMEPLATE SHALL BE ENGRAVED LAMINATED BLACK-ON-WHITE PHENOLIC WITH 3/16 INCH HIGH LETTERS AND SCREWED TO EQUIPMENT.
- B. NAMEPLATES SHALL BE TWO LINE AND INDICATE EQUIPMENT BEING SERVED AS WELL AS POWER SOURCE. FOR EXAMPLE:
  1. AHU-26-10 VFD
  2. FROM PANEL MDP-27-102.

**SECTION 260900 - SUBMITTALS**

- A. PROVIDE SHOP DRAWINGS AND SUBMITTALS FOR THE REQUIRED EQUIPMENT. SUBMITTALS SHALL INCLUDE DRAWINGS, PERFORMANCE DATA AND CATALOG CUTS TO DEMONSTRATE CONFORMANCE WITH REQUIREMENTS.
  1. PANELBOARDS AND/OR CIRCUIT BREAKERS
  2. CONDUIT, JUNCTION BOX, PULL BOX, WIRES, AND CABLE
  3. OUTLET, POKE THROUGH, WIRING DEVICES
  4. LIGHTING FIXTURES, DIMMER SWITCH
  5. FIRE ALARM WIRING DIAGRAMS, DEVICES
- B. EACH SHOP DRAWING SHALL BE SUBMITTED SEPARATELY UNDER THE APPLICABLE SPECIFICATION SECTION NUMBER.

**SECTION 260011 - CONNECTIONS TO EQUIPMENT AND MOTORS**

- A. PROVIDE CONDUIT AND WIRING, AND MAKE FINAL CONNECTIONS TO EQUIPMENT FURNISHED UNDER OTHER DIVISIONS OF SPECIFICATIONS, WORK OF OTHER SECTIONS OR BY OWNER.
- B. PROVIDE MAXIMUM 3 FOOT LONG LIQUID-TIGHT FLEXIBLE METAL CONDUIT CONNECTION FROM JUNCTION BOX TO MOTOR-MOUNTED TERMINAL BOX. PROVIDE GROUNDING CONDUCTOR AND ALL LUGS AND CONNECTORS.

**SECTION 260535 - LOCATION AND HEIGHTS OF OUTLETS**

- A. COORDINATE FINAL OUTLET LOCATIONS WITH ARCHITECTURAL DRAWINGS AND DETAILS. DO NOT SCALE ELECTRICAL DRAWINGS. HEIGHTS OF OUTLETS SHALL BE APPROVED BY DESIGN PROFESSIONAL AND SHALL MEET ADA REQUIREMENTS.]

**SECTION 260010 - ELECTRICAL MATERIALS**

- A. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BEAR THE LABEL OF UNDERWRITERS LABORATORIES, INC. (UL) OR OTHER NATIONALLY RECOGNIZED TESTING LABORATORY. ALL ELECTRICAL EQUIPMENT AND APPARATUS FOR ANY ONE (1) SYSTEM SHALL BE THE PRODUCT OF ONE (1) MANUFACTURER.

**SECTION 260533 - CONDUIT**

- A. CONCEAL CONDUIT AND CABLE FROM VIEW, UNLESS OTHERWISE INDICATED. MECHANICAL AND ELECTRICAL/TELECOMMUNICATION ROOMS MAY BE PROVIDED WITH EXPOSED CONDUIT.
- B. PROVIDE CONDUIT RACEWAY SYSTEM, INCLUDING CONDUITS, FITTINGS, COUPLINGS, CONNECTORS, SUPPORTS BUSHINGS AND APPURTENANCES. MINIMUM CONDUIT SIZE SHALL BE 3/4 INCHES IN DIAMETER.

- C. ALL FEEDER CONDUCTORS SHALL BE RUN IN ELECTRICAL METALLIC TUBING (EMT) WITH COMPRESSION FITTINGS.
- D. PANEL FEEDERS AND 480 VOLT MOTOR CIRCUITS SHALL BE RUN IN HEAVY-WALL RIGID ALUMINUM OR HOT-DIPPED, GALVANIZED, HEAVY-WALL RIGID STEEL CONDUIT. ALL CONDUCTORS FOR CIRCUITS 120 VOLTS AND ABOVE IN MECHANICAL AREAS AND OUTSIDE SHALL BE RUN IN HEAVY-WALL RIGID ALUMINUM OR HOT-DIPPED, GALVANIZED, HEAVY-WALL RIGID STEEL CONDUIT.
- E. PROVIDE ELECTRICAL METALLIC TUBING (EMT) FOR BRANCH CIRCUITS, FIRE ALARM, SECURITY, AV, WIRING ABOVE HUNG CEILING AND IN NON-MASONRY PARTITIONS WHICH ARE NOT CLASSIFIED AS DAMP OR WET. PROVIDE COMPRESSION-TYPE FITTINGS AND INSULATED COPPER GROUND WIRE IN BRANCH CIRCUITS.
- F. FLEXIBLE METAL CONDUIT, HEAVY ZINC-COATED, SHALL BE USED FOR FINAL CONNECTIONS TO MOTORS, VIBRATING EQUIPMENT AND LIGHT FIXTURES. LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE USED FOR FINAL CONNECTIONS TO MOTORS.
- G. PROVIDE EXPANSION COUPLINGS ACROSS ALL BUILDING EXPANSION JOINTS. A MAXIMUM OF (3) 90 DEGREE BENDS SHALL BE PERMITTED BETWEEN PULL BOXES.
- H. THE USE OF MC (METALIC-CLAD) CABLE GREEN INSULATED GROUNDING CONDUCTOR SHALL BE PERMITTED FOR BRANCH CIRCUITS.
- I. ALL FIRE ALARM WIRING SHALL BE RUN IN EMT.
- J. CONDUITS SHALL BE AS MANUFACTURED BY ALLIED, REPUBLIC, TRIANGLE OR WHEATLAND. METAL CONDUIT FITTINGS SHALL BE AS MANUFACTURED BY GROUSE-HINDS, APPLETON, KILLARK, THOMAS AND BETTS, O.Z. GEDNEY OR STEEL CITY. METAL CONDUIT EXPANSION FITTINGS SHALL BE TYPE EX OR TX AS MANUFACTURED BY O.Z. GEDNEY.
- K. RUN ALL CONDUITS AND MC CABLES CONCEALED AND MINIMUM 6 INCHES CLEAR OF SOURCES OF HEAT AND 12 INCHES BETWEEN POWER CONDUITS AND COMMUNICATIONS CABLES. SUPPORT CONDUITS FROM STRUCTURE. NOT FROM CEILING SUPPORT WIRES. PROVIDE UL LISTED FIRE-RATED SMOKE AND WATER SEALANTS AT PENETRATIONS, OPENINGS AND SLEEVES IN FIRE-RATED AND ELECTRICAL/ COMMUNICATION ROOM WALLS AND FLOORS.
- L. PROVIDE PULL WIRES IN ALL EMPTY CONDUIT/RACEWAY INSTALLED FOR SECURITY, TELEPHONE, DATA, AV, OR OTHER SYSTEMS.
- M. CONDUIT INSTALLATION SHALL BE IN ACCORDANCE WITH NECA 101- STANDARD FOR INSTALLING STEEL CONDUITS.

**SECTION 260513 - WIRES AND CABLES**

- A. PROVIDE COMPLETE SYSTEM OF WIRES AND CABLES, INCLUDING TERMINALS, SPLICES, CONNECTORS, COLOR CODING, LUGS, TAPS AND APPURTENANCES.
- B. WIRES AND CABLES TO BE MINIMUM NO. 12 AWG COPPER WITH 600-VOLT THHN/THWN INSULATION. WIRES 10 AWG AND SMALLER SHALL BE SOLID AND WIRES LARGER THAN NO. 10 AWG SHALL BE STRANDED. PROVIDE COLOR CODING FOR EACH WIRE OF POWER SYSTEM. FEEDERS, POWER AND LIGHTING CIRCUIT CONDUCTORS, FOR SERVICE OF 600 VOLTS AND LESS, SHALL BE COPPER, 600 VOLTS TYPE THHN/THHN-2 INSULATED ON WIRES UP TO AND INCLUDING NO. 8 AWG. SIZES, NO. 6 AND LARGER SHALL BE TYPE THW, XHHW OR RHW INSULATION. ALUMINUM WIRE IS NOT ACCEPTABLE. APPROVED MANUFACTURERS ARE ESSEX, AMERICAN INSULATED WIRE CORPORATION, CERRO OR SOUTHWIRE.
- C. ALL BRANCH CIRCUITS SHALL BE PROVIDED WITH AN INSULATED GROUND WIRE. SHARED NEUTRALS ARE NOT PERMITTED. PROVIDE A NEUTRAL WIRE FOR EACH PHASE CONDUCTOR.
- D. USE BUCHANAN "B" CAP, IDEAL WING-NUT, THOMAS AND BETTS OR 3M SCOTCHLOK BRAND CONNECTORS FOR WIRES NO. 10 AWG AND SMALLER.
- E. USE SOLDERLESS COMPRESSION-TYPE LUGS FOR WIRES LARGER THAN NO. 10 AWG. LUGS SHALL BE BURNDY TYPE QA-B QUICKLUG OR EQUAL. FEEDER TAPS SHALL BE BURNDY QPX VERSITAP OR EQUAL.
- F. MC CABLE SHALL BE COPPER, 600 VOLT, THHN/ THWN WITH GALVANIZED STEEL ARMOR WITH A SEPARATE INSULATED GREEN GROUND CONDUCTOR. COLOR-CODE EACH CONDUCTOR. APPROVED MANUFACTURERS ARE KAF-TECH OR AFC, MC CABLE CONNECTORS SHALL BE AFC-50, -75, O.Z. GEDNEY AMC OR T&B 3110.
- G. MC CABLE IS NOT ACCEPTABLE FOR USE IN:
  1. MASONRY PARTITIONS
  2. AREAS CLASSIFIED BY NFPA 70 AS DAMP OR WET
  3. POWER PANEL FEEDER CIRCUITS
  4. EXPOSED INSTALLATIONS WITHIN 10 FEET ABOVE FINISHED FLOOR.
  5. ABOVE DRYWALL OR IN ACCESSIBLE CEILINGS
- H. MC CABLE INSTALLATION:
  1. DO NOT BUNDLE MORE THAN TWENTY (20) TOTAL CURRENT-CARRYING CONDUCTORS IN MULTIPLE MC CABLE RUNS ON ONE (1) MC CABLE HANGER. NEUTRALS ARE COUNTED AS CURRENT-CARRYING CONDUCTORS.
  2. INSTALL MC CABLE PARALLEL OR PERPENDICULAR TO WALLS. DIAGONAL RUNS ARE NOT ACCEPTABLE.
  3. MAINTAIN MINIMUM CLEARANCE OF 6 INCHES FROM TELECOMMUNICATIONS CONDUITS, HOT WATER AND OTHER HIGH TEMPERATURE PIPES, AND MINIMUM CLEARANCE OF 12 INCHES FROM UNSHIELDED TWISTED-PAIR TELECOMMUNICATION CABLES.

- 4. MC CABLE LAYOUT AND SUPPORT ARE SUBJECT TO APPROVAL OF DESIGN PROFESSIONAL. SUPPORT MC CABLE WITH "BRIDAL RINGS", INDIVIDUAL SPRING STEEL SUPPORT CLIPS, STEEL TRAPEZE HANGERS, THREADED RODS OR DEDICATED NO. 8 AWG DROP WIRES. FASTEN MC CABLE SUPPORTS TO CONCRETE SLABS, BEAMS, JOISTS OR OTHER STRUCTURAL MEMBERS OF THE BUILDING. DO NOT SUPPORT MC CABLE ON HUNG CEILINGS OR ON CEILING SUPPORT WIRES. DO NOT SUPPORT MC CABLE BY MEANS OF CABLE TIES.
- 5. MC CABLE SUPPORT: MAXIMUM SPACING BETWEEN SUPPORTS IS 6 FEET AND WITHIN 1 FOOT OF EVERY BOX, PANELBOARD, FITTING OR CABLE TERMINATION.
- 6. PROVIDE UL LISTED, FIRE-RATED PENETRATION ASSEMBLY WHERE MC CABLE PASSES THROUGH FIRE-RATED WALLS, ELECTRICAL ROOM, AND TELECOMMUNICATION ROOM WALLS; FLOOR OR CEILING

**SECTION 260534 - JUNCTION AND PULL BOXES**

- A. PROVIDE JUNCTION AND PULL BOXES OF SIZED PER CODE, INCLUDING COVERS, TRIM, SUPPORTS, IDENTIFICATION TAGS AND APPURTENANCES, AND CONSTRUCTED OF CODE-GAUGE GALVANIZED STEEL. BOXES MOUNTED IN CONCRETE FLOORS SHALL BE CONCRETE-TIGHT, ADJUSTABLE AND UL LISTED FOR SCRUB WATER EXCLUSION AND WITH TRIM TO MATCH FLOOROR CONCRETE FINISH.
- B. PROVIDE A MAXIMUM OF (3) 90 DEGREE CONDUIT BENDS OR 100 FEET OF RUN LENGTH BETWEEN PULL POINTS FOR POWER CONDUITS AND (2) 90 DEGREE BENDS OR 100 FEET OF RUN LENGTH FOR COMMUNICATIONS, FA, SECURITY, AV, AND INSTRUMENTATION CONDUITS. LOCATE PULL BOXES IN STRAIGHT SECTIONS OF CONDUIT RUN AND DO NOT USE IN LIEU OF CONDUIT ELBOWS. PULL BOXES SHALL BE ACCESSIBLE.

**SECTION 260535 - OUTLET BOXES**

- A. PROVIDE ONE PIECE, PRESSED GALVANIZED STEEL 2-1/8TH INCH DEEP OUTLET BOXES WITH KNOCKOUTS. CONCEALED OUTLET BOXES SHALL BE FLUSHED TO FINISHED SURFACE. EXPOSED OUTLET BOXES (EXCEPT IN MECHANICAL/ELECTRICAL/TELECOM ROOMS) SHALL BE CAST IRON WITH GASKETED COVER AND FITTINGS. OUTLETS ON OPPOSITE SIDE OF WALLS OR PARTITIONS SHALL BE STAGGERED. PROVIDED COVER TO SUIT USE.

**SECTION 262726 - WIRING DEVICES, OUTLETS AND PLATES**

- A. PROVIDE WIRING DEVICES, OUTLETS AND PLATES, INCLUDING RECEPTACLES, SWITCHES, PILOT LIGHTS, WIRING, BUSHED OPENINGS AND APPURTENANCES.
- B. ALL DEVICES SHALL BE INDUSTRIAL EXTRA HEAVY-DUTY, SPECIFICATION GRADE, MOLDED NYLON, 20 AMPERE WITH SCREW-TYPE BACK WIRED TERMINALS OR EXTRA HEAVY-DUTY PLUG-TAIL/SNAP-CONNECT DEVICES WITH 6 INCH RIGHT ANGLE PRE-STRIPPED #12 SOLID PIGTAIL AS MANUFACTURED BY ARROW-HART, BRYANT, HUBBELL, PASS & SEYMOUR (P&S) OR LEVITON. PROVIDE 5% SPARE PIGTAIL DEVICES IF USED. DEVICES IN WET OR DAMP LOCATIONS SHALL BE UL 498 WEATHER RESISTANT TYPE. REMOVAL OF DEVICE FROM BOX SHALL NOT INTERRUPT BRANCH CIRCUIT GROUND CONDUCTOR CONTINUITY.
- C. IDENTIFY ALL RECEPTACLES AND LIGHT SWITCHES BY MEANS OF A WATERPROOF, PRINTED NON-GLARE VINYL LABELING TAPE INDICATING PANEL AND CIRCUIT DESIGNATION. TAPE SHALL BE CLEAR OR TRANSLUCENT WITH BLACK TEXT.
- D. COVER PLATES SHALL MATCH EXISTING COLOR AS MANUFACTURED BY ARROW-HART OR EQUAL BY BRYANT, HUBBELL, PASS & SEYMOUR (P&S) OR LEVITON.
- E. ALL RECEPTACLES AND SWITCHES SHALL MATCH EXISTING COLOR, UNLESS OTHERWISE INDICATED.

**SECTION 262415 - PANELBOARDS AND CIRCUIT BREAKERS**

- A. PROVIDE PANELBOARDS, INCLUDING CABINETS, BUS WORK, PROTECTIVE DEVICES, TRIM, DOOR, NAMEPLATE, WIRING, SUPPORTS AND APPURTENANCES. BUS BARS SHALL BE COPPER.
- B. 120/208-VOLT RECEPTACLE PANELBOARDS SHALL BE DEAD-FRONT, BOLT-ON, CIRCUIT BREAKER TYPE WITH 3-PHASE, 4-WIRE MAINS. PANELBOARDS SHALL BE GENERAL ELECTRIC COMPANY TYPE AO OR EQUAL. CIRCUIT BREAKERS SHALL HAVE MATCHING AMPERES SYMMETRICAL INTERRUPTING CAPACITY (AIC) WITH EXISTING.
- C. 277/480-VOLT LIGHTING PANELBOARDS SHALL BE DEAD-FRONT, BOLT-ON, CIRCUIT BREAKER TYPE WITH 3-PHASE, 4-WIRE MAINS. PANELBOARDS SHALL BE GENERAL ELECTRIC COMPANY AE OR EQUAL. CIRCUIT BREAKERS SHALL HAVE MATCHING AMPERES SYMMETRICAL INTERRUPTING CAPACITY (AIC) WITH EXISTING.
- D. 480-VOLT DISTRIBUTION AND POWER PANELBOARDS SHALL BE DEAD-FRONT, BOLT-ON, CIRCUIT BREAKER TYPE WITH 3-PHASE, 3-WIRE MAINS. PANELBOARDS SHALL BE GENERAL ELECTRIC COMPANY SPECTRA SERIES OR EQUAL. CIRCUIT BREAKERS SHALL HAVE MATCHING AMPERES SYMMETRICAL INTERRUPTING CAPACITY (AIC) WITH EXISTING.
- E. CABINETS SHALL BE GALVANIZED, FLUSH OR SURFACE MOUNTED, AND SHALL BE PROVIDED WITH A FLUSH-TYPE DOOR AND TRIM, EQUIPPED WITH SEMI-CONCEALED HINGES, A FLUSH-TYPE CATCH, AND A LOCK. ALL LOCKS SHALL BE KEYED ALIKE. TRIMS SHALL BE FACTORY FINISHED.
- F. PANELBOARDS SHALL BE AS MANUFACTURED BY GENERAL ELECTRIC COMPANY, SQUARE D COMPANY, CUTLER-HAMMER OR SIEMENS.
- G. PANELBOARD CIRCUIT BREAKERS SHALL BE FULLY RATED FOR AVAILABLE SHORT-CIRCUIT CURRENT.
- H. MAIN CIRCUIT BREAKERS SHALL BE CENTER MOUNTED AT TOP OF PANEL. PROVIDE 200 PERCENT RATED NEUTRAL BUS AND/OR ISOLATED GROUND BUS WHERE INDICATED ON PANEL SCHEDULES.

- I. PROVIDE (3) 1 INCH SPARE CONDUITS FROM EACH FLUSH MOUNTED PANEL TO ABOVE CEILING FOR FUTURE USE.
- J. ALL CIRCUIT BREAKERS SHALL BE FACTORY FURNISHED WITH AN ATTACHMENT TO ENABLE PADLOCKING OF BREAKER IN THE "OFF" POSITION.
- K. PROVIDE PERMANENT NAMEPLATES AND DIRECTORIES FOR ALL PANELBOARDS. REVISE DIRECTORIES ON ALL EXISTING PANELS WHERE ADDITIONS OR REVISIONS ARE MADE.
- L. PROVIDE ADDITIONAL FIREPROOFING MATERIAL BEHIND FLUSH-MOUNTED PANELS IN FIRE-RATED WALLS TO RE-ESTABLISH FIRE RATING OF WALL.
- M. CIRCUIT BREAKERS INSTALLED IN EXISTING PANELBOARDS SHALL MATCH EXISTING MANUFACTURER, TYPE AND AIC RATING.
- N. ENCLOSED CIRCUIT BREAKER ENCLOSURES SHALL BE UL LISTED, NEMA 1 AND SHALL BE PADLOCKABLE IN THE OFF POSITION. ENCLOSED CIRCUIT BREAKERS SHALL MEET THE AMPERES SYMMETRICAL INTERRUPTING CAPACITY INDICATED. ALL CIRCUIT BREAKERS SHALL BE FULLY RATED.

**SECTION 262816 - SAFETY SWITCHES AND FUSES**

- A. PROVIDE SAFETY SWITCHES, FUSES (INCLUDE SPARE FUSES), ENCLOSURES, WIRING, NAMEPLATE, AND APPURTENANCES. DO NOT MOUNT SWITCHES ON MECHANICAL EQUIPMENT.
- B. SAFETY SWITCHES SHALL BE OF THE EXTERNALLY-OPERATED HEAVY-DUTY, FUSED OR UNFUSED (AS SHOWN ON DRAWINGS) TYPE AS MANUFACTURED BY SQUARE D, GENERAL ELECTRIC, CUTLER-HAMMER OR SIEMENS. SWITCHES SHALL HAVE "LOCK-OUT" CAPABILITY AND SHALL HAVE SUITABLE ENCLOSURE. FUSIBLE SWITCHES SHALL HAVE [CLASS J] FUSE CLIPS. PROVIDE CLASS J BUSSMAN LOW-PEAK FUSES OR APPROVED EQUAL.

**CONSULTANTS**

Revision:

Date: By: Description:

**CLIENT AND/OR PROJECT INFO.**

**CHELSEA HIGH SCHOOL**  
**299 EVERETT AVE.**  
**CHELSEA, MA**

Key Plan:

Scale: NOT TO SCALE

Jacobs Project No.: R7W71628

Drawing Title:

**ELECTRICAL SPECIFICATIONS**

Date: January 2015

Designed By: E.L. Drawing No.:

Drawn By: E.L.

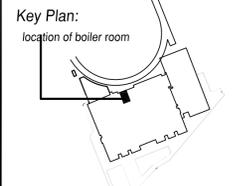
Checked By: S.J. **E-2**

**CONSULTANTS**

Revision:  
Date: By: Description:

**CLIENT AND/OR PROJECT INFO.**

**CHELSEA HIGH SCHOOL**  
**299 EVERETT AVE.**  
**CHELSEA, MA**



Scale: 1/4"=1'-0"

Jacobs Project No.: R7W71628

Drawing Title:

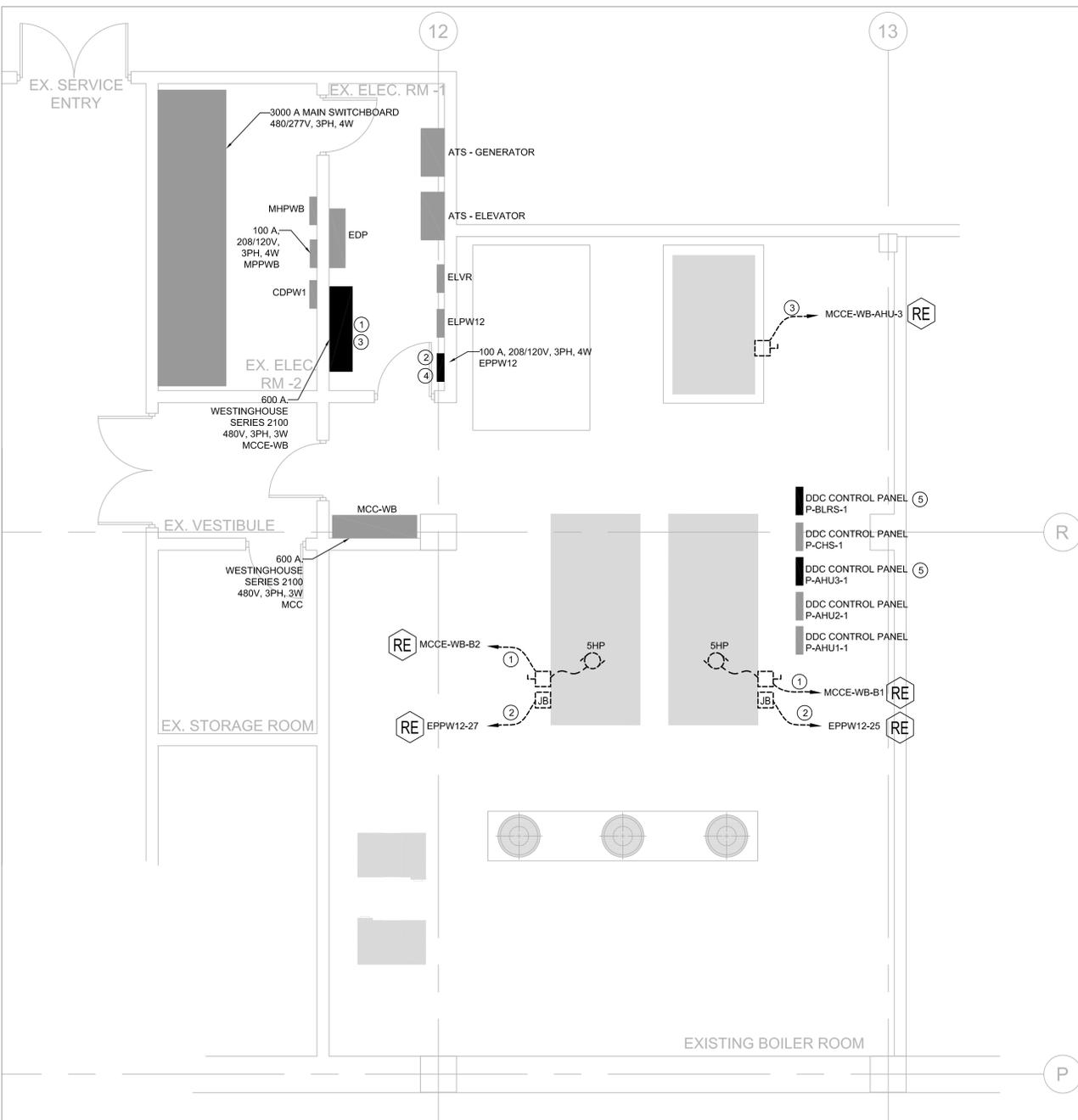
**BOILER ROOM  
ELECTRICAL POWER PLANS**

Date: February 2015

Designed By: E.L. Drawing No.:

Drawn By: E.L.

Checked By: S.J. **E-3**

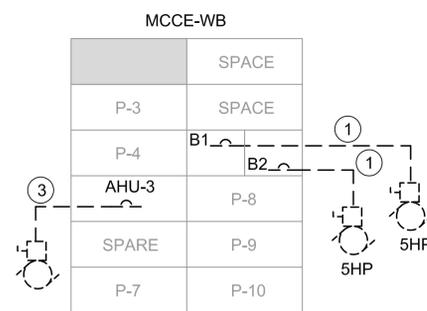


**1 ELECTRICAL DEMOLITION POWER PLAN**

E-3 SCALE: 1/4" = 1'-0"

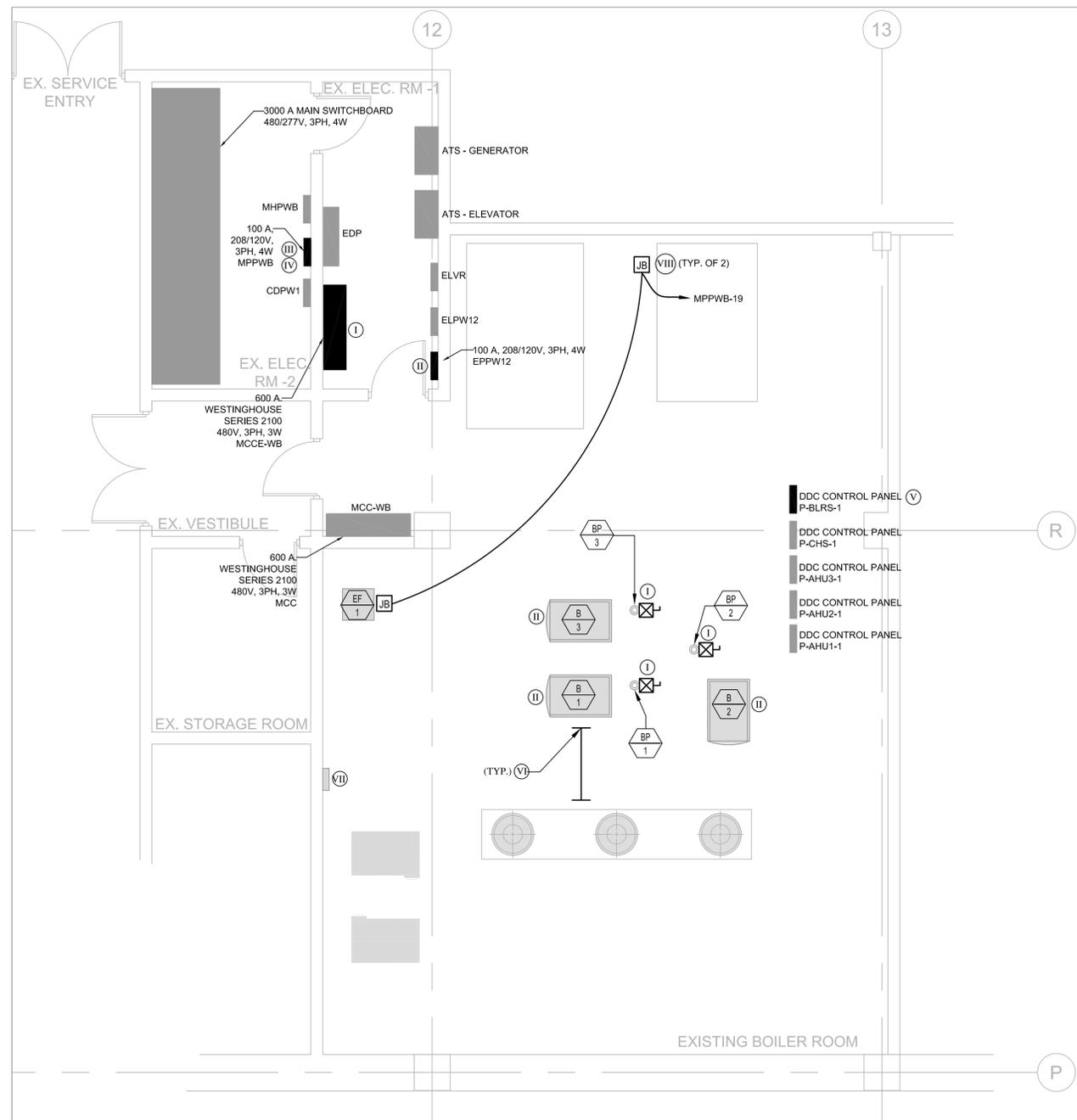
**DEMOLITION KEY NOTES:**

- ① DISCONNECT AND REMOVE FEEDERS SERVING DEMOLISHED BOILER PUMPS AND DISCONNECT SWITCHES IN THEIR ENTIRETY. EXISTING MCC CIRCUIT BREAKERS SERVING DEMOLISHED BOILER PUMPS SHALL BE REMOVED. REFER TO MECHANICAL DRAWING MD-1 FOR OTHER REQUIREMENTS.
- ② DISCONNECT AND REMOVE BRANCH CIRCUITS SERVING DEMOLISHED BOILER CONTROL EQUIPMENT IN THEIR ENTIRETY. EXISTING "EPPW12-25" AND "EPPW12-27" CIRCUIT BREAKERS SERVING DEMOLISHED BOILER CONTROL SHALL BE REMOVED. REFER TO MECHANICAL DRAWING MD-1 FOR OTHER REQUIREMENTS.
- ③ DISCONNECT AND REMOVE FEEDER SERVING DEMOLISHED AHU-3 AND DISCONNECT SWITCH IN THEIR ENTIRETY. EXISTING MCC CIRCUIT BREAKER SERVING DEMOLISHED AHU-3 SHALL BE REMOVED. REFER TO MECHANICAL DRAWING MD-1 FOR OTHER REQUIREMENTS.
- ④ DISCONNECT BRANCH CIRCUIT SERVING ELECTRIC ROOMS OUTLETS (EPPW12-30). EXISTING "EPPW12-30" CIRCUIT BREAKER SHALL BE REMOVED.
- ⑤ EXISTING DDC CONTROL PANELS SERVING DEMOLISHED BOILERS AND AHU-3 SHALL REMAIN. COORDINATE WITH CONTROL CONTRACTOR FOR DEMOLITION WORK REQUIREMENTS.



**3 MCC DEMOLITION ELEVATION**

E-3 SCALE: NOT TO SCALE

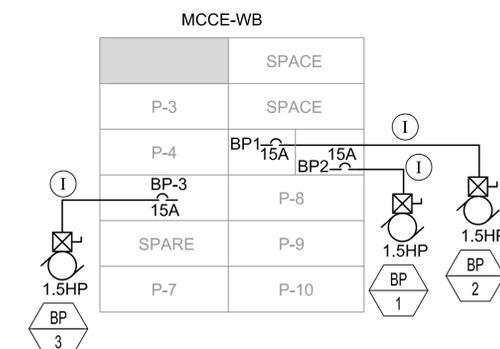


**2 ELECTRICAL NEW POWER PLAN**

E-3 SCALE: 1/4" = 1'-0"

**NEW WORK KEY NOTES:**

- ① PROVIDE NEW FEEDERS, MCC CIRCUIT BREAKERS AND COMBINATION MOTOR STARTERS FOR NEW BOILER PUMPS. REFER TO E-3 AND MECHANICAL DRAWINGS FOR MORE DETAILS.
- ② PROVIDE NEW BRANCH CIRCUITS, CIRCUIT BREAKERS AND CONTROL SWITCHES FOR BOILER CONTROL EQUIPMENT. REFER TO E-3 AND MECHANICAL DRAWINGS FOR MORE DETAILS.
- ③ EXTEND EXISTING BRANCH CIRCUIT SERVING ELECTRIC ROOMS OUTLETS TO "MPPWB-19" AND PROVIDE MATCHING 20A/1P CIRCUIT BREAKER.
- ④ PROVIDE NEW EQUIPMENT BRANCH CIRCUIT, CIRCUIT BREAKER FOR NEW EXHAUST FAN LOCATED AT THE ROOF. REFER TO E-3 FOR ROOF PART PLAN.
- ⑤ COORDINATE WITH CONTROL CONTRACTOR FOR BOILER CONTROL WIRING AT EXISTING DDC CONTROL PANEL.
- ⑥ ADJUST EXISTING CHAIN HUNG LIGHT FIXTURES TO ACCOMMODATE NEW BOILERS REPLACEMENT.
- ⑦ EBC30 PRESSURE CONTROLLER FOR THE EXHAUST FAN LOCATED AT THE ROOF. REFER TO E-3 FOR EXHAUST FAN PART PLAN AND MECHANICAL DRAWINGS FOR MORE DETAILS.
- ⑧ PROVIDE JUNCTION BOX FOR DAMPER CONNECTION. REFER TO MECHANICAL DRAWING FOR CONTROL REQUIREMENTS.



**4 MCC NEW WORK ELEVATION**

E-3 SCALE: NOT TO SCALE

**MECHANICAL EQUIPMENT SCHEDULE**

TAG	EQUIPMENT	LOCATION	QUANTITY	ELECTRICAL CHARACTERISTICS								FEEDER INFORMATION	CONNECTION TYPE							NOTES	SPECIAL REQUIREMENTS	
				FLA	HP	KW	VOLTAGE	PHASE	SOURCE PANEL	CIRCUIT	OCPD		DIRECT CONN	MOL SW	DISC. SW	FUSED DISC. SW	COMB MTR STR.	VFD	FLEX CONN			WP
B-1	BOILER NO.1 CONTROL	BOILER ROOM	1	16			120	1	EPPW12	25	20	2W20		X				X			3,4	
B-2	BOILER NO.2. CONTROL	BOILER ROOM	1	16			120	1	EPPW12	27	20	2W20		X				X			3,4	
B-3	BOILER NO.3 CONTROL	BOILER ROOM	1	16			120	1	EPPW12	30	20	2W20		X				X			3,4	
BP-1	BOILER CIRCULATION PUMP No.1	BOILER ROOM	1		2		480	3	MCCE-WB	BP-1	15	3W20					X				1,2,3,4	
BP-2	BOILER CIRCULATION PUMP No.2	BOILER ROOM	1		2		480	3	MCCE-WB	BP-2	15	3W20					X		X		1,2,3,4	
BP-3	BOILER CIRCULATION PUMP No.3	BOILER ROOM	1		2		480	3	MCCE-WB	BP-3	15	3W20					X		X		1,2,3,4	
EF-1	EXHAUST FAN	BOILER ROOM	1		3/4		208	1	MPPWB	12	15	2W20			X		X		X	X	1,2,3,4	
EF-2	ROOF EXHAUST FAN	ROOF	1		0.2		120	1	MPPWB	17	15	2W20			X			X	X	X	1,2,3,4	"EBC30" CONTROLLER

**NOTES**

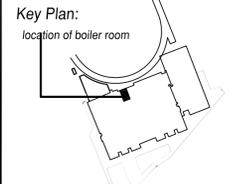
- 1 EC TO MAKE CONNECTION TO MOTOR OR UNIT
- 2 EC TO INSTALL MOTOR STARTER OR VFD FURNISHED BY OTHERS
- 3 EC TO MAKE CONNECTION TO CONTROLS AND POWER OF AUXILIARY EQUIPMENT
- 4 EC TO MAKE CONNECTION TO CONTROL PANEL AS REQUIRED PER MECHANICAL DRAWINGS
- 5 FIELD CONTROL WIRING BY GC

**CONSULTANTS**

Revision:  
Date: By: Description:

**CLIENT AND/OR PROJECT INFO.**

**CHELSEA HIGH SCHOOL**  
**299 EVERETT AVE.**  
**CHELSEA, MA**

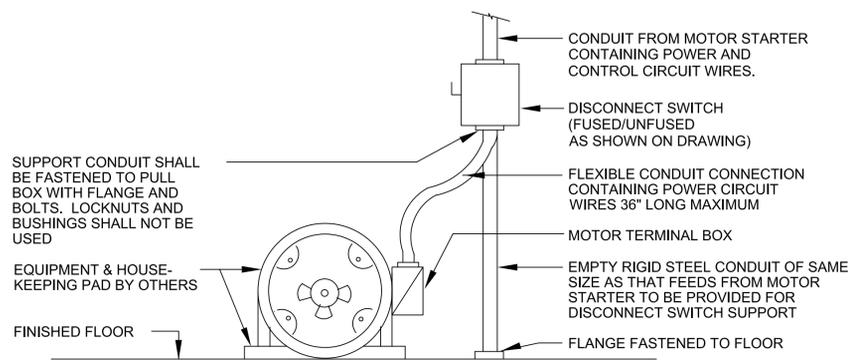


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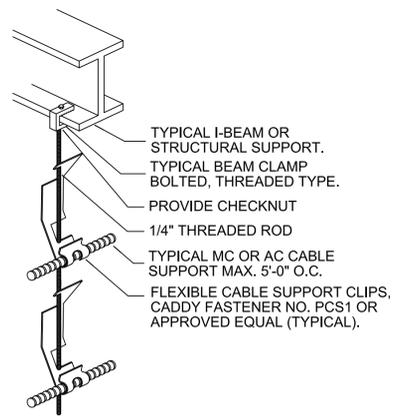
Jacobs Project No.: R7W71628

Drawing Title:  
**ELECTRICAL SCHEDULE, DETAILS AND PART PLAN**

Date: February 2015  
Designed By: E.L.  
Drawn By: E.L.  
Checked By: S.J. **E-4**

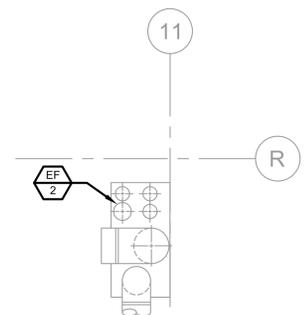


**1 MOTOR MOUNTING DETAIL**  
E-4 SCALE: NOT TO SCALE



- NOTE:**
1. SUPPORTING CABLE IS ACCEPTABLE BELOW SUPPORT STEEL OR ABOVE STEEL. COORDINATE MOUNTING LOCATIONS WITH OTHER TRADES AND FIELD CONDITIONS. PROVIDE SUPPORT CLIPS AND THREADED RODS AS REQUIRED FOR A COMPLETE SUPPORT SYSTEM AS INDICATED.
  2. SUPPORT CABLE FROM EITHER PARALLEL OR PERPENDICULAR TO SUPPORT STEEL.

**2 TYPICAL MC/AC CABLE SUPPORTING DETAIL**  
E-4 SCALE: NOT TO SCALE



**NOTE:**

1. PROVIDE ADDITIONAL (1) 3/4" RGS CONDUIT FROM "EBC30" PRESSURE CONTROLLER TO THE NEW EXHAUST FAN LOCATED AT THE ROOF FOR CONTROL WIRING. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR POWER REQUIREMENTS AND MECHANICAL DRAWINGS FOR EXACT LOCATION AND OTHER DETAIL.
2. COORDINATE WITH LIGHTING PROTECTION CONTRACTOR FOR ADDITIONAL LIGHTING PROTECTION COVERAGE AT NEW MECHANICAL EQUIPMENT ON THE ROOF. PROVIDE UL LISTED DEVICE TIED TO EXISTING LIGHTING PROTECTION LOOP. INSTALLATION SHALL BE IN COMPLIANCE WITH NFPA 780.
3. UNLESS A GFCI RECEPTACLE IS AVAILABLE WITHIN 25' OF NEW EXHAUST FAN, FURNISH AND INSTALL NEW GFCI DUPLEX RECEPTACLE WITH WEATHERPROOF COVER WITHIN. FIELD COORDINATION FOR PANEL SOURCE AND EXACT LOCATION.
4. EC SHALL VERIFY EXISTING ROOFING SYSTEM WARRANTY. COORDINATE ROOF WORK WITH OWNER SO AS NOT TO VOID EXISTING ROOFING SYSTEM WARRANTY.

**3 ROOF PART PLAN**  
E-4 SCALE: 1/4"=1'-0"

CONSULTANTS

Revision:  
Date: By: Description:

CLIENT AND/OR PROJECT INFO.

**CHELSEA HIGH SCHOOL**  
**299 EVERETT AVE.**  
**CHELSEA, MA**



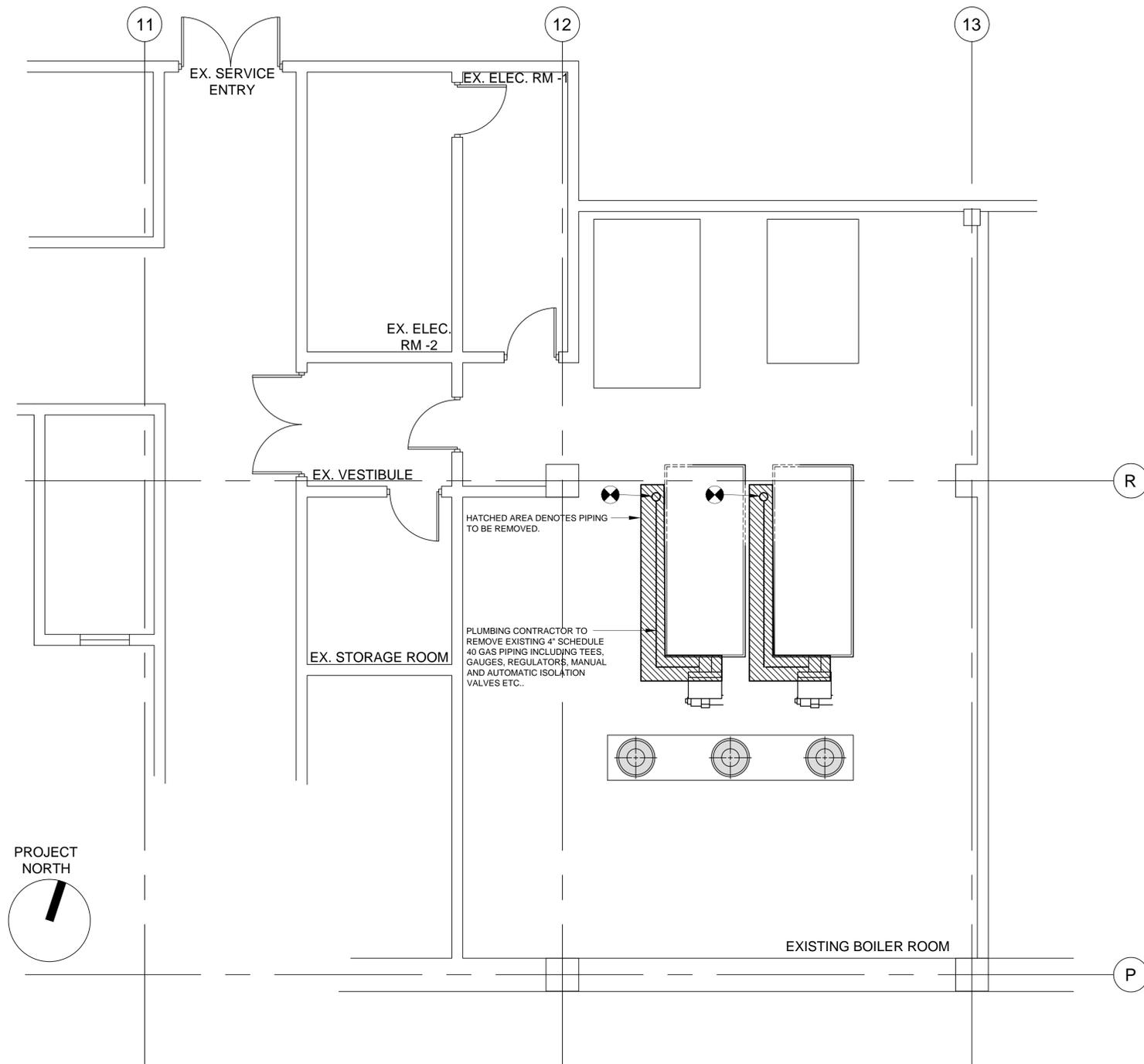
Scale: 1/4" = 1'-0"

Jacobs Project No.: R7W71628

Drawing Title:  
**BOILER ROOM  
PLUMBING DEMO PLAN**

Date: February 2015

Designed By: DEY Drawing No.:  
Drawn By: DEY  
Checked By: C.W.H. **PD-1**



PRIOR TO COMMENCEMENT OF WORK OR FABRICATION OF COMPONENTS, CONTRACTOR SHALL INVESTIGATE AND VERIFY IN THE FIELD ALL CONDITIONS, DIMENSIONS AND ELEVATIONS OF THE EXISTING CONSTRUCTION. ALL DISCREPANCIES BETWEEN FIELD VERIFIED CONDITIONS AND THOSE INDICATED ON THE DRAWINGS SHALL BE IMMEDIATELY MADE KNOWN TO THE ARCHITECT IN WRITING. THE USE OF (V.I.F.) OR (+/-) OR OTHER SIMILAR NOTES AT CERTAIN LOCATIONS ON THE DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR VERIFYING ALL CONDITIONS AS DESCRIBED ABOVE.

**SHEET NOTES**

**GENERAL NOTES:**

1. THIS SHEET INDICATES EXISTING PIPING TO BE REMOVED.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH MECHANICALDRAWINGS.
3. REFER TO ARCHITECTURAL SHEET A-1 FOR DELINEATION OF EXISTING ACCESS INTO BOILER ROOM.

**DEMO NOTES:**

1. REMOVE ALL GAS PIPING WITHIN THE HATCHED AREA INCLUDING ALL ASSOCIATED FITTINGS AND TRIM.
2. CAP ALL OPEN ENDED PIPES FOR FUTURE CONNECTION TO NEW BOILERS.

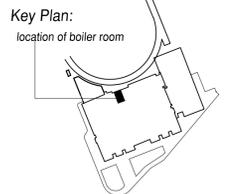
**1 BOILER ROOM PLUMBING DEMO**  
PD-1 1/4" = 1'-0"

CONSULTANTS

Revision:  
Date: By: Description:

CLIENT AND/OR PROJECT INFO.

**CHELSEA HIGH SCHOOL**  
**299 EVERETT AVE.**  
**CHELSEA, MA**



Scale: 1/4"=1'-0"

Jacobs Project No.: R7W71628

Drawing Title:

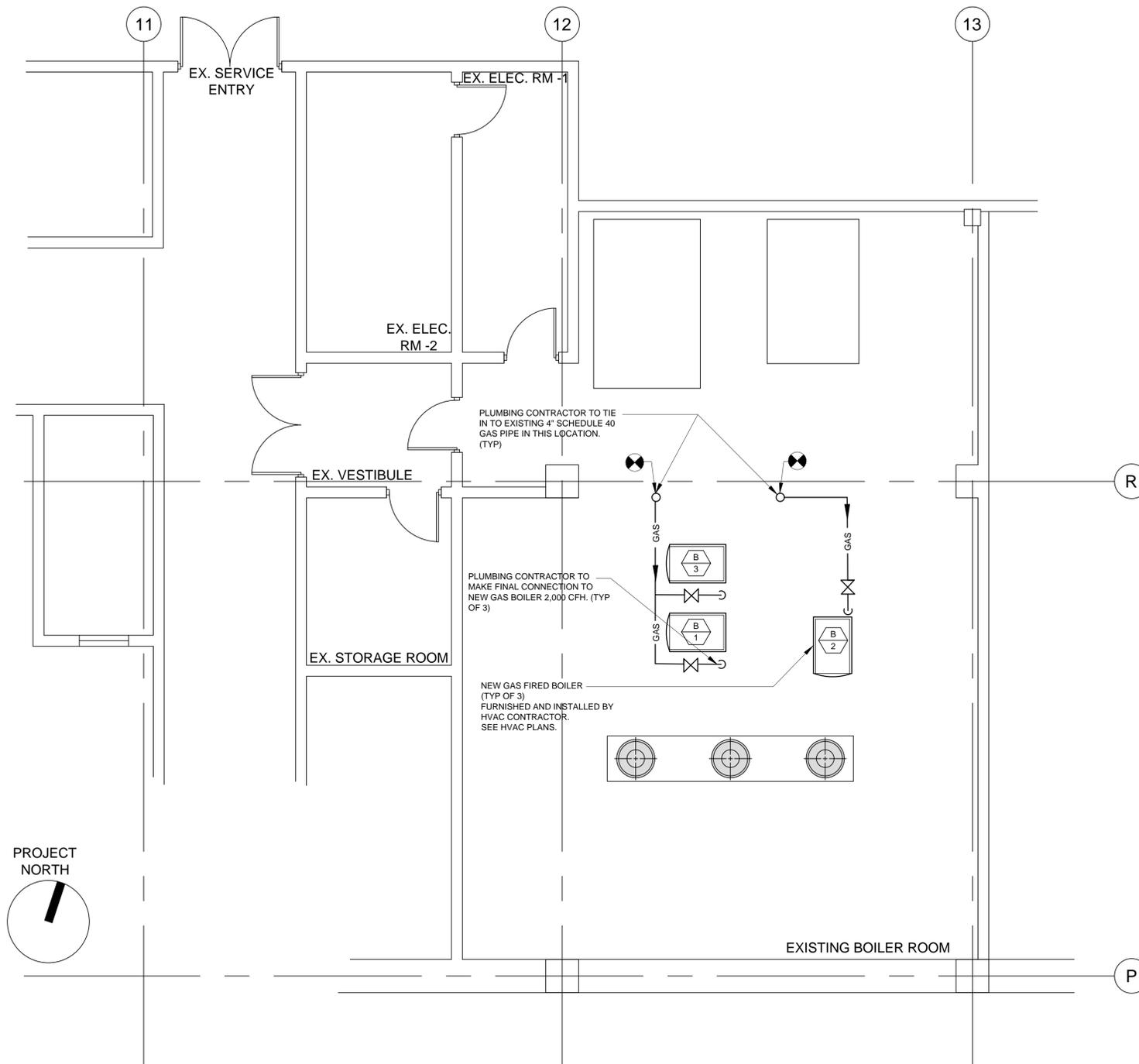
**BOILER ROOM  
PLUMBING PLAN**

Date: February 2015

Designed By: DEY Drawing No.:

Drawn By: DEY

Checked By: C.W.H. **P-1**



PRIOR TO COMMENCEMENT OF WORK OR FABRICATION OF COMPONENTS, CONTRACTOR SHALL INVESTIGATE AND VERIFY IN THE FIELD ALL CONDITIONS, DIMENSIONS AND ELEVATIONS OF THE EXISTING CONSTRUCTION. ALL DISCREPANCIES BETWEEN FIELD VERIFIED CONDITIONS AND THOSE INDICATED ON THE DRAWINGS SHALL BE IMMEDIATELY MADE KNOWN TO THE ARCHITECT IN WRITING. THE USE OF (V.I.F.) OR (+/-) OR OTHER SIMILAR NOTES AT CERTAIN LOCATIONS ON THE DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR VERIFYING ALL CONDITIONS AS DESCRIBED ABOVE.

**SHEET NOTES**

**GENERAL NOTES:**

- THIS SHEET INDICATES EXISTING PIPING AND COMPONENTS TO BE ADDED.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH MECHANICAL DRAWINGS.

**1 BOILER ROOM PLUMBING LAYOUT**  
P-1 1/4" = 1'-0"

Jacobs - R:\Chelsea Public Schools\R7W71628\_HS\_boiler\_replacement\700 CAD\DWG-Plumbing\p-1.dwg [P-1] February 09, 2015 - 10:52am Choudh

## PLUMBING NOTES

### GENERAL NOTES:

1. ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE GOVERNING CITY, INCLUDING APPLICABLE SECTIONS OF ANY INTERIM AMENDMENTS AT THE TIME OF THE PROPOSAL PURCHASE ALL PERMITS ASSOCIATED WITH THE WORK. OBTAIN ALL INSPECTIONS REQUIRED BY CODE.
2. CONTRACTOR SHALL PAY ALL FEES AND OBTAIN ALL PERMITS.
3. REFER TO PLUMBING SPECIFICATIONS AND ELSEWHERE IN DRAWINGS FOR FURTHER INFORMATION AND REQUIREMENTS FOR PLUMBING CONTRACTOR.
4. CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SET.
5. DRAWINGS FOR PLUMBING WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR MEASUREMENT. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE PIPING, CONNECTIONS, FITTINGS, VALVES, OFFSETS, ETC. AND ALL MATERIALS NECESSARY FOR A COMPLETE SYSTEM. SUBMIT SHOP DRAWINGS PER THE SPECIFICATIONS.
6. CONTRACTOR SHALL COORDINATE WORK WITH ALL OTHER TRADES.
7. PLUMBING CONTRACTOR SHALL COORDINATE CONDITIONS PRIOR TO THE INSTALLATION OF THE WORK. CONTRACTOR SHALL NOTIFY ENGINEER IF INSTALLATION OF WORK CAN NOT BE MET.
8. PLUMBING CONTRACTOR SHALL PROVIDE FINAL CONNECTION TO ALL EQUIPMENT REQUIRING PLUMBING CONNECTIONS.
9. ALL ITEMS TO BE REMOVED ARE TO REMAIN THE PROPERTY OF THE OWNER. DISPOSE OF ANY UNWANTED MATERIALS AS DIRECTED BY THE OWNERS.
10. AT THE END OF EACH DAY, BROOM SWEEP ALL WORK AREAS AND REMOVE ALL EQUIPMENT AND DISCARD.

### PIPING NOTES:

1. VERIFY SERVICE CONNECTION POINTS, SIZES, AND ELEVATIONS.
2. COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. PROVIDE PIPE RISES, DROPS, AND OFFSETS, AS REQUIRED FOR FIELD INSTALLATION AND TRADE COORDINATION. NOTIFY OWNER OF ANY DISCREPANCIES BEFORE STARTING WORK.
3. SUSPEND ALL HORIZONTAL GAS PIPING FROM EXISTING STRUCTURAL MEMBERS, UNLESS OTHERWISE NOTED OR INDICATED. NO ATTACHMENT TO THE ROOF DECK IS PERMITTED. HOLD SUCH PIPING AS HIGH AS POSSIBLE. EXTEND PIPING DOWN IN WALLS, PARTITIONS, CHASES, ETC. TO SERVE FIXTURES AND EQUIPMENT AS SHOWN ON PLANS.
4. PROVIDE ITEMS AND WORK AS REQUIRED TO COMPLETE THE INSTALLATION OF PLUMBING SYSTEMS TO FIXTURES AND EQUIPMENT: GAS PRESSURE REGULATORS, FLEXIBLE CONNECTIONS, STOP VALVES, UNIONS, ETC. PROVIDE AND CONNECT PLUMBING PIPE FROM ROUGH-INS TO ITEMS AS SHOWN, SPECIFIED AND REQUIRED.
5. PROVIDE & INSTALL SHUT-OFF VALVES, COCKS STOPS & SAFETY SERVICES AS REQUIRED BY CODE, SPECIFICATIONS AND DRAWINGS FOR ALL EQUIPMENT & FIXTURES.
6. PROVIDE VALVE STOPS AT ALL PLUMBING FIXTURE CONNECTIONS.
7. PROVIDE GAS COCKS ON ALL EQUIPMENT & BRANCH LINES.
8. CAP ALL OPENINGS THAT CANNOT BE REUSED.

## PLUMBING SPECIFICATIONS

### DIVISION 22 - PLUMBING

- A. SITE VISIT, REVIEW OF ALL SPECIFICATIONS AND LANDLORD REQUIREMENTS ARE REQUIRED BEFORE BIDDING AND/ OR CONSTRUCTION.
- B. WORK MAY INCLUDE MODIFICATION TO THE EXISTING PLUMBING SYSTEM. PROVIDE NEW MATERIALS, FITTINGS AND ACCESSORIES NECESSARY FOR A COMPLETE FUNCTIONING PLUMBING SYSTEM. THE WORK ALSO INCLUDES ROUGH-IN AND FINAL CONNECTIONS TO EQUIPMENT PROVIDED BY OTHERS. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND/ OR ORDINANCES AND IS SUBJECT TO INSPECTIONS.
- C. THE INTENT OF THE DRAWINGS IS TO INDICATE THE GENERAL EXTENT OF WORK REQUIRED FOR THE PROJECT. THE DRAWINGS FOR PLUMBING WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, FIXTURES AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR MEASUREMENTS. REFER TO MANUFACTURER'S STANDARD ROUGH-IN DRAWINGS FOR PLUMBING FIXTURE INSTALLATION REQUIREMENTS. COMPLY WITH ALL APPLICABLE ADA INSTALLATION REQUIREMENTS.
- D. COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE.
- E. PIPING SYSTEMS - GENERAL: ALL PIPING SHALL BE RUN PARALLEL TO BUILDING LINES AND SUPPORTED AND ANCHORED AS REQUIRED BY CODE AND TO FACILITATE EXPANSION AND CONTRACTION. ALL PIPING SHALL BE CONNECTED EXCEPT IN UNFINISHED SPACES. INSTALL AS REQUIRED TO MEET ALL CONSTRUCTION CONDITIONS AND TO ALLOW FOR INSTALLATION OF OTHER WORK SUCH AS DUCTS AND ELECTRICAL CONDUIT. AT ALL CONNECTIONS BETWEEN FERROUS PIPING AND NONFERROUS PIPING, PROVIDE AN ISOLATING DIELECTRIC UNION. ALL HANGERS SHALL BE COMPATIBLE WITH PIPING MATERIAL TO PREVENT CORROSION.
- F. PROVIDE ALL FITTINGS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY TO FACILITATE THE PLUMBING SYSTEM'S FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT INDICATED.
- G. FIXTURES/ EQUIPMENT FURNISHED BY OTHERS: PLUMBING CONTRACTOR SHALL PROVIDE UTILITY CONNECTIONS REQUIRED SUCH AS GAS ETC. AT ALL PLUMBING TYPE FIXTURES OR EQUIPMENT FURNISHED BY OWNER, GENERAL CONTRACTOR, EQUIPMENT SUPPLIER, ETC. INCLUDED ARE STOP VALVES.
- H. REPAIR EXISTING PLUMBING SYSTEM COMPONENTS DAMAGED BY CONSTRUCTION OPERATIONS AND RESTORE TO ORIGINAL CONDITIONS.
- I. GAS PIPING TO BE STEEL PIPE ASTM A 53/A BLACK STEEL, SCHEDULE 40, TYPE E OR S, GRADE B WITH MALLEABLE IRON THREADED FITTINGS OR WROUGHT STEEL WELDED FITTINGS.

### CONSULTANTS

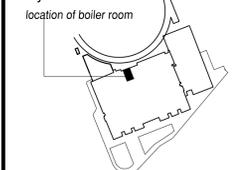
### Revision:

Date: By: Description:

### CLIENT AND/OR PROJECT INFO.

**CHELSEA HIGH SCHOOL**  
**299 EVERETT AVE.**  
CHELSEA, MA

### Key Plan:



Scale: NONE

Jacobs Project No.: R7W71628

Drawing Title:

**BOILER ROOM  
PLUMBING SPECIFICATIONS**

Date: February 2015

Designed By: DEY Drawing No.:

Drawn By: DEY

Checked By: C.W.H. **P-2**