

**Invitation for Bids
Polonia Park Site Improvements**

For the City of Chelsea, MA

Project # 2016-182

April 2016

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**CITY OF CHELSEA
DEPARTMENT OF PLANNING & DEVELOPMENT
INVITATION FOR BIDS
POLONIA PARK SITE IMPROVEMENTS**

Sealed bids to provide services for **POLONIA PARK SITE IMPROVEMENTS** will be received at the Office of the Chief Procurement Officer, City Hall, Room 206, Chelsea, Massachusetts until 2:00PM on Thursday, May 12, 2016 immediately after which the bids will be opened and read publicly.

Specifications and contract documents will be available on or after April 28, 2016 at the Office of the Chief Procurement Officer, City Hall, Room 206, Chelsea, Massachusetts.

Bids must be sealed and clearly marked **"POLONIA PARK SITE IMPROVEMENTS "** and submitted to the Office of the Chief Procurement Officer, City Hall, Room 206, Chelsea, Massachusetts no later than 2:00PM, Thursday, May 12, 2016.

Each bid must be accompanied by a certified check, issued by a responsible bank or trust company. Or a bid bond duly executed by the bidder as principal and having as surety thereon a surety company approved by the City, all in the amount of 5% of the bid payable to the "City of Chelsea."

The City of Chelsea reserves the right to accept any bid, to reject and/or all bids and to waive minor irregularities and/or formalities as it deems to be in the best interest of the City.

In accordance with our Minority Business Enterprise Plan, we are inviting all qualified women and minority business firms to respond.

The City of Chelsea is an Equal Opportunity Employer.

This invitation for bid is in accordance with M.G.L. Chapter 30, §39M.

Dylan Cook
Chief Procurement Officer

Section 1 Procurement Scope

The City of Chelsea MA is publishing this Invitation for Bids for a qualified vendor to provide services for the construction of **POLONIA PARK SITE IMPROVEMENTS**.

Invitation for Bid Procedures and award of the Contract shall be in accordance with Massachusetts General Law, Chapter 30, s. 39M, plus all applicable Federal, State and Local laws and regulations.

1.1 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 or via fax at 617-466-4225, no later than the time and date set forth herein for the receipt of the bids. 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 responses 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 Security

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 Bid 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 Invitation for Bids 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 and must be submitted with the bid documents. 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 bidder, 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 bidder. In case of death, disability, bonafide clerical or mechanical error of a substantial nature or similar unforeseen circumstances affecting the bidder, its bid deposit shall be returned.

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

Should the successful bidder fail to commence or diligently perform according to the terms of the contract, the successful bidder agrees to pay to the City of Chelsea, as liquidated damages, Two Hundred Fifty Dollars (\$250.00) per calendar day that the successful bidder 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 bidder.

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 1st and ends June 30th 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 solicits bids that will result in a contract. The schedule of events for this solicitation, subject to amendment by the City of Chelsea is:

Event	Date
IFB Released	4/28/2016
Deadline for Written Inquiries	5/6/2016
Response to Written Inquiries	5/10/2016
Due Date for Bids	5/12/2016 at 2:00PM

1.20 Duration of Contract

The contract term will commence upon signature of the agreement and construction must be completed NO LATER THAN June 30, 2016.

End of Section

Section 2 General Bid Information

2.1 Required IFB Sections

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

2.2 Funding Source

The project to be constructed and pursuant to this Invitation For Bid will be financed with assistance from the Massachusetts Community Development Block Grant Program and is subject to all applicable Federal, State, and local regulations.

2.3 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.

2.4 The Contract Award

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

2.5 ADA, Regulatory, Compliance and Standards

Bidders 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.

2.6 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 bidder, 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 bidder 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 bidder and the City of Chelsea and any and all manners of legal action brought against the successful bidder and /or the City of Chelsea. Said indemnification includes reasonable attorney's fees related thereto.

2.7 Federal, State and Local Laws

The successful bidder will comply with all applicable Federal, State and Local laws and regulations. The contract resulting from this Invitation for Bid may be subject to review and approval by DHCD/Massachusetts CDBG Program and will be governed by the requirements of that program, including the provisions found in Exhibits A and B in Attachment F to this Invitation for Bid.

2.8 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.

2.9 Insurance

The successful bidder 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 \$500,000.00 per occurrence and \$1,000,000.00 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 bidder.

- d. An Insurance Certificate giving evidence of the insurance must be delivered to the City of Chelsea within 10 days by the successful bidder receiving the award of this Invitation for Bids.

2.10 Confidentiality

The successful bidder will comply with all provisions of Executive Order No. 11246 of September 24, 1975 and the successful bidder 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 bidder 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 bidder 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 bidder 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 bidder 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 bidder 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 bidder 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 bidder 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 bidder 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 bidder shall use personal data, and material derived from such data, only as necessary for the performance of the subject contract. Failure of the successful bidder to comply with the requirements of this section may be grounds for terminating any contract resulting from this Invitation for Bids

2.11 Force Majeure

Neither the City of Chelsea nor the successful bidder 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 bidder, 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.

2.12 Equal Opportunity

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

- a. The successful bidder 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 bidder 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 bidder 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.

2.13 Termination

The bidders 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 bidder 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 bidder 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 bidder, 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 bidder. 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 bidder 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 bidder 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 bidder 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.

2.14 Office's Remedies: Upon Termination for Cause or for Emergencies: Notwithstanding the terms contained in this section, in the event of termination, the successful bidder 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 bidder. In the event of termination pursuant to this section, the City of Chelsea may withhold any payments to the successful bidder for the purpose of set-off until such time as the exact amount of damages due to the City of Chelsea from the successful bidder is determined. In addition to and notwithstanding the above, the successful bidder covenants and agrees that in the event of termination of any contract resulting from this Invitation for Bids the successful bidder 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 bidder's default. The successful bidder further covenants and agrees with the City of Chelsea that the successful bidder 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 bidder under any contract resulting from this Invitation for Bids.

2.15 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 bidder 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 bidder for future use. The City of Chelsea shall promptly pay the successful bidder 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 bidder 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 bidder make every reasonable effort to minimize or recover costs incurred.

2.16 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 bidder 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 bidder's contract, the awarded bidder 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.

2.17 Anti-Boycott Warranty:

During the term of any contract resulting from this Invitation for Bids, neither the successful bidder 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 in 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 bidder.

2.18 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 City 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.

2.19 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 Bidder's Bid Information

3.1 Bidder Communications

Bidders 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. Bidders 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

Bidders 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 bidder 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 bidder'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 bidder 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 bidder'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 Bids

The City of Chelsea shall be under no obligation to return any bids or materials submitted by the bidder in response to this Invitation for Bids. All materials submitted by bidders become the property of the City of Chelsea and will not be returned to the bidder. The City of Chelsea has

the right to use any ideas, concepts or configurations that are presented in the bidder's bid whether or not the bid is selected for contract award.

3.9 Clarification of Bid

The City of Chelsea is not required to seek clarification of bids; therefore, the bidder 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, responsible and eligible bid.

3.11 Rejection of Bidder's Bid

A bidder's bid may be rejected by the City of Chelsea if the bidder'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 bidder.

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 bidders, and not to be relied upon as any indication of future purchases.

The bidder 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 bidder.

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 bidder, 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.

Bidders 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 bidder 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

Bidders 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 bidders. The bidder is responsible for confirming receipt of its written inquiries with Dylan Cook, Chief Procurement Officer, and City of Chelsea at 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 bidder.

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 Bidder must submit one (1) original response to the Invitation for Bids marked "ORIGINAL" The Envelope must be clearly marked "**Polonia Park Site Improvements**".

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 Specifications

SECTION 01 23 00 ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. All of the Contract Documents, including the conditions and general requirements of the Contract, Division 0 and applicable parts of Division 1, apply to the information and associated Work under this Section.
- B. The Contractor shall carefully examine all the Contract Documents for requirements that affect the work of this Section. The exact scope of this Section cannot be determined without a thorough review of all specification sections and other Contract Documents.

1.2 SUMMARY

- A. The Schedule of Alternates included in this Section lists all the Alternates that appear in the Contract Documents, and the Specification Sections which are affected by each Alternate.
- B. For each of the Alternates scheduled at the end of this Section, bidders shall state the amount in the proposal to be added to or deducted from the Contract Sum for the work.
- C. Consult the individual Specification Sections and the Drawings for detailed requirements of each Alternate.

1.3 GENERAL INSTRUCTIONS

- A. Each Bidder shall be held fully responsible for examining the scope of the Alternates generally defined herein and for recognizing any modifications to his work caused by any Alternate.
- B. The Bid Alternate Price shall be complete cost, including overhead, profit, bonds, insurance, transportation, and all other costs connected with, or incidental to, the work described.
- C. Alternates listed below in the Schedule of Alternates are listed in order. The Contract will be awarded on the basis of the Base Bid only, or the Base Bid plus any number of Alternates strictly added in order.

1.4 ALTERNATES

- A. Definition: "Alternates" are alternate products, materials, equipment, systems, methods, units of work, or major elements of the construction, which may, at the Authority's option and under the terms established by the Contract or Agreement, be selected for the work in lieu of the corresponding requirements of the Contract Documents or in addition to the work of the Base Bid as noted.
- B. Alternate Requirements: A Schedule of Alternates is included at the end of this Section. Each Alternate is defined using abbreviated language, recognizing that the Contract Documents define the requirements. Coordinate related work to ensure that work affected by each Alternate is complete and properly interfaced with work of each selected Alternate.
- C. Provide written proposals for each Alternate on the Bid Form for the Authority's consideration. Each proposal amount shall include the entire cost of the Alternate

portion of the work, including overhead, profit, and other costs including cost of interfacing and coordinating the Alternate with related and adjacent work.

1.5 SCHEDULE OF ALTERNATES

- A. Alternate No. 1 – Extend Irrigation System and Install Bark Mulch.
 - 1. Work:
 - a. ADD the indicated additional area of coverage for the Irrigation system as shown on the Drawings.
 - b. ADD the furnishing and installation of 3” depth of shredded bark mulch per the Specifications to all plant beds within the park.
 - 2. Refer to the following Specification sections for the work of Alternate No. 1:
 - a. Section 32 80 00 – Irrigation
 - b. Section 32 90 00 – Planting

END OF SECTION

SECTION 01 33 00 SUBMITTALS

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. The work to be performed under this Section shall include the compilation and submittal of all required shop drawings, manufacturer's cuts, specifications, and certifications of all materials and equipment for the Landscape Architect's approval. Actual product samples may also be required as stipulated in the technical specifications sections.
- B. All submittals shall be submitted within four (4) weeks after the award of the contract, and may be made and distributed digitally with the approval of the Owner via email or File Transfer Protocol (FTP) site. Alternatively, submittals may be made in hard copy form; at least three (3) copies (Contractor, Owner's Rep, Landscape Architect) shall be in not more than three (3) submittal packages so that a manual can be prepared for office and field reference.

PART 2 - SUBMITTALS

2.1 REQUIREMENTS

- A. References are made throughout the Specifications and Drawings where submittals are required. All submittals are to be reviewed and approved by submittal or field sample prior to ordering.
- B. Where the Contractor's intention is to furnish the materials or equipment as specified, a list of all such elements, by Specification section, shall accompany the submittals so that the entire submittal is complete for the project.

PART 3 - EXECUTION

3.1 FORMATTING

- A. Submit digital or three hard copies of all documents and data in a collated, manual format. Include a Table of Contents of the material for reference. The submittal is to be entire and complete, addressing all furnishings and installation.
- B. Submit all required product or material samples concurrent with the materials/equipment information manuals described above. Each submittal shall reference its appropriate specification section, part and paragraph.

END OF SECTION

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SECTION 01 41 00 PERMITS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. The conditions and general requirements of the Contract, Division 0 and applicable parts of Division 1, apply to the work under this Section.
- B. The Contractor shall perform the work in accordance with the Contract Documents and any applicable municipal requirements.

1.2 SCOPE OF WORK

- A. The Contractor shall be responsible for obtaining all permits required to complete the work of this contract, to provide all coordination and furnish all bonds, assurances and required warranties. As applicable, the Contractor shall be responsible for any/all fees associated with the securing of permits necessary for the execution of the work of this contract. Should any street work be required, an approved City contractor shall perform it.

1.3 PERMITS BY CONTRACTOR

- A. The Contractor shall prepare permit applications and obtain applicable permits after the contract is awarded, **bearing all expenses**. All required permits shall be obtained, INCLUDING BUT NOT LIMITED TO the following:
 - 1. Trench Permit for trenching in the Public Way (520 CMR 14.00) if necessary
 - 2. Plumbing Permits
 - 3. All other Permits related to Street and Sidewalk work and closures
 - 4. Parking Permits as necessary – the adjacent streets are resident-permit-parking only, and construction permits are available from the City Clerk.
- B. For most permits received from the City (exclusive of any police details necessary) the City will waive the permit fee for a City-funded project.

1.4 DIGSAFE

- A. Contact Digsafe seventy-two (72) hours prior to initiating work at telephone #1-888-344-7233.

PART 2 - MATERIALS

2.1 GENERAL

- A. All materials and equipment shall conform to permit requirements and the City's standards for utilities, excavation, backfill, patching, and surveying or other work unless otherwise stated in these specifications. Coordinate as necessary with the appropriate City official and/or private utility.

PART 3 - EXECUTION

3.1 APPROVALS AND GUARANTEES

- A. Execute all work per permit requirements. All plumbing and electric work to be approved by City Inspectors.
- B. Guarantee all work per permit requirements.

END OF SECTION

SECTION 01 57 00 ENVIRONMENTAL PROTECTIONS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. The conditions and general requirements of the Contract, Division 0 and applicable parts of Division 1, apply to the work under this Section.

1.2 SCOPE OF WORK

- A. The work covered by this section of the specifications consists of furnishing all labor, materials, tools and equipment and performing all work required for the prevention of environmental pollution during and as a result of construction under this contract.
 - 1. Implementation
 - 2. Area of Construction Activity
 - 3. Protection of Water Resources
 - 4. Protecting and Minimizing Exposed Areas
 - 5. Location of Storage Areas
 - 6. Protection of Landscape
 - 7. Specific Measures for Tree Protection
 - 8. Clearing and Grubbing
 - 9. Discharge of Dewatering Operations
 - 10. Dust Control
 - 11. Separation and Replacement of Topsoil
 - 12. Baled Hay or Straw
 - 13. Silt Fence
 - 14. Noise Control

1.3 NOTIFICATION

- A. The Landscape Architect or Owner's Representative will notify the Contractor in writing of any non-compliance with the foregoing provisions. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails to act promptly, the Landscape Architect or Owner's Representative may order stoppage of all or part of the work until satisfactory corrective action has been taken. No claim for an extension of time or for excess costs or damage incurred by the Contractor as a result of time lost due to any stop work orders shall be made unless it was later determined that the Contractor was in compliance.

PART 2 - MATERIALS

2.1 BALED HAY OR STRAW

- A. To trap sediment and to prevent sediment from clogging drainage systems, baled hay or straw shall be used where shown on Drawing L-1.1 – Demolition and Removals Plan and/or around all drainage structures to remain, if not shown. Care shall be taken to keep the bales from breaking apart. The bales should be securely staked to prevent overturning, flotation, or displacement. All deposited sediment shall be removed periodically.

2.2 SILT FENCE

- A. Where indicated on the drawings and where directed by the Landscape Architect or Owner’s Representative, the Contractor shall erect and maintain a temporary silt fence. The silt fence shall be used specifically to contain sediment from runoff water and to minimize environmental damage caused by construction.
- B. The silt fence shall consist of a 3-foot wide continuous length sediment control fabric, stitched to a 22-foot wide, continuous length support netting, and stapled to preweathered oak posts installed as shown on the drawings. The oak posts shall be 1½” by 1½” (Minimum Dimension) by 48” and shall be tapered. The support netting shall be industrial strength polypropylene. The bottom edge of the sediment control fabric shall be buried as shown on the drawings. The sediment control fabric shall conform to the following properties:

Property	Value	Test Method
1. Grab Strength (lbs.)	124	ASTM D-4632
2. Elongation (%)	15%	ASTM D-4632
3. Puncture Strength (lbs.)	65	ASTM D-4833
4. Burst Strength (psi)	300	ASTM D-3786
5. Trapezoid Tear (lbs.)	60	ASTM D-4533
6. Equivalent Opening Size (U.S. Sieve)	No. 30	ASTM D-4571
7. Permittivity (sec-1)	0.10	ASTM D-4491
8. Water Flow Rate (gal/min/sf.)	10	ASTM D-4491
9. UV Resistance (%)	70	ASTM D-4355

The silt fence shall be Mirafi Envirofence manufactured by Mirafi, Inc. or approved equal.

PART 3 - EXECUTION

3.1 IMPLEMENTATION

- A. Prior to commencement of work, the Contractor shall meet with the Landscape Architect and Owner’s Representative to develop mutual understandings relative to compliance of the environmental protection program.

- B. The Contractor shall submit for approval details and literature fully describing environmental protection methods to be employed in carrying out construction activities.

3.2 AREA OF CONSTRUCTION ACTIVITY

- A. Insofar as possible, the Contractor shall confine his construction activities to those areas defined by the Contract Drawings and Specifications. All land resources within the project boundaries and outside the limits of permanent work performed under this contract shall be preserved in their present condition or be restored to a condition, after completion of construction, at least equal to that which existed prior to work under this contract.

3.3 PROTECTION OF WATER RESOURCES

- A. The Contractor shall not pollute wetlands, streams, lakes, ponds or reservoirs with fuels, oils, bitumens, calcium chloride, acids, solvents, or other harmful materials. The Contractor shall also prevent the transport of soil, dirt, and salt to surface streams, wetlands, water bodies and/or catch basins. It is the Contractor's responsibility to comply with all applicable Federal, State, County and Municipal laws regarding pollution of wetlands, rivers and streams.
- B. Special measures should be taken to insure against spillage of any pollutants into public waters, and run-off of demolition site sediments into stormwater collection systems. Measures shall include placement of haybales around catchbasins and along temporary construction fencing, and where so indicated on Demolition & Removals Plan.

3.4 PROTECTING AND MINIMIZING EXPOSED AREAS

- A. The Contractor shall limit the area of land which is exposed and free from vegetation during construction. In areas where the period of exposure will be greater than two (2) months, temporary vegetation, mulching or other protective measures shall be provided as specified.
- B. The Contractor shall take account of the conditions of the soil where temporary cover crop will be used to insure that materials used for temporary vegetation are adaptive to the sediment control. Materials to be used for temporary vegetation shall be approved by the Landscape Architect and Owner's Representative.

3.5 LOCATION OF STORAGE AREAS

- A. The location of the Contractor's storage areas for equipment and/or materials shall be placed upon cleared portions of the job site or areas to be cleared as a part of this project, and shall require written approval of the Landscape Architect and Owner's Representative.
 - 1. Plans showing storage facilities for equipment and materials shall be submitted for approval of the Landscape Architect and Owner's Representative prior to the start of construction. Temporary storage trailers shall be installed at Contractor's cost.
 - 2. Contractor shall not store equipment or materials under tree drip lines, see Section 01 57 00 – 3.6.D below.
- B. No excavated materials or materials used in backfill operations shall be deposited within a minimum distance of one hundred (100) feet of any drainage facility. Adequate measures for erosion and sediment control such as the placement of

baled hay or straw around the downstream perimeter of stockpiles shall be employed to protect any downstream areas from siltation.

- C. There shall be no storage of equipment or materials in areas designated on the Contract Drawings as within a wetlands buffer zone.

3.6 PROTECTION OF LANDSCAPE, TREES, AND PLANTINGS

A. General Information:

1. The Contractor shall not deface, injure, or destroy trees or shrubs nor remove or cut them without written authority from the Owner. No ropes, cables, or guys shall be fastened to or attached to any existing trees for anchorages unless specifically authorized by the Landscape Architect or Owner's Representative. Excavating machinery and cranes shall be of suitable type and be operated with care to prevent injury to trees which are not to be removed, particularly overhanging branches and limbs. The Contractor shall, in any event, be responsible for any damage resulting from such use.
2. Branches, limbs, and roots shall not be cut except by permission of the Landscape Architect or Owner's Representative. All cutting shall be smoothly and neatly done without splitting or crushing. When there is unavoidable injury to branches, limbs and trunks of trees, the injured portions shall be neatly trimmed and covered with an application of grafting wax or tree healing paint as directed.
3. All trees that may possibly be defaced, bruised, injured, or otherwise damaged by the Contractor's equipment or other operations shall be protected by placing protective measures as described in 3.7 below. Any trees or landscape feature scarred or damaged by the Contractor's equipment or operations shall be restored as nearly as possible to its original condition at the expense of the Contractor. The Landscape Architect or Owner's Representative will decide what method of restoration shall be used, and whether damaged trees shall be treated and healed or removed and disposed of.
4. Cultivated hedges, shrubs, and plants which could be injured by the Contractor's operations shall be protected by suitable means or shall be dug up, balled and temporarily replanted and maintained. After construction operations have been substantially completed, they shall be replanted in their original positions and cared for until growth is re-established. If cultivated hedges, shrubs, and plants are injured to such a degree as to affect their growth or diminish their beauty or usefulness, they shall be replaced by items of a kind and quality at least equal to that existing at the start of the work.

B. Preparation:

1. Verify that existing plant life and features designated to remain are tagged or identified.
2. Identify branches and roots that may interfere with construction.

C. Continuous Protection of Trees and Plants:

1. Protect existing trees scheduled to remain against injury or damage, including cutting, breaking, or skinning of roots, trunks or branches; smothering by stockpiled construction materials, excavated materials or vehicular traffic within branch spread.

2. Protect designated trees with a temporary 6 foot high double rail wood fence enclosure or as otherwise specified on the Drawings:
 - a. The limits of tree protection fencing shall be installed AT THE DRIP LINE of trees wherever feasible, or at the maximum extent practicable where not feasible. At NO POINT shall tree protection fencing be installed at a distance less than 3 times the caliper of the tree from the root flare.
 3. Erect temporary fencing before commencing site preparation work.
 4. Maintain fencing during entire construction period.
 5. See also 3.7 below for further information on tree protection measures.
- D. Root System Protection:
1. The Contractor shall not permit the storage of construction materials, debris, or excavated material within the drip line, which is the outer perimeter of branches.
 2. The Contractor shall not permit vehicles within the drip line. Restrict foot traffic to prevent excessive compaction of soil over root systems.
 3. The Contractor shall protect tree root systems from damage due to noxious materials in solution caused by run-off or spillage during mixing and placement of construction materials or drainage from stored materials.
 4. The Contractor shall protect root systems from flooding, erosion, continuous running water or excessive wetting resulting from dewatering operations.
- E. Relocate and protect large boulders and rocks identified by Owner to remain as final landscaping elements, if applicable.
- F. Root and Branch Trimming:
1. Consult with Project Consultant to request removal of roots and branches that interfere with construction.
 2. Upon Project Consultant's approval of branch or root removal, employ qualified Landscape sub-contractor shall:
 - a. Remove branches from trees, which shall remain, if required to clear new construction.
 - b. Carefully and cleanly cut roots and branches of trees indicated to remain, where roots and branches obstruct new construction, with sharp pruning instruments. Sterilize pruning instruments before beginning work on site, and sterilize between plants if disease is observed on site or prevalent in the region. Do not break or chop roots or branches. Use a three-part cut for large limbs. For fastest healing, prune close to the main branch without injuring the bark ridge or branch collar areas.
 - c. Recommend procedures to compensate for loss of roots and perform initial pruning of branches and stimulation of root growth where removed to accommodate new construction.
 - d. Extend pruning operation to restore natural shape of entire tree.
- G. Excavation Around Trees:
1. Excavate within drip line of trees only where indicated.
 2. Where trenching for utilities is required within the drip line, tunnel around roots by hand digging.

3. Shall not cut main lateral roots or tap roots; cut smaller roots, which interfere with installation of new work.
 4. Cut roots with sharp pruning instruments: Do not break or chop.
 5. Shall not allow exposed roots to dry out before permanent backfill is placed:
 - a. Provide temporary earth cover, or pack with peat moss and wrap with burlap.
 - b. Water and maintain in moist condition and temporarily support and protect from damage until permanently relocated and covered with earth.
 - c. Landscape sub-contractor shall prune branches to balance loss to root system caused by damage or cutting of root system.
- H. Grading and Filling Around Trees:
1. Maintain existing grade within drip line of trees, unless otherwise indicated.
 2. Lowering Grades:
 - a. Where existing grade is above new finish grade shown around trees, carefully hand excavate within drip line to new finish grade.
 - b. Cut roots exposed by excavation or provide permanent protections as recommended by Landscape sub-contractor.
- I. Raising Grades:
1. Minor Filling:
 - a. Where existing grade is six inches or less below elevation of finish grade shown, use a topsoil fill material.
 - b. Place in single layers and do not compact; hand grade to required finish elevations.
 2. Moderate Filling:
 - a. Where existing grade is more than 6 inches, but less than 12 inches, below finish grade elevation, place a layer of drainage fill on existing grade prior to placing topsoil.
 - b. Balance of area within drip line perimeter: Place drainage fill to an elevation six inches below grade and complete fill with a layer of topsoil to finish grade elevation.
 - c. Shall not compact stone or gravel or topsoil layers; hand grade to required elevations.
- J. Repair and Replacement of Trees:
1. Repair trees damaged by construction operations. Damage shall be assessed with Landscape Architect and Owner prior to repairs. Make repairs promptly after damage occurs to prevent progressive deterioration of damaged trees.
 2. Remove and replace dead and damaged trees, which are determined by the Landscape sub-contractor shall be incapable of restoration to normal growth pattern.
 3. Provide new trees of same size and species as those replaced, up to 6 inch caliper. For replacement of trees over 6 inches in caliper taken 12 inches

above grade, provide new trees of 6 inch caliper, and of the same species as selected by the Project Consultant.

4. Repair and replacement of trees scheduled to remain and damaged by construction operations or lack of adequate protection during construction operations shall be at Contractor's expense.

3.7 SPECIFIC MEASURES FOR TREE PROTECTION

- A. All existing trees not specifically indicated for removal or transplanting on the Drawings shall be protected as identified below.
- B. Tree protection fencing shall be installed and maintained throughout the period of construction as shown on the Drawings; specific attention is directed to the Demolition and Removals Plan.
 1. The limits of tree protection fencing shall be installed AT THE DRIP LINE of trees wherever feasible, or at the maximum extent practicable where not feasible. At NO POINT shall tree protection fencing be installed at a distance less than 3 times the caliper of the tree from the root flare.
 2. Prior to commencing any demolition or removals, the Contractor shall lay out all paving and demolition required within the drip lines of all trees, and shall establish in the field with the Landscape Architect and the Owner's Representative the extents and limits of tree protection fencing to be installed.
 3. If, after demolition is complete, tree protection fencing can be expanded to cover a greater area, the Contractor shall revise the fencing line as directed by the Landscape Architect or Owner's Representative.
 4. Areas within tree protection fencing shall be protected from disturbance, excavation, and compaction.
- C. ALL EXCAVATIONS and ALL REMOVALS within the drip lines of existing trees (NOT limited to areas within tree protection fencing) shall be HAND WORK or AIR SPADE only. Cut no roots without the express permission of Landscape Architect or Owner's Representative.
- D. DO NOT REMOVE any existing drainage fabric, soil separator fabric, or other geotextiles in the vicinity of protected trees without the prior approval of the Landscape Architect or Owner's Representative to avoid damage to feeder roots which often intertwine with the fabric. Where necessary, Contractor shall cut fabric and leave areas entangled by roots in place in the ground.
- E. For all earthwork, excavation, and removals within the driplines of protected trees (not limited to areas within designated tree protection fencing), the Owner's Representative or Landscape Architect must be present on the site or have specifically waived that obligation in writing to the Contractor to ensure tree protection measures are being observed. Provide 48 hours' notice prior to commencement of all such work.

3.8 CLEARING AND GRUBBING

- A. No clearing or grubbing shall be permitted without the express written consent of the Landscape Architect and the Owner's Representative.
- B. If Clearing and Grubbing is permitted:

1. After providing fenced protection for trees and plants to remain, clear and grub site areas as directed.
2. Selective Clearing:
 - a. In areas where trees shall remain, remove all undergrowth, dead trees, stumps, roots, vines, and other debris.
 - b. Strip grass materials to a maximum depth of 1 inch under tree canopies.
 - c. Carefully till or scarify existing grade to a depth of 1 inch.
3. Grubbing: Scarify the areas where vegetation or other unsuitable materials occur to a minimum depth of 6 inches until all such materials are loosened and remove from the site.
 - a. Use only hand methods for grubbing inside the drip line of trees indicated to remain.
 - b. Fill depressions caused by clearing and grubbing operations with satisfactory soil materials and compact and grade in accordance with Division 2 requirements.
4. Remove and stockpile topsoil under provisions of Division 2 except where removal shall be detrimental to existing trees and plants.

3.9 DISCHARGE OF DEWATERING OPERATIONS

- A. Any water that is pumped and discharged from a trench and/or excavation as part of the Contractor's water handling shall be filtered by an approved method prior to its discharge into a receiving water or drainage system.
- B. The pumped water shall be filtered through baled hay, a vegetative filter strip or a vegetated channel to trap sediment occurring as a result of the construction operations. If used, the vegetated channel shall be constructed in a location specifically approved by the Landscape Architect and Owner, and shall be designed such that the discharge flow rate shall not exceed a velocity of more than 1 foot per second. Accumulated sediment shall be cleared from the channel periodically.
- C. Contaminated dewatering effluent shall be handled, and if necessary, disposed of in accordance with applicable regulations and permits. Any required monitoring and analysis of the effluent shall be performed by the Contractor and the laboratory results shall be submitted to the Landscape Architect and Owner's Representative.
- D. Water pumped or drained from excavations, water courses, or other structures encountered in the work shall be disposed of in strict compliance with pertinent federal, state and local environmental regulations. Any damage caused by or resulting from dewatering operations shall be the sole responsibility of the Contractor.

3.10 DUST CONTROL

- A. During the progress of the work, the Contractor shall conduct his operations and maintain the area of his activities, including sweeping and sprinkling of streets as necessary, to minimize creation and dispersion of dust. If the Landscape Architect or Owner's Representative decides it is necessary to use calcium chloride for more effective dust control, the Contractor shall furnish and spread the material, as directed.

3.11 SEPARATION AND REPLACEMENT OF TOPSOIL

- A. Topsoil approved by the Owner and Landscape Architect for reuse shall be carefully removed from areas where excavations are to be made, and separately stored to be used again as directed. The topsoil shall be stored in an area acceptable to the Landscape Architect or Owner's Representative and adequate measures shall be employed to prevent erosion of said material.
- B. Topsoil proposed for reuse shall be tested in accordance with 32 90 00, Planting.

3.12 NOISE CONTROL

- A. The Contractor shall adhere to the City ordinances for Noise Control throughout the construction period. Noise control will be strictly enforced by the City.
- B. No construction shall occur between 7pm-7am Monday through Friday, or any time on Saturday or Sunday without prior written approval. Any exemption to prohibited construction hours must be authorized by a City representative.
- C. Contractor shall not permit engine idling on the job site. This shall be enforced through random, unannounced periodic inspections.

END OF SECTION

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SECTION 01 78 00 CLOSEOUT DOCUMENTATION

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. The work to be performed under this Section shall include the compilation and submittal of all required maintenance manuals, maintenance and repair products, warranty information, detailed procedures, product information, submittal records, as-built drawings, and certifications of all materials and equipment for the Landscape Architect's approval. Additional submissions may also be required as stipulated in the technical specifications sections.
- B. Upon Final Completion of all park construction, the contractor shall submit: two complete copies of a park maintenance manual, and two copies of an as-built drawing set, with two compact disc (CD) copies of the as-built drawings.
- C. The City will not issue the final check for park retainage until the submittal and approval of the maintenance manual and as-built drawings.

PART 2 - SUBMITTALS

2.1 MAINTENANCE MANUAL

The Maintenance shall be in the form of a three ring binder, labeled along the spine with the park name, organized and tabbed into appropriate sections, and shall include the following items:

- A. A complete landscape maintenance plan with recommended maintenance schedules and procedures for all park systems including (if appropriate to the scope of work): watering, fertilization, spring start up procedures, fall clean-up, park winterization procedures, and all maintenance recommended or required by the manufacturers of included products;
- B. A letter from the contractor stating the period of warranty for all parts, materials, and workmanship, from the date of Final Completion;
- C. All product information, product directions, and warranties;
- D. List of all plant material, and sizes of plant containers (if any);
- E. Copies of City permits with signatures of inspectors;
- F. Contact information for all subcontractors including email addresses; and
- G. A record of all submittals and dates of approvals.
- H. References are made throughout the Specifications and Drawings where additional record submittals are required.

2.2 PARK MAINTENANCE KIT

- A. At the completion of construction, the Contractor shall provide to the City Department of Public Works, Parks Maintenance Division, a Maintenance Kit containing all touch-up paint, maintenance instructions, spare parts, and other maintenance materials provided by the manufacturers of all improvements.
- B. The Maintenance Kit shall be delivered in a single container clearly labeled with the Park Name, and each item shall be identified as to the source.

2.3 AS-BUILT DRAWINGS

- A. As-Built drawing shall be a complete and accurate record that incorporate any and all changes to the construction plan set issued at the time of contract initiation. As-built drawings shall be clearly marked and annotated and shall include but not be limited to: all field changes, change orders, and supplemental drawings provided by the Landscape Architect.
- B. As-Built Drawings shall include complete records of all water, drainage, and electric utilities installed, including sizing, location, and inverts of all drainage pipes and structures, and sizing and location of all water service lines and electrical conduits.
- C. The Compact Discs shall include an electronic copy of all as-built drawings.

PART 3 - EXECUTION

3.1 SUBMISSIONS

- A. Submit all documents and data in a collated, manual format, with two (2) manuals to be submitted. Include a Table of Contents of the material for reference. The submittal is to be entire and complete, addressing all requirements listed above.

END OF SECTION

SECTION 02 41 00 SITE PREPARATIONS & DEMOLITION

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. The conditions and general requirements of the Contract, Division 0, and applicable parts of Division 1 apply to the Work under this Section.
- B. The Contractor shall, prior to any removal of rubbish or debris from the site, furnish written evidence satisfactory to the Owner's Representative that he has an approved dumping location for debris and/or spoil from his removals and excavation activities. See Section 00 62 23, Certification of Disposal Facilities.
- C. On-site cleaning of materials for the purpose of salvage on the site shall not be permitted except for such materials as are explicitly designated for reuse within the scope of this Contract.
- D. The Contractor shall secure all necessary permits from the City of Chelsea before starting this project.
- E. The City of Chelsea shall have the right of first refusal on all removed materials, at the direction of the City's Project Manager. All materials refused by the City shall become the property of the Contractor.
- F. For all earthwork, excavation, and removals within the driplines of protected trees (not limited to areas within designated tree protection fencing), the Owner's Representative or Landscape Architect must be present on the site or have specifically waived that obligation in writing to the Contractor to ensure tree protection measures are being observed. Provide 48 hours' notice prior to commencement of all such work. (SEE 01 57 00 3.07)

1.2 WORK INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING

- A. Provide all labor, equipment, implements and materials required to furnish, install, construct and perform all Site Preparation work complete, as shown on the Drawings and as specified herein.
- B. Work includes, but is not limited to the following:
 - 1. Temporarily shut off any utilities to the affected areas of the project site.
 - 2. All site furnishings and / or amenities noted below and on the drawings for removal without re-use, or identified in the field for removal, including features noted as "remove and dispose," shall be offered to and set aside for the City of Chelsea Department of Public Works. The City shall have the right of first refusal on all objects that will not be re-used for the proposed Park. Any items the City wishes to keep shall be delivered to the DPW Yard at no additional cost to the Owner.
 - 3. Removal of existing lawns, subgrades, or organic material, including mulch, as required by the Construction Documents (See 01 57 00 3.5 for Tree Protection, especially in regards to excavations);
 - 4. Cleaning of drainage structures, removal of debris, and flushing of drain lines on all drainage structures within the limit of work to the street or main line;
 - 5. Materials not indicated to be reused or protected, and not desired by the City of Chelsea Department of Public Works, shall be removed legally off-site.

- Provide for proper disposal of all removals off-site, including documentation of approved dumping location as described in 1.01.B;
6. Protect existing trees, plantings, walls, drainage structures, paving, utilities, and all other features not indicated to be removed (SEE 01 57 00 3.07);
 7. Protect the existing sidewalk within the public right-of-way;
 8. Protect the public right-of-way from the entry of construction debris;
 9. Provision of temporary fencing as needed and as outlined elsewhere in the Specifications to provide for a secure site throughout construction;
 10. Any other necessary preparations for installation of improvements.

1.3 REFERENCES

- A. Examine all other Sections of the Specifications and all Drawings for the relationship of the work under this Section and the work of the other trades. Cooperate with all trades and all City departments and coordinate all work under this Section.
- B. The following related items are included under the Sections listed below:
 1. Section 01 57 00 - Environmental Protection
 2. Section 31 00 00 - Earthwork - Clearing, Excavation, Filling and Grading
 3. Section 33 00 00 – Utilities

1.4 LAWS, ORDINANCES, PERMITS AND FEES

- A. The Contractor shall:
 - a. Give necessary notices, obtain all permits and pay all governmental fees and other costs in connection with this work, file all necessary plans, prepare documents and obtain all necessary approvals.
 - b. Obtain all required certificates of inspection for this work and deliver it to the Landscape Architect before request for acceptance and final payment for the work.
 - c. Include in the work, without extra cost to the Owner, any labor, materials, services, apparatus, drawings (in addition to contract drawings and documents) in order to comply with all applicable laws, ordinances, rules and regulations, whether or not shown on the drawing and/or specified. The disturbed areas shall be secured with chain link construction fence and fence shall be maintained at all times while site is under construction as per General Conditions Section of the Specifications.
 - d. Provide all safety controls during construction including fencing, barricades, etc. at no additional cost to the Owner.
 - e. Completely remove from the project area all demolished materials, except as designated for stockpiling for re-use, and dispose of all materials off the site. Disposal of the materials shall be done in such a manner that there shall be no accumulation of any demolished material which may, in the opinion of the Owner's Representative, the Fire Department or any other public agency having jurisdiction, constitute a hazard.
 - f. Comply with all Federal, State, and Local Codes for all utility work.

1.5 DEFINITIONS

- A. The following related items are included herein and shall mean:
- a. S.S.H.B. - Standard Specifications for Highways and Bridges, the Commonwealth of Massachusetts, Department of Public Works, latest edition.
 - b. A.S.T.M. - American Society for Testing and Materials.
 - c. A.A.S.H.T.O. - American Association of State Highway and Transportation Officials.

1.6 SITE CONDITIONS

- A. The Contractor shall visit and accept the site as he finds it and shall inform himself of the character and the type of structures to be removed. The Owner assumes no responsibility for the condition of the site. Damage to the site (whether by reason of fire, theft, or other happenings) shall be at the risk of the Contractor from and after the date of Contract execution and no such damage or loss shall relieve the Contractor from any obligation under the Contract.
- B. Environmental Requirements: Contractor shall not work on or with soils when they are overly dry, wet, or frozen. Field Test: Form soil in palm of hand; if soil retains shape and crumbles upon touching, then it may be worked (if it will not retain its shape, it is too dry; if it does not crumble, it is too wet). Landscape Architect shall be final authority on condition of soil.

1.7 PROTECTION

- A. NO ACCESS to the Job Site shall be allowed on or through abutting private properties. Access shall be along the public right-of-ways.
- B. All rules and regulations governing the respective utilities shall be observed in executing all work under this Section. All work shall be executed in such a manner as to prevent any damage to existing streets, curbs, paving, service utility lines and structures, drainage lines and structures, plantings scheduled to remain, and adjoining property. Monuments and benchmarks shall be carefully maintained and, if disturbed or destroyed, replaced as directed.
- C. The Contractor shall assume full responsibility for damages caused by his Subcontractor's equipment and personnel to the existing grounds as well as adjoining private property. The Contractor shall obtain approval for subsurface construction from DIGSAFE (1-888-344-7233 / 1-888-DIG-SAFE) and all necessary parties and the City of Boston before proceeding within the Contract limits.
- D. The work of this Section shall be performed in such a manner as to cause no interference with access by the Subcontractors or other Contractors to all portions of the site as is necessary for the normal conduct of their work.
- E. The Contractor shall take adequate precautions to protect all walks, roads, streets, curbs, pavements, trees and planting, on or off the premises, and shall repair and replace or otherwise make good, as directed by the Owner's Representative, any damage so caused.
- F. Trees that are damaged during construction shall be removed by the Contractor at their expense if instructed to do so by the Landscape Architect, and the Contractor shall pay the Chelsea Department of Public Works for each tree judged by a Massachusetts Certified Arborist to be significantly damaged or injured, whether or not it is removed, based on the following schedule :

1. \$1,500. per tree for 2" through 6" caliper
2. \$3,000. per tree for over 6", through 12" caliper
3. \$6,000. per tree for over 12", through 18" caliper
4. \$12,000. per tree for over 18" caliper.

1.8 SPECIAL PROTECTION FOR MAINTAINING STREETS AND PUBLIC WAYS

- A. Do not close or obstruct streets, or sidewalks within the public right-of-way, without a permit. Do not place or store material in streets, alleyways or sidewalks.
- B. Conduct operations with minimum interference to street.
- C. Furnish, erect and maintain fences, planking, bracing, shoring, sheathing, lights, barricades, warning signs, and guards as necessary for the protection of streets, sidewalks, and adjoining property.
- D. Completely remove all protection when the work is completed and approved by the Landscape Architect, or when ordered in writing to do so by the Owner.

1.9 UTILITIES

- A. All work shall be performed in accordance with Federal, State and Local Codes.
- B. Discontinuance or Interruption
 1. Before starting demolition, the Contractor shall be solely responsible for making all necessary arrangements and for performing any necessary work involved in connection with the discontinuance or interruption of all public and private utilities or services under the jurisdiction of the utility companies or corporations, and the Owner. These include gas, electricity, steam, refrigeration, low tension system, telephone, internet access, television, police signal, fire alarm, water, sanitary sewer, storm drainage, and without limiting the generality of the foregoing, including any system or systems which will be affected by the work to be performed under this Contract.
- C. Protection
 1. Preserve in operating condition all active utilities including overhead any wires, traversing the project site, which are to remain. Should any damage occur to a utility which is to remain as a result, in the judgment of the Owner's Representative, of this operation, the Contractor shall at his own expense, repair all damage to any such utility to the satisfaction of the affected utility operator and the Owner.

PART 2 - NOT USED

PART 3 - EXECUTION

3.1 REMOVALS

- A. All holes and trenches resulting from removals shall be backfilled as appropriate with gravel borrow and compacted as specified in Section 31 00 00 - Earthwork -Excavation, Filling and Grading.
- B. Shrub and stump removal: In areas where the finish condition shall be lawn or planting bed, the existing stump shall be ground and roots over 1/4 inch in diameter

within 5 feet of the stump shall be removed, all to a minimum of 12 inches below new finish grade. In areas where the finish condition shall be pavement, the stump and roots shall be completely removed.

- C. Tree Protection: All removals and earthwork within/under driplines of existing trees (not limited to areas within tree protection fencing) shall be handwork only. See Sheet L-1, Demolition & Removals Plan, for protection of existing trees to remain.

3.2 DRAINAGE SYSTEM WORK

- A. Contractor shall clean all portions of the existing drainage system and storm water lines indicated to remain, removing accumulated silt and clearing all pipes in order to provide sufficiently positive and continuous drainage to existing system.

3.3 DUST CONTROL

- A. Wet down thoroughly all work during excavation to prevent spread of dust. Make all arrangements and pay for all water and necessary connections therefore.

3.4 CLEAN-UP

- A. Remove from the project site all materials and debris resulting from the work of excavation. Storage of such materials on the project site will not be permitted. The project site shall be safe, clean and holes filled and compacted with clean fill upon completion of the excavation and site clearance work.

END OF SECTION

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SECTION 05 50 00 METAL FABRICATIONS

PART 1 - GENERAL

1.1 General Requirements

- A. The conditions and general requirements of the Contract, Division 0 and applicable parts of Division 1, apply to the work under this Section.
- B. All references to products by manufacturer, trade name or performance Specifications bearing the notation "or approved equal" shall be as determined by the Landscape Architect and the City, per MGL c. 30 s. 39M, part b, criteria 1..

1.2 Work Included

- A. Provide all labor, equipment, implements and materials required to furnish, install, construct and perform all site improvements complete as shown on the Drawings and specified herein.
- B. To be included, but not limited to the following:
 - 1. Utility Cabinet

1.3 References

- A. Examine all other Sections of the Specifications and all Drawings for the relationship of the work under this Section and the work of other trades. Cooperate with all trades and all departments of the City and coordinate all work under this Section therewith.
- B. The following related items are included under the Sections listed below:
 - 1. Section 03 30 00 – Cast-In-Place Concrete
 - 2. Section 31 00 00 – Earthwork
 - 3. Section 33 00 00 – Utilities

1.4 Submittals

- A. Shop Drawings and Samples
 - 1. Provide complete Shop Drawings and/or samples and catalog cuts for all items called for on the Drawings and as specified and in accordance with applicable requirements under Division 1.

1.5 Product Delivery, Storage and Handling

- A. Deliver materials in manufacturer's original unopened and undamaged packages with labels legible and intact.
- B. Store materials in unopened packages in a manner to prevent damage from the environment and construction operations.
- C. Handle in accordance with manufacturer's instructions.
- D. The Contractor shall be solely responsible for all materials stored on the site once delivered. Any materials left unsecured at the job site shall be solely at the contractor's own risk.

1.6 Definitions

- A. The following items are included herein and shall mean:

1. S.S.H.B. - Standard Specifications for Highway and Bridges, the Commonwealth of Massachusetts, Department of Public Works, latest edition.
2. A.S.T.M. - American Society for Testing and Materials. The following standard specifications are applicable to the associated items as listed.
 - a. A36...Steel
 - b. A153...Zinc Coating (hot-dip) on hardware
 - c. A307...Carbon Steel bolts 66000 psi tensile
3. CPSC - Consumer Product Safety Council.
4. ADA - Americans with Disabilities Act and its current regulations.
5. AWS: American Welding Society
6. SSPS: Steel Structures Painting Council

1.7 Maintenance Kit

- A. At the completion of construction, the Contractor shall provide to the City Department of Public Works, Parks Maintenance Division, a Maintenance Kit containing all touch-up paint, maintenance instructions, spare parts, and other maintenance materials provided by the manufacturers of all improvements.
- B. The Maintenance Kit shall be delivered in a single container clearly labeled with the Park Name, and each item shall be identified as to the source.

PART 2 - PRODUCT

2.1 Metal Fabrications: General Requirements

- A. Steel Members:
 1. Metal surfaces: For fabrication of miscellaneous metal work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, beam marks, roller marks, rolled trade names and roughness.
 2. Provide all materials of the best commercial quality for the purpose intended free from all defects that would impair the strength or durability of the work.
 3. Provide ferrous metals conforming to the following:
 - a. Steel pipe conforming to ASTM A53, type and grade as selected by fabricator and as required for design loading, standard weight (schedule 40) unless otherwise indicated or required.
- B. Finishing: Fabrications shall be finished using a Hot-Dip Galvanizing and factory-applied Powdercoat Architectural Finish process, ColorGalv Thermoset by Duncan Galvanizing or Approved Equal.
 1. Hot-Dip Galvanizing: Provide coating for iron and steel fabrications applied by the hot-dip process, Duragalv® by Duncan Galvanizing or Approved Equal. Comply with ASTM A 123 for fabricated products and ASTM A 153 for hardware. Provide thickness of galvanizing specified in referenced standards. The galvanizing bath shall contain special high grade zinc, nickel, and other earthly materials.

- a. Galvanizing shall exhibit a rugosity (smoothness) not greater than 4 rug (16-20 microns of variation) when measured by a profilometer over a 1 inch straight line on the surface of architectural and structural elements that are less than 24 pounds per running foot. Profilometer shall be capable of operating in 1 micron increments.
 - b. Surface blasting prior to application of factory-applied post galvanizing wet coatings will produce a high rugosity and not be acceptable.
2. Powdercoat Architectural Finish: Provide factory-applied high-performance thermosetting-based durable coating over hot-dip galvanized steel, Thermoset® by Duncan Galvanizing or Approved Equal. Colors shall be selected from the Galvanizer's standard color range.
- a. Primer coat shall be factory-applied prime coating. Apply primer within 12 hours after galvanizing and within 3 hours of surface preparation at the same facility where the galvanizing is done in a controlled environment meeting applicable environmental regulations and as recommended by the primer coating manufacturer.
 - b. Finish coat shall be factory-applied high performance architectural finish. Apply finish coating at the galvanizer's plant, in a controlled environment meeting applicable environmental regulations and as recommended by the finish coating manufacturer.
 - c. Coatings shall be certified VOC compliant and conform to applicable regulations and EPA standards.
 - d. Apply the galvanizing, primer and coating within the same facility and provide single-source responsibility for galvanizing, priming and finish coating.
 - e. Blast cleaning of the galvanized surface is not acceptable.

2.2 UTILITY CABINETS

A. Cabinet Fabrications:

1. The Utility Cabinet shall be a custom built or standard manufactured RPV-type cabinet of sufficient size to comfortably house and service all required components and connections, of galvanized, zinc-primed steel, ¼" thick, fabricated and finished in compliance with 2.2, Metal Fabrications (General Requirements), color to be selected. Shop Drawings required; see below.
2. Cabinet shall have louvers with insect screens at the top of the doors, at the sides, and at the back, and a hinged lockable door with stay-open door catches and a vandal-resistant cover over the handle/padlock area. No lifting eyebolts or holes shall be permitted in the tops of the cabinets.
3. Cabinets shall be set on a concrete pad, as shown on the Drawings, cast in accordance with 03 30 00, Cast-In-Place Concrete.

B. Shop Drawings and Diagrams

1. Provide Manufacturer's Cut Sheets or Shop Drawings for all components and cabinet, and plumbing diagrams, including detailing of proposed hangings and supports, with all features clearly labeled, for review and Approval by the Landscape Architect, the Owner's Representative, and the City of Chelsea Department of Public Works.

- C. For Cabinet contents, meter, and additional required Shop Drawings and Submittals, see Section 33 00 00 – Utilities.

PART 3 - EXECUTION

3.1 Metal Fabrications (General Requirements for Fence, Gates, and Handrails)

A. Fabrication

1. Form exposed work true to shape and size, and line and level with accurate angles and surfaces and straight sharp edges. Ease exposed edges to a radius of approximately 1/32 inch unless otherwise indicated. Form bent metal corners to smallest radius possible without causing grain separation or otherwise impairing work. Cutting, shearing, and punching shall leave clean, true lines and surfaces.
 - a. All exposed edges and ends of plates, bars, shapes, or tubing shall be square and smooth, free of cutting marks, shear distortion, burrs and nicks.
 - b. Provide uniform and consistent joints with all exposed copes, miters and butt cuts.
2. Weld corners and seams continuously on all exposed surfaces and where required for strength on concealed surfaces in accordance with AWS recommendations. Tack welding will not be permitted unless specifically noted. Where flush butt joints are required, slightly oversize welds, fill with plastic filler and grind flat. Grind exposed connections smooth and flush to match and blend with adjacent surfaces.
3. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type indicated or, if not indicated use Phillips flathead, countersunk, screws and bolts.
4. Bolted connections: Provide holes in bolted parts with 1/16 inch diameter greater than the nominal diameter of the bolt except where otherwise shown. Cut, drill or punch holes as required perpendicular to metal surfaces and so as not to deform or mar adjacent surfaces. No unfair holes will be accepted. Do not flame cut or enlarge holes by burning. Holes shall be clean cut without torn or ragged edges. Remove outside burrs resulting from drilling or punching operations.
5. Provide for anchorage of type indicated, coordinated with supporting structure. Fabricate and space anchoring devices to provide adequate support for intended use. Provide cardboard sleeves around all iron work to be set in masonry.
6. Cut, reinforce, drill and tap miscellaneous metal work as indicated.
7. Fabricate joints which will be exposed to weather in a manner to exclude water or provide weep holes where water may accumulate.

B. Sandblasting

1. All metal components shall be sandblasted prior to finishing. Sandblasting shall conform to SSPC-SP7, brush off blast cleaning.

C. Finishing

1. All finishes to be applied in the shop except what is required to touch up after installation in the field.
2. Galvanizing shall be performed by a company with a minimum of ten years experience in the successful application of hot-dip galvanizing utilizing the dry kettle process.
3. Factory-applied metal coatings shall be performed in a facility acceptable to the coating manufacturer.
4. Submit two 3 inch by 6 inch samples of factory-applied coatings and colors proposed for use for approval prior to coating application.
5. Handle and install materials with factory-applied coatings as recommended by galvanizer and coating manufacturer to prevent damage to coatings prior to and after installation.
6. Touch-up factory-applied metal coatings as recommended by galvanizer and coating manufacturer.
7. Provide 20 year warranty against 10% or more visible rust. Warranties for fading or discoloration of the finish shall be that which is supplied by the coating manufacturer .
8. Fabricator shall provide a notarized statement from the galvanizer, along with a description of the material processed, indicating that all work has been done in conformance with this specification prior to receiving payment.
9. Certificate of Compliance for Shop Drawing Review by Galvanizer: Submit galvanizer's certification that shop drawings for metal fabrications to receive metal coatings have been reviewed and that fabrications are acceptable to galvanizer for proper application of galvanizing and metal coatings. All drawings should be stamped by the galvanizer to indicate approval of design for galvanizing.
10. Galvanizer/coater shall supply a certificate of compliance that all coatings have been performed in accordance with QP-3 standards and procedures.

D. Installation

1. Fastening to in place construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in place construction, including threaded fasteners for concrete and other connectors as required.
 - a. In existing or previously-installed concrete footings, set posts as indicated on the Drawings, plumb and in alignment. Drill or core concrete in a neat fashion such that the diameter of the hole is 1 inch greater than the width of the post or anchor to be placed in it (3" dia. for 2" posts). Provide sinkages for supports as shown and as necessary to secure work in place. Cut and backcheck as required for proper fit and clearance. Clear post holes of loose material. Provide cardboard sleeves around all iron work to be set in masonry. Fill the space between the masonry and post solidly with grout, finished to divert water running down the post away from the post base. Grout shall have a waterproof sealant. Ensure that posts, concrete, and adjacent surfaces are free and clean of grout and debris before final inspection.

2. Cutting, fitting and placement: Perform cutting, drilling and fitting required for installation of miscellaneous metal fabrications. Set work accurately in location, alignment, elevation, level, true and free of rack, measured from established lines and levels.
 - a. Provide all temporary bracing, guy wires, turnbuckles, horizontal struts, etc., as may be required to plumb and hold the metal fabrications in place and aligned at all times during assembly and to take care of all lateral and vertical loads to which the work may be subjected. Provide temporary bracing or anchors in formwork for items which are to be built into concrete, masonry or similar construction.
 3. Fit exposed connections accurately together for form tight hairline joints that cannot be shop welded because of shipping size limitations. Grind exposed joints smooth.
 4. Field welding: Comply with AWS JCode for procedures of manual shielded metal arc welding, appearance and quality of welds made, and methods used in correcting welding work.
 5. Bolted connections: Do not drive bolts into holes so as to injure threads. Make the hole fair by further drifting or removing burrs. Tighten bolts in a sequence toward free edges and in a manner to distribute loads evenly. Do not mix bolt heads and nuts. Keep each on one side of the connection. For exposed connections, keep heads on the visible side where practical.
- E. Non-shrink Grout
1. Grout, if used, shall be a non-shrink, exterior, epoxy cement grout, with top trowelled to drain from post.

3.2 UTILITY CABINETS

- A. Fabrication and finishing of cabinet shall be in accordance with 3.1, Metal Fabrications (General Requirements), and with all applicable codes and approved shop drawings.
- B. Electrical and Water Cabinets shall be mounted on a single concrete pad, as shown on the Drawings. Size pad to accommodate both cabinets and all required clearances; note final size of pad on Shop Drawings for approval.
- C. See also Section 33 00 00, Utilities.
- D. Installation to comply with all applicable codes and standards, and with City of Chelsea Department of Public Works requirements.
- E. The Contractor performing the work on these items shall be a licensed MA Plumber and/or Electrician, as appropriate.
- F. All plumbing work shall be inspected by the City Plumbing Inspector, and all electrical work inspected by the City Electrical Inspector, before backfilling occurs.
- G. Contractor to touch up any scratches and all mars to surfaces and finishes.

END OF SECTION

SECTION 31 00 00 EARTHWORK

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. The conditions and general requirements of the Contract, Division 0 and applicable parts of Division 1, apply to the work under this Section.
- B. The Contractor shall prior to any removal of debris from the site, including surplus fills imported from off site, furnish on a form supplied by the Owner, written evidence satisfactory to the Owner that he has an approved dumping location for debris and/or spoil from his/her excavation activities. See 3.1 regarding restrictions on removal of excavated material and/or soils from the site.
- C. The Contractor shall keep all public areas clean and free of dirt and debris during the construction period.

1.2 WORK INCLUDED

- A. Provide all labor, equipment, implements and materials required to furnish, install, construct and perform Earthwork as shown on the Drawings and as specified herein.
- B. To be included:
 - 1. Excavating, filling, trenching and backfilling of all description required for the construction of pavement repairs and site improvements, filling voids left by removals, and all specialties. Provide all additional fill materials as required and specified herein.
 - 2. Provision of all required survey and field investigation services and equipment needed to establish accurate information about the existing grades of pavements and play equipment as directed by the Landscape Architect, in order to allow for confirmation of final site grading information.
 - 3. Pumping and/or bailing necessary to maintain excavated spaces free from water from any source whatsoever.
 - 4. Provide graded materials, as specified, for fills, base courses and backfills as required.
 - 5. Perform all compaction of fill materials as hereinafter specified.
 - 6. Obtain all required permits, licenses and approvals of appropriate municipal and utility authorities prior to commencing work of this Section 31 00 00, and pay all costs incurred therefrom.
 - 7. If subgrade is deemed unsuitable for placement of subbase material or backfill, work shall include the additional excavation of unsuitable material beyond the line and grades as shown on drawings, and as determined by the Landscape Architect. Such removals shall be measured by a Civil Engineer or Land Surveyor employed by the Contractor and verified by the Landscape Architect. The contract price shall be increased, if additional work is authorized by the Landscape Architect, at a value of \$40.00 per cubic yard.
 - a. The unsuitable material shall be measured in place by a Civil Engineer employed by the Contractor with quantities verified by the Landscape Architect. No unsuitable material removals shall be credited to the Contractor without prior measurements and verifications.

8. Work under this Section shall include the removal if necessary of:
 - a. Ledge in mass or in trench excavations, and/or;
 - b. Boulder over one (1) cubic yard in size in trench excavations, and/or;
 - c. Solid masonry or concrete foundations other than those for features indicated for removal on the drawings.

Such removals shall be measured by a Civil Engineer or Land Surveyor employed by the Contractor and verified by the Landscape Architect. No rock/foundation removals shall be credited to the Contractor without prior measurements and verifications. The contract price shall be increased, if such removal is authorized by the Landscape Architect, at a value of \$90.00 per cubic yard.

- C. Examine all other Sections of the Specifications and all Drawings for the relationship of the work under this Section and the work of other trades. Cooperate with all trades and all departments of the City and coordinate all work under this Section therewith.
- D. The following related items are included under the Sections listed below.
 1. Section 02 41 00 – Demolition and Site Preparation
 2. Section 32 80 00 – Irrigation
 3. Section 32 90 00 – Planting
 4. Section 33 00 00 – Utilities

1.3 SUBMITTALS

- A. Submit certified gradation test data for borrow materials a minimum of one week prior to delivery to the site.
- B. Provide 10-pound samples of each borrow material to a soil testing facility for moisture density testing a minimum of one week prior to delivery to site.

1.4 LAWS, ORDINANCES, PERMITS AND FEES

The Contractor shall:

- A. Give necessary notices, obtain all permits and pay all governmental taxes, fees and other costs in connection with this work, file all necessary plans, prepare documents and obtain all necessary approvals.
- B. Obtain all required certificates of inspection for this work and deliver same to the Landscape Architect before request for acceptance and final payment for the work.
- C. Include in the work, without extra cost to the Owner, any labor, materials, services, apparatus, drawings (in addition to contract drawings and documents) in order to comply with all applicable laws, ordinances, rules and regulations of the City and the Commonwealth of Massachusetts, whether or not shown on the Drawings and/or specified.
- D. The Contractor shall provide a temporary sidewalk whenever a sidewalk is closed because of the construction. This temporary sidewalk must be at the same level as the existing closed sidewalk and it must be visually partitioned off from the street and work area. The Contractor shall so conduct his operations as to interfere as little as possible with use ordinarily made to roads, driveways, alleys, sidewalks, or other facilities near enough to the work to be affected thereby.

1.5 DEFINITIONS

- A. The following related items are included herein and shall mean:
 - 1. S.S.H.B. - Standard Specifications for Highways and Bridges, the Commonwealth of Massachusetts, Department of Public Works, latest edition
 - 2. A.S.T.M. - American Society for Testing and Materials
- B. Rock excavation shall be defined as:
 - 1. Open rock excavation shall be classified as rock 3 cubic yards in size or larger.
 - 2. Trench rock excavation shall be classified as rock 1 cubic yard or larger.
 - 3. Ledge shall be classified as solid, continuous rock mass, unable to be removed without mechanical measures, and larger than the size/location conditions stated in sub-paragraphs 1 and 2 above.

1.6 BENCHMARKS AND ENGINEERING

- A. Lines and grade work in accordance with Drawings and Specifications shall be laid out by a registered Civil Engineer or registered Surveyor employed by the Contractor. The Contractor shall establish permanent benchmarks, to which access can easily be had during the progress of the work. The Contractor shall maintain all established bounds and benchmarks and replace, as directed, any which may be disturbed or destroyed. The selection of the registered Civil Engineer or Surveyor shall be approved by the Landscape Architect.
- B. The Contractor shall submit written confirmation of dimensions and elevations on the ground and report any discrepancies immediately to the Landscape Architect. Such confirmation shall bear the Engineer's registration stamp. Any discrepancies not reported prior to construction shall not be the basis of claims for extra compensation.
- C. The General Contractor shall not commence any excavation or construction work, until the Landscape Architect's verification has been received and approved by the City.

1.7 SUBSURFACE INFORMATION

- A. The Owner assumes no responsibility for the Contractor's failure to make his own site investigation and makes no representation regarding the character of the soil or subsurface conditions which may be encountered during the performance of the work.

1.8 FINISHED GRADES

- A. The words "finished grades" as used herein mean the required final grade elevations indicated on the Drawings. Where not otherwise indicated, site areas shall be given uniform slopes between points, for which finished grades are shown, or between such points and existing grade except that vertical curves or roundings shall be provided at abrupt changes in slope.

1.9 GRADES AND ELEVATIONS

- A. The Drawings indicate, in general, the alignment and finished grade elevations. The Landscape Architect however, may make such adjustments in grades and alignment as are found necessary in order to avoid interference and to adapt the grading to other special conditions encountered.

1.10 WORK IN THE PUBLIC WAYS

- A. Notify the appropriate municipal officials at least seven calendar days in advance of commencing any work in the public ways to obtain all required permission to perform this work. Perform all work in the public ways in a manner required by the municipal authorities, as per the direction of the Owner's Representative.
- B. Should there be any conflict between requirements specified in the Contract Documents and those of the City of Chelsea, the municipal requirements shall govern.
- C. Do not close or obstruct any streets or sidewalks unless and until they have been discontinued by the appropriate municipal authority or unless and until he shall have first secured all necessary or other permits therefor. No materials whatsoever shall be placed or stored in the streets. Conduct all operations to interfere as little as possible with the use ordinarily made of roads, driveways, sidewalks, or other facilities near enough to the work to be affected thereby.

1.11 DISPOSITION OF EXISTING UTILITIES

- A. Active utilities existing on the site shall be carefully protected from damage and relocated or removed as required by the work. When an active utility line is exposed during construction, its location and elevation shall be plotted on the Record Drawings and both the Landscape Architect and the Utility Owner notified in writing.
- B. Inactive or abandoned utilities encountered during construction operations shall be removed, plugged or capped. The location of such utilities shall be noted on the Record Drawings and reported in writing to the Landscape Architect.
- C. Active utility lines damaged in the course of construction operations shall be repaired or replaced as determined by the Landscape Architect without added cost to Owner.
- D. Notify the Owner at least three (3) days in advance of the proposed time for shutting down or interrupting utilities or services which may affect operation of adjoining properties. Unless otherwise authorized by the Owner, schedule such interruptions on weekends, holidays, or before or after Owner's normal working day. In no case shall any services or utilities be interrupted prior to notification and authorization by the Owner.

1.12 PROTECTION

- A. All rules and regulations governing the respective utilities shall be observed in executing all work under this Section. All work shall be executed in such a manner as to prevent any damage to existing streets, curbs, paving, service utility lines, structures and adjoining property. Monuments and benchmarks shall be carefully maintained and, if disturbed or destroyed, replaced as directed.
- B. The Contractor shall perform the installation, maintenance and removal of all sheet piling, shoring and bracing required for the protection of all items of this Contract affected by the work of this Section.
- C. The Contractor shall furnish all facilities and materials necessary to prevent the earth at the bottom of excavation from becoming frozen or unsuitable to receive footing or other load bearing units.
- D. The work of this Section shall be performed in such a manner as to cause no interference with access by the Subcontractors or other Contractors to all portions of the site as is necessary for the normal conduct of their work.

- E. Protect all areas to remain undeveloped outside the Contract limit lines. Should these areas be damaged, the Contractor shall restore them to the satisfaction of the Landscape Architect and Owner. This includes the repairing and replacement of all damaged conditions such as plant materials and similar items.
- F. Storm drains and other drainage structure shall be protected from dirt and debris during the construction process through the use of haybales and siltation fence, as shown on the Drawings.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 GRADES AND ELEVATIONS

- A. Establish the lines and grades in conformity with the Drawings. Establish and maintain suitable stakes or batters at points where spot elevations are given on the Drawings and at any other points to be graded as directed by the Landscape Architect. Maintain sufficient reference points at all times during construction to properly perform the Contract installation.
- B. All grades shown on the Drawings are relative grades indicating general intent. Final grading will be confirmed in the field after review of existing grades and proposed grade stakes.
- C. The Contractor shall provide field investigation of elevations (spot grades at indicated points, and grade stakes of planned elevations) as requested during construction so that the Landscape Architect can ensure and confirm that all planned walkways and surfaces for pedestrian travel and use are in compliance with the ADAAG and MassAAB standards regarding running slopes and cross slopes, and that all component height, access, and other requirements of the surfacing adjacent to the play equipment as installed are in compliance with the provisions of ASTM 1487 and CPSC Handbook for Public Playground Safety. All such field investigation of existing and proposed grades shall be at no additional cost to the Owner.

3.2 EXCAVATION

- A. General
 - 1. Excavate all material to the elevations, dimensions and form as shown on the Drawings and as specified for the construction of site improvements and other structures necessary for the completion of the utilities and site work. All unsuitable materials within the indicated and specified limits shall be excavated and removed at no additional cost to the Owner. Any quantities involving an extra or other adjustment of the Contract Price shall be subject to measurement verification and approval by the Landscape Architect prior to the excavation and removal of such materials. Unsuitable materials shall include the following:
 - a. Pavements, utility structures, building foundations and other man-made structures.
 - b. Peat, organic silt and other organic materials subject to decomposition, consolidation or decay.
 - c. Miscellaneous fill including cinders, ash, glass, wood, metal and ledge.

- d. Ledge, or boulders except as specified for fills herein.
 2. In general, the General Contractor shall be permitted to use machine excavation except for the final six (6) inches under footing, foundations, utility lines and structure, which shall be handwork. Also, all excavation in the planting areas and areas specified for tree protection shall be hand work or by air spade.
 3. If any part of the excavation is carried through error beyond the depth and dimensions indicated on the Drawings or specified herein, or if the foundation soils are disturbed by dewatering or other construction operation, the General Contractor shall, at his own expense, refill with gravel compacted to ninety-five (95) percent of the maximum dry density at optimum moisture content or with concrete as determined by the Engineer.
 4. When excavation has reached the prescribed depth, the Landscape Architect shall be notified and will make an inspection of the condition and approve the placing of fill material.
 5. The Contractor shall obtain from the proper authorities locations of all utilities within the scope of this work so that there will be no damage done to such utilities. Neither the Owner nor the Landscape Architect will be responsible for any such damage, and the Contractor shall restore any structure or utility so damaged without additional compensation. Attention is called to that fact that there are electric lines, and other utilities in certain locations within and adjacent to the sites. Written notifications to the appropriate utility agencies shall be made at least ten (10) days prior to the commencement of any work on those utilities.
 6. Wherever culverts, sewers, drains, manholes, catch basins, catch basin connections, water mains, valve chambers, utility tunnels, gas pipes, electric and telephone conduits, house service connections of any other underground constructions are encountered in excavating for utilities or any other site work, they shall be protected and firmly supported by the Contractor, at his own expense, until the trench is backfilled and the existing structures are made secure. Injury to any such structures caused by or resulting from the Contractor's operations shall be repaired at the Contractor's expense. The authority having charge of any particular underground structure shall be notified promptly of injury to its structure. All utility lines shall be noted on the required "as-built" plan.
 7. Excess material - Suitable excavation material which is allowable for fill and backfill shall be separately stockpiled as directed by the Landscape Architect. All surplus fill other than that required to complete the intent of the Contract shall become the property of the Contractor and shall be legally disposed of off the property by the General Contractor. All excavated materials which, in the opinion of the Landscape Architect are not suitable for fill and backfill shall be removed and legally disposed of off the property.
 8. Any unsanitary conditions encountered, such as broken sewer mains or uncovered garbage, shall be corrected or removed entirely as directed by the Landscape Architect.
- B. Excavation for Site Improvements.
1. Excavate to the lines and grades shown on the Drawings and as specified to obtain the subgrades for the site improvements.

2. Existing service and utilities encountered shall be immediately repaired, protected and maintained in use until relocation of same has been completed or to be cut and capped where directed or be prepared for connection when so required.

3.3 SUBGRADE PREPARATION AND PROTECTION

A. General Requirements

1. All subgrade areas shall be made ready for fill by removal of all organic material, unsuitable soils and deleterious materials to firm natural ground as directed by the Landscape Architect.
2. Scarify, spot-fill, or otherwise treat the surface of areas to receive fill as necessary to remove holes, depressions, ruts, hummocks, or other uneven features.

B. Proof Rolling Subgrades

1. Prior to placement of fill, or bottom filter fabric where shown on drawings, proof roll natural ground by making a minimum of two passes with approved compaction equipment. Proof rolling may be waived by the Landscape Architect where excessively wet or saturated subgrade condition are encountered.

3.4 PROTECTION

- A. Protect open excavations with fencing, warning lights and other suitable safeguards. No open excavation shall be left without proper barriers and other devices necessary for public safety.
- B. Comply with local safety regulations or, in the absence thereof, with the provisions of the Manual of Accident Prevention in Construction of the Associated General Contractors of America, Inc.
- C. Frost Protection - Make no excavation to the full depth indicated when freezing temperature may be expected unless the footing or slabs can be poured immediately after the excavation has been completed. Protect the bottoms as excavated from frost, if placing of concrete is delayed, with straw, tarpaulins or temporary heat until footings or slabs poured and backfill is placed.
- D. Any ditching required to keep the site free from water during construction is the responsibility of the Contractor.

3.5 FILL AND COMPACTION

A. Samples and Testing -- See Earthwork Section 2.01A (Samples and Testing).

B. Compaction Equipment and Tests

1. Compaction equipment, unless otherwise specified, shall consist of heavy vibratory rollers, such as a Raygo 400 or other compaction equipment approved by the Landscape Architect. Equipment shall make a minimum of four (4) passes to achieve compaction as specified; to provide an evenly dense and compacted thickness throughout. All ruts shall be filled, the surface even and compacted to the density called for. The Landscape Architect retains the right to disapprove the use of any equipment that does not meet the above Specifications or perform the work as intended. Any modifications of equipment or method must be approved by the Landscape Architect.

2. All fill material shall be compacted to at least ninety-five (95) percent of maximum density(s) determined by A.S.T.M. Test Designation D-1557, Method D or A.S.T.M. D-1556.
3. Compaction tests shall be performed at five (5) locations as directed by the Landscape Architect. (For multiple sites, requirements are for each site.)

C. Placing Fills and Compacting

1. Fill material shall be placed in horizontal layers not exceeding six (6) inches. Each layer shall be compacted to the percentage of maximum dry density specified for the particular type of fill and at a water content equal to optimum dry density and optimum water content shall be as specified herein.
2. Where water content of the fill must be adjusted to meet this Specification, the fill shall be thoroughly disked to insure uniform distribution of any water added.
3. Areas to be filled or backfilled shall be free of construction debris, refuse, compressible or decayable materials and standing water. Do not place fill when materials or layers below it are frozen.
4. Notify the Landscape Architect when excavation is ready for inspection. Filling and backfilling shall not be started until conditions have been approved by the Landscape Architect.
5. In confined areas adjacent to footings and foundation walls and in utility trenches, the fill shall be compacted with hand-operated vibration tampers. The maximum lift thickness shall be four (4) inches. The degree of compaction attained shall be equivalent to that attained in the adjacent open areas where heavy rolling equipment is used. Any areas that subsequently settle shall be refilled to true subgrade and properly compacted.

D. Placing Subbase Fills

- a. Subbase fills, as specified herein above, shall be provided as subbase under all pavement unless otherwise called for, and as subbase under and/or around footings and as shown on the Drawings or specified.
2. Place subbase in six (6) inch maximum layers; fill and compact each layer to ninety-five (95) percent maximum dry density.

3.6 GRADING

- A. Do all grading required for the work including shaping, trimming, rolling and finishing of the surface of the subgrades for all surfaces. All ruts shall be eliminated. Grading for subgrades for paved areas shall be finished at the required depth below and parallel to the proposed surface within 1/4" in 10'-0" tolerance.
- B. If, during the progress of rough grading work, any water pipe, sewer, conduit, drain, or other construction is damaged as a result of operations under this Contract, the Constructor shall repair all such damage at no additional cost to the Owner and restore work to its original condition.
- C. Do all other cutting, filling and rough grading to the lines and grades indicated on the Drawings. Grade evenly to the finished grades shown on the Drawings. No stone larger than 3" in largest dimension shall be placed in upper 6" of fill.
- D. Grading shall be brought to bottom of base course under areas to be paved.
- E. Complete grading operations after site improvements are constructed, and all materials, rubbish and debris removed from the site. Leave subgrade for planting

clean at required grades. Provide sufficient grade staking to witness correct lines and grades, as determined by the Landscape Architect.

- F. Where streets or sidewalks within or outside the limit of Contract lines have been excavated in fulfilling the work required under this Contract, the Contractor shall furnish and install all material necessary to bring finish surfaces level with the existing adjacent surfaces. All work shall be installed to match the existing conditions in accordance with the governing authority. Notify the proper authorities prior to restoring surfaces outside the limit of Contract line.

- G. Tolerances

<u>Area</u>	<u>Max Grading Tolerance +/-</u>
1. Subgrade in landscaped areas	1/2" prior to placement of loam
2. Pavement areas	1/4" in 10'

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SECTION 32 80 00 IRRIGATION

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. The Work of this Section is integral with the whole of the Contract Documents and is not intended to be interpreted outside that context.
- B. All references to products by manufacturer, trade name or performance Specifications bearing the connotation "or Approved Equal" shall be as determined by the Landscape Architect and the City, per MGL c. 30 s. 39M, part b, criteria 1.
- C. Coordinate work of this Section with other underground utilities and with trades responsible for their installation. Refer to respective Drawings and Specification sections pertaining to other work.
- D. It is the Contractor's obligation for blowout, maintenance and start-up of system; walkthrough review with the Department of Public Works before maintenance is handed over to the City.

1.2 SCOPE OF WORK

- A. Perform all labor, equipment, implements and materials required to furnish, install, construct and perform all site improvements complete as shown on the Drawing Notes and specified herein.
- B. All necessary changes to the Drawings to avoid any obstacles shall be made by the Contractor with the approval of the Owner's Representative.
- C. Trench excavation, back filling and bedding materials, together with the testing of the completed installation shall be included in this work.
- D. The work shall be constructed and finished in every respect in a good, workmanlike and substantial manner, to the full intent and meaning of the Drawings and Specifications. All parts necessary for the proper and complete execution of the work, whether the same may have been specifically mentioned or not, or indicated on the Drawings, shall be done or furnished in a manner corresponding with the rest of the work as if the same were specifically herein described.
- E. The irrigation system to be installed shall be a single controller with multiple zones (label zones on irrigation controller), turf and landscape irrigation system supplied from municipal water. The system shall be designed for a flow rate (GPM) and dynamic pressure (PSI) as are available from the street connection; inform Owner's Representative and Landscape Architect promptly if flow or pressure is insufficient.
- F. The principal work of this Section includes, but may not be limited to the following:
 - 1. Automatic Irrigation System (Scope shown or described on Drawings, if applicable, or 100% coverage of all lawn areas, tree pits, and plant beds if not described);
 - 2. Use of one of the zones to provide a time-controlled supply to the water spray play features;
 - 3. One (1) Year Warranty;
 - 4. 90 calendar days' maintenance of irrigation system;

5. As-Built Record Drawings as well as Operating & Maintenance Manual generation, in accordance to these specifications.

1.3 RELATED WORK SPECIFIED ELSEWHERE

- A. Examine all other Sections of the Specifications and all Drawings for the relationship of the Work under this Section and the Work of other trades. Cooperate with all trades and all departments of the City of Chelsea and coordinate all Work under this Section.
- B. The following related items include, but are not limited to Work under the Sections listed below:
 1. Section 32 90 00 – Planting
 2. Section 33 00 00 – Utilities

1.4 ORDINANCES, PERMITS AND FEES

- A. The Work under this Section shall comply with all ordinances and regulations of authorities having jurisdiction.
- B. The Contractor shall obtain and pay for any and all permits, tests and certifications required for the execution of Work under this Section.
- C. Furnish copies of Permits, Certifications and Approval Notices to the Owner's Representative prior to requesting payment.
- D. The Contractor shall include in their bid any charges by the Department of Public Works, Utility Company, or other authorities for work done by them and charged to the Contractor.

1.5 SUBMITTALS & PRODUCT LITERATURE

- A. Allow 2 weeks from original submittal to Landscape Architect and Owner's Representative for municipal review of all submittals and plans.
- B. The Contractor shall provide four (4) copies of proposed irrigation layout, product specification sheets on all proposed equipment to be installed to the Owner's Representative for approval.
 1. Work on the irrigation system may not commence until proposed plan has been approved by the Landscape Architect and product sheets are submitted and approved.
 2. Submittals shall be marked up to show proper nozzles, sizes, flows, etc.
 3. Submittal package shall also include a full, detailed irrigation plan. The irrigation plan shall be measured, and shall show all coverage arcs of spray and sprinkler heads.
- C. Manufacturer's printed information describing irrigation materials:
 1. Sprinkler Heads
 2. Valves: Manual and Automatic
 3. Controllers
 4. Valve Boxes
 5. Pipes and Fittings
 6. Wire and Connectors

7. Quick Coupling Valves
 8. Rain Sensor
 9. Backflow Preventer
 10. Miscellaneous Materials
- D. Record Drawing
1. Provide complete irrigation system Record Drawing/As-Built Plan on reproducible base supplied by the Owner's Representative. The Plan shall clearly show and label each zone for controls and maintenance. (See 1.12.B)
 2. Drawing shall call out materials, have a legend, numbered valves, and show details of valve assemblies, swing joints, risers, valve boxes, and typical trench section.
 3. All valve boxes shall be referenced by distance from a minimum of two permanent points in a triangular fashion.
- E. Project Record Documents:
1. The Contractor shall provide and keep up-to-date a complete Record Set of Drawings of the system as the project proceeds. Drawings shall be on a reproducible base, supplied by the Owner's Representative. Drawings shall be corrected daily, showing every change from the original Drawings and Specifications. Prints for this purpose may be obtained from Owner's Representative at cost.
 2. Record Drawings shall specify and exactly locate sprinkler type; pop up height and nozzle for each sprinkler installed. Each valve box location to be referenced by distance from a minimum of two permanent locations. Controller(s), rain sensor(s), air vacuum relief valves, flushing valves, quick coupling valves, water meters, back flow prevention device and all other equipment shall be indicated on the drawings. All wire routing, wire size and splices shall be indicated. Main line pipe and wire route shall have two (2) distinctly different graphic symbols (line types). Drawing Set shall have a legend and valves shall be numbered.
 3. This redlined record set of drawings shall be kept at job site and shall be used only as a record set. This redlined set of documents shall also serve as work progress sheets and shall be the basis for measurement and payment for work completed.
 4. On or before the date of final field observation, deliver corrected and completed AutoCAD computer plots of "record drawings" on vellum and AutoCAD electronic files on disk to Owner's Representative as part of contract closeout. Delivery of plots will not relieve Contractor of the responsibility of furnishing required information omitted from the prints.
- F. At the end of each segment of the project the contractor shall submit the following to the Owner's Representative.
1. Plumbing permits: If none required, so state.
 2. Material approvals.
 3. Pressure line tests: By whom approved and date.
 4. Materials furnished: Recipient and date.

1.6 PRODUCT, DELIVERY, STORAGE AND HANDLING

- A. Deliver all materials in manufacturer's original unopened and undamaged packages with labels legible and intact.
- B. Acceptance at Site: Verify that delivered materials conform to specifications and approved submittals.
- C. Store materials in unopened packages in a manner to prevent damage from the environment and construction operations.
- D. Handle in accordance with manufacturer's instructions.

1.7 EXAMINATION OF CONDITIONS

- A. The Contractor shall fully inform himself of existing conditions on the site before submitting his bid, and shall be fully responsible for carrying out all work required to fully and properly execute the work of the Contract, regardless of the conditions encountered in the actual Work. No claim for extra compensation or time extension will be allowed on account of actual conditions inconsistent with those assumed.
- B. Environmental Requirements: Contractor shall not work on or with soils when they are dry, wet, or frozen. Field Test: Form soil in palm of hand; if soil retains shape and crumbles upon touching, then it may be worked (if it will not retain its shape, it is too dry; if it does not crumble, it is too wet). Landscape Architect shall be final authority on condition of soil.
- C. Water Pressure: Verify water pressure and available flow rate at point of connection.

1.8 QUALITY ASSURANCE

- A. Installer: A firm which has at least five (5) years experience in work of the type and size required by this Section and which is acceptable to the Owner's Representative.
- B. References: The Contractor must supply three references for work of this type and size with their bid including names and phone numbers of contact person(s).
- C. Applicable requirements of accepted Standards and Codes shall apply to the Work of this Section and shall be so labeled or listed:
 - 1. American Society for Testing & Materials (ASTM)
 - a. ASTM: A536 Ductile Iron Castings
 - b. ASTM: D1784 Rigid Poly Vinyl Chloride (PVC) Compounds and Chlorinated Poly Vinyl Chloride (CPVC) Compounds.
 - c. ASTM: D1785 PVC Plastic Pipe, Schedules 40, 80, and CI200.
 - d. ASTM: D2464 Threaded PVC Plastic Pipe Fittings, Schedule 80.
 - e. ASTM: D2466 PVC Plastic Pipe Fittings, Schedule 40.
 - f. ASTM: D2564 Solvent Cements for PVC Plastic Piping Systems.
 - g. ASTM: B43-98 Brass pipe.
 - h. ASTM: B88-99 Seamless Copper Water Tube
 - i. ASTM: B828-00 Soldered Copper Joints.
 - j. ASTM: F477 Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
 - k. ASTM: D2737-99 Polyethylene (PE) Pressure rated tube.
 - 2. National Plumbing Code (NPC)

3. National Electric Code (NEC)
4. National Sanitary Foundation (NSF)
5. American Society of Agricultural Engineers (ASAE)
6. Underwriters Laboratories, Inc. (UL)
7. Occupational Safety and Health Regulations (OSHA)

1.9 TESTS

- A. Observation: The Owner's Representative will be on site at various times to insure the system is being installed according to the Specifications and Drawings.
- B. Coverage Test: After completion of the system, test the operation of entire system and adjust sprinklers as directed by the Owner's Representative. Demonstrate to the Owner's Representative that all irrigated areas are being adequately covered, and that there is no significant overspray onto pavements, walks, or structures. Furnish and install materials required to correct inadequacies of coverage due to deviations from the Drawings or where the system has been willfully installed when it is obviously inadequate or inappropriate without bringing it to the attention of the Owner. (See Part 3 - Execution).
- C. The Owner's Representative shall be notified 48 hours in advance for observations.
- D. During final observation, the contractor shall be responsible for having two-way communication and sufficient personnel to provide instantaneous communication between the observation area and the controller for the system.

1.10 GUARANTEE

- A. The Contractor shall obtain in the Owner's name the standard written manufacturer's guarantee of all materials furnished under this Section where such guarantees are offered in the manufacturer's published product data. All these guarantees shall be in addition to, and not in lieu of, other liabilities that the Contractor may have by law.
- B. In addition to the manufacturers guarantees the Contractor shall warrant the entire irrigation system, both parts and labor for a period of one (1) year from the date of acceptance by the Owner.
- C. As part of the one-year warranty the Contractor shall perform the first year-end winterization and spring start-up for the irrigation system.
- D. Should any problems develop within the warranty period because of inferior or faulty materials or workmanship, they shall be corrected to the satisfaction of the Owner's Representative at no additional expense to the Owner.
- E. A written warranty showing date of completion and period of warranty shall be supplied upon completion of each segment of the project.

1.11 COORDINATION

- A. The Contractor shall at all times coordinate his work closely with the Owner's Representative to avoid misunderstandings and to efficiently bring the project to completion. The Owner's Representative shall be notified as to the start of work, progression and completion, as well as any changes to the drawings before the change is made. The Contractor shall also coordinate his work with that of his sub-contractors.

- B. The Contractor shall be held responsible for and shall pay for all damage to other work caused by his work, workmen or sub-contractors. Repairing of such damage shall be done by the Contractor who installed the work, as directed by the Owner's Representative.

1.12 MAINTENANCE AND OPERATING INSTRUCTIONS

- A. Contractor shall include in their Bid an allowance for four (4) hours of instruction of Owner and/or Owner's personnel upon completion of check/test/start-up/adjust operations by a competent operator (The Owner's Representative office shall be notified at least one (1) week in advance of check/test/start-up/adjust operations).
- B. Upon completion of work and prior to application for acceptance and final payment, a minimum of three (3) three ring, hard cover binders titled MAINTENANCE AND OPERATING INSTRUCTIONS FOR THE JOHN RUIZ PARK IRRIGATION SYSTEM, shall be submitted to the Owner's Representative office. After review and approval, the copies will be forwarded to the Owner. Included in the Maintenance and Operating binders shall be:
 - 1. Table of Contents
 - 2. Written description of Irrigation System.
 - 3. System drawings:
 - a. One (1) copy of the original irrigation plan;
 - b. One (1) copy of the Record Drawing;
 - c. One (1) reproducible of the Record Drawing;
 - d. One (1) copy of the controller valve system wiring diagram
 - 4. Listing of Manufacturers.
 - 5. Manufacturers' data where multiple model, type and size listings are included; clearly and conspicuously indicating those that are pertinent to this installation.
 - a. "APPROVED" submittals of all irrigation equipment;
 - b. Operation:
 - c. Maintenance: including complete troubleshooting charts.
 - d. Parts list.
 - e. Names, addresses and telephone numbers of recommended repair and service companies. A copy of the suggested "System Operating Schedule" which shall call out the controller program required (zone run time in minutes per day and days per week) in order to provide the desired amount of water to each area under "no-rain" conditions.
 - 6. Winterization and spring start-up procedures.
 - 7. Guarantee data.

1.13 PROCEDURE

- A. Notify all city departments and/or public utility owners concerned, of the time and location of any work that may affect them. Cooperate and coordinate with them in the protection and/or repairs of any utilities.

- B. Provide and install temporary support, adequate protection and maintenance of all structures, drains, sewers, and other obstructions encountered. Where grade or alignment is obstructed, the obstruction shall be permanently supported, relocated, removed or reconstructed as directed by the Architect.

PART 2 - PRODUCTS

2.1 GENERAL

- A. All materials to be incorporated in this system shall be new and without flaws or defects and of quality and performance as specified and meeting the requirements of the system. All material overages at the completion of the installation are the property of the Contractor and shall be removed from the site.
- B. No material substitutions from the irrigation products described in these specifications and shown on the drawings shall be made without prior approval and acceptance from the Owner's Representative.
- C. System shall be design/build, and shall provide 100% coverage of all lawn and planting beds, without overspray onto paths, pavements, walls, or structures. Pop-up spray heads shall be used for lawn areas; drip irrigation shall be used in planting beds.
- D. Provide initial irrigation design plan for approval before commencing construction or installing any pavements; irrigation plan shall include all proposed sleeves, valves, lines, heads, and spray areas, as well as control box location.

2.2 POINT OF CONNECTION

- A. The mechanical point of connection for the irrigation system shall be a new 1-inch tap of the domestic water supply with a backflow preventer, located within the new water cabinet, provided or arranged by the Contractor in compliance with all applicable Codes.
- B. The electrical point of connection for the irrigation system shall be to a 120-volt, 20-amp electrical circuit at the location of the irrigation control box, provided or arranged by the Contractor in compliance with all applicable Codes.

2.3 PVC IRRIGATION PIPE

- A. All pipe shall bear the following markings: Manufacturer's name, nominal pipe size, schedule or class, pressure rating in psi, and date of extrusion.
- B. All pipe in sizes 2-1/2 inches and smaller shall be PVC, Class 200, Type 1120, SDR 21, Solvent-Weld PVC, conforming to ASTM No. D2241 as manufactured by Certainteed, Cresline, JM or equal.
- C. The pipe insertion mark shall be visible to show the proper depth into spigot.
- D. Copper Lines shall be used from street connection, through water cabinet, to irrigation controller; PVC pipe may be used for irrigation components downstream of irrigation control box.

2.4 BRASS PIPE AND FITTINGS

- A. Brass pipe shall be 125lb. cast bronze, ground joint pattern, threaded, ASTM B43-98.
- B. Brass fittings shall be cast bronze, screwed, 125lb. Class.

2.5 PVC PIPE SLEEVES

- A. All pipe sleeves beneath non-soil areas shall be PVC, Class 160 water pipe as manufactured by Certainteed, Cresline, JM or equal. Minimum sleeve size to be 3”.

2.6 WIRE CONDUIT

- A. Conduit for wiring beneath non-soil areas shall be PVC, SCH-40 conduit with solvent-weld joints, as manufactured by Certainteed, Cresline, JM or equal.
- B. Sweep ells shall be standard electrical type PVC schedule 40 long sweep elbows. Cap sweep ell with tri-plug with the ring for securing nylon pull rope.
- C. Conduit for above ground wiring to rain sensors or controllers shall be galvanized, rigid metallic conduit.

2.7 PVC IRRIGATION FITTINGS

- A. Fittings for solvent weld PVC pipe, 2-1/2 inch and smaller in size, shall be Schedule 40 solvent weld PVC fittings as manufactured by Dura, Lasco, Spears or equal.
- B. Fittings shall bear manufacturer's name or trademark, material designation, size, and applicable I.P.S. schedule.
- C. All PVC threaded connections in and out of valves shall be made using Schedule 80 toe nipples and Schedule 40 couplers or socket fittings. Schedule 40 threads will not be approved for installation.
- D. PVC solvent shall be NSF approved, for Type I and Type II PVC pipe, and Schedule 40 and 80 fittings. Cement is to meet ASTM D2564 and FF493 for potable water pipes. PVC solvent cement shall be Rectorseal Gold, IPS Weld-ON 711, Oatey Heavy Duty Cement or equal, and shall be used in conjunction with the appropriate primer. Primer shall be NSF approved, and formulated for PVC and CPVC pipe applications. Primer is to meet ASTM F 656. Primer shall be Rectorseal Jim PR-2, IPS Weld-ON P-68 Clear, Oatey Clear Primer for PVC and CPVC, or equal.
- E. All nipples to be schedule 80 PVC.

2.8 POLYETHYLENE IRRIGATION PIPE

- A. Lateral piping 1-1/4 inch and smaller in size as indicated on the drawings may also be installed with polyethylene (PE3408) pipe, SDR 15, Class 100, Type III, Grade 3, Class C conforming to ASTM D2239, with a minimum pressure rating of 100 psi as manufactured by Oil Creek or equal. Polyethylene pipe shall only be used in landscape areas.

2.9 POLYETHYLENE IRRIGATION FITTINGS

- A. Fittings for polyethylene pipe shall be insert PVC or Nylon type fittings. Fittings shall conform to NSF standards and be attached with two (2) dog-eared stainless steel clamps. Clamps shall be as manufactured by Oetiker or Approved Equal.
- B. Supply only pipes and fittings that are marked by the manufacturer with the appropriate ASTM designations and pressure ratings and are free from cracks, wrinkles, blisters, dents or other damage. Fittings shall be per ASTM D2609 as manufactured by Dura, Lasco or Approved Equal.

2.10 SPRAY SPRINKLERS

- A. Full and part circle pop up spray sprinklers shall be pressure regulating (30-psi), plastic construction with ratcheting riser, removable nozzle and check valve. Nozzle size shall be as indicated on the drawing and in the legend. Pop-up height shall be 6 inches for turf and 12 inches for ground cover, shrubs and annual beds.
- B. Sprinkler shall carry a minimum 3-year exchange warranty against defects. Sprinklers shall be manufactured by Hunter Industries, model INST-06-CV for turf and INST-12 CV for shrubs or Approved Equal.

2.11 SMALL/MEDIUM ROTARY SPRINKLERS

- A. Small/medium rotary sprinklers shall be gear-driven, rotary type heads, designed for in-ground installation with integral check valves and in-riser flow shut-off capability. Sprinkler shall be capable of covering a 25-44 foot radius and flow range of 0.9-7.0 gpm at 50-55 pounds per square inch of pressure. Sprinklers shall have a one hundred percent warranty for two years minimum against defects in workmanship.
- B. The nozzle assembly shall elevate minimum four inches when in operation and retraction shall be achieved by a stainless steel spring. Riser assembly shall be plastic. A nozzle wiper seal shall be included in the sprinkler for continuous operation under the presence of sand and other foreign material.
- C. All sprinkler parts shall be removable through the top of the unit through the removal of a heavy-duty threaded cap. The sprinkler shall have a three quarter-inch (3/4") IPS water connection on the bottom of the sprinkler.
- D. Sprinklers shall be manufactured by Hunter Industries model I20-ADV or Approved Equal.

Approved Performance Chart (25' Spacing):

Model	Pressure	Arc	Nozzle	Flow	Radius
Hunter I20-ADV	50psi	90 Deg.	.75SR	0.75	25'
Hunter I20-ADV	50psi	180 Deg.	1.5SR	1.5	25'
Hunter I20-ADV	50psi	360 Deg.	3.0SR	3.0	25'

Approved Performance Chart (35' Spacing):

Model	Pressure	Arc	Nozzle	Flow	Radius
Hunter I20-ADV	50psi	90 Deg.	2.0	2.0	38'
Hunter I20-ADV	50psi	180 Deg.	4.0	4.2	41'
Hunter I20-36V	50psi	360 Deg.	8.0	6.8	44'

2.12 ELECTRIC CONTROL VALVES

- A. Electric control valves shall be one-inch remote control, diaphragm type, fiber-glass or reinforced nylon body plastic valves with manual flow control, manual bleed screw and 200 psi pressure rating.
- B. Valves shall be manufactured by Rain Bird model PEB, Hunter Industries model ICV or Approved Equal.

2.13 VALVE BOXES

- A. All valve boxes shall be manufactured from unformed resin with a tensile strength of 3,100-5,500 psi conforming to ASTM D638. All boxes shall be green in color. Covers shall be green in color unless otherwise specified.
- B. Valve boxes for single 1 inch electric valves, isolation valves and quick coupling valves shall be 10-inch round valve boxes with metal detection and bolt down covers
- C. Valve boxes for dual electric valves shall be 12-inch standard valve boxes with metal detection and bolt down covers. When multiple electric valves are installed in the same area, they are to be installed two (2) valves per box in a 12-inch standard box.
- D. Covers shall be bolted down.
- E. Valve boxes for wire splices shall be 10 inch round valve boxes with detectable disks. All splices shall be in separate valve boxes and not included with isolation valves. 220 volt splices shall have black lids, 24 volt splices shall have gray lids.
- F. Valve box extensions shall be provided and installed as required for proper box depth. Valve box extensions shall be made by the same manufacturer.
- G. Valve boxes shall be manufactured by Pentek, Carson Specification Grade, NDS Pro Series or Approved Equal.

2.14 AUTOMATIC CONTROLLER

- A. Controller shall be electronic in construction with capability of up to 10 hour run times per zone in increments of 1 or 10 minutes. Controllers to have minimum four independent programs, auto/off switch and be capable of manual, semi-automatic and automatic operation. Controller shall have water budgeting feature, cycle and soak feature, sensor input terminal, locking, weather resistant cabinet and internal transformer. Terminal strip connection shall be easily accessible. The controller shall be U.L. listed, 120 volt, 60 Hertz, A.C. type.
- B. Controller shall be as manufactured by Rain Bird model ESP-12LXM, Hunter Industries model ICore-IC-1200PL or Approved Equal.
- C. Station quantity shall be minimum of 10.

2.15 QUICK COUPLING VALVES

- A. The valve body shall be of cast brass construction with a working pressure of 125 psi. The valve seat disc plunger body shall be spring loaded so that the valve is normally closed under all conditions when the key is not inserted.
- B. The top of the valve body receiving the key shall be equipped with ACME threads and smooth face to allow the key to open and close the valve slowly. The quick coupling valve shall be equipped with a vinyl cover.

- C. The valve body construction shall be such that the coupler seal washer may be removed from the top for cleaning or replacement without disassembling any other parts of the valve.
- D. Keys shall be ACME with 1-inch male thread and 3/4-inch female thread at the top.
- E. Contractor shall provide two (2) keys for quick couplers and two (2) 1-inch x 3/4-inch swivel hose ells.
- F. Quick coupling valves, keys and swivels shall be manufactured by Hunter Industries, model HQ-44RC-AW, HK-44 and HS-1 or Approved Equal.

2.16 WIRE

- A. All valve control wire shall be minimum #14-awg, common #12-awg, single strand, solid copper, UL- approved direct burial AWG-U.F. 600V and shall meet all state and local codes for this service. Individual wires must be used for each zone valve. Common wire shall be white in color, control wire for spray and rotor zones shall be red in color, and spare wires, installed where applicable, shall be blue. White color shall be used for common wire only.
- B. In ground wire connections shall be UL listed, manufactured by 3M, model DBY-6 splice kits. All wire splices shall be made in valve boxes, at controller, or at valves.
- C. Wire type and method of installation shall be in accordance with local codes for NEC Class II circuits of 30-volt A.C. or less.

2.17 SWING JOINTS

- A. Spray sprinklers, small rotary sprinklers and medium rotary sprinklers shall be installed on swing pipe assemblies, minimum length 6 inches, maximum 18 inches.
- B. Quick coupling valves to be installed on 1-inch prefabricated PVC unitized swing joint assemblies with double o-ring seals, minimum 315 psi rating and minimum length of 12 inches with brass insert and stabilizer (unless stabilizer is an integral part of the quick coupling valve).

2.18 AUTOMATIC RAIN SENSOR

- A. Rain sensor shall be plastic in construction with adjustable interruption point, 1/2-inch IPS threads with wireless transmitter. Rain sensor shall be manufactured by Hunter Industries, model WRC, or Approved Equal.
- B. Location to be approved in the field with Owner's Representative and Landscape Architect.
- C. Contractor shall provide batteries for the wireless system. Spare parts to be submitted to the Department of Public Works per 2.21.

2.19 CONTROLLER ENCLOSURE

- A. The controller shall be enclosed within the Water Cabinet unless otherwise directed by the Owner and the Landscape Architect.

2.20 CONTROLLER GROUNDING

- A. The irrigation controller shall include factory-installed and factory-recommended lightning protection and shall be connected to a 5/8-inch diameter x 10-foot long copper clad grounding rod with minimum #6 AWG, solid, bare copper wire and 4-inch x 96-inch x 0.0625-inch copper grounding plate as outlined below. Minimum 20-foot

separation between rod and plate. Minimum 12-foot separation between controller and ground rod. All connections to rod shall be with Cadweld connector as specified. All connections to plates shall be performed by the plate manufacturer (Paige or Approved Equal #182199L) with 25-feet of bare copper wire already attached. Grounding rod is to be covered by a 4-inch round, grated top, plastic valve cover with metal detection and six inches of 4-inch ADS drainage pipe. Plate shall be installed in ground enhancement material. Plate shall be covered with 4-inch plastic grated cover with detection and minimum 36 inches of 4 inch ADS drainage pipe. Ground rod and plate shall be UL listed.

- B. Controller shall be grounded to one rod and one plate. The 10-foot rod shall be installed penetrating into the soil to its full length. Plate shall be installed at a 36-inch depth with 50 lbs of Power Set ground enhancement material spread evenly below the plate and 50 lbs spread evenly above the plate in accordance with manufacturer's requirements. The grounding electrodes shall be installed at least 10 feet from wires connected to the field controllers.

2.21 SPARE PARTS

- A. Contractor shall supply the following tools and equipment to the Owner's Representative before final observation:
 - 1. Two (2) wrenches for disassembling and adjusting each type of sprinkler head provided.
 - 2. One (1) quick coupler key assembly for every five or fraction thereof of each type of quick coupling valve provided.
 - 3. One (1) of each type of gate valve used in the project.
 - 4. Two (2) of each type sprinkler head and pattern (PC & FC) used in the project.
 - 5. Two (2) of each type nozzle used in the project.
- B. Before final observation can occur, all spare parts, tools, and equipment shall be submitted to the Department of Public Works (through the Owner's Representative) in a single container, clearly marked with the Project Name and "Irrigation Supplies."

PART 3 - EXECUTION

3.1 GENERAL

- A. The irrigation system shall be Design/Build – the Irrigation Contractor shall provide a proposed Irrigation Plan to the Landscape Architect and the Owner's Representative for Approval prior to starting construction.
- B. Before work is commenced, hold a conference with the Owner's Representative to discuss general details of the work.
- C. Examine all contract documents applying to this Section noting any discrepancies and bringing the same to the attention of the Owner's Representative for timely resolution.
- D. All work indicated on Drawings shall be provided whether or not specifically mentioned in the Specifications.
- E. If there are ambiguities between Drawings and Specifications, and specific interpretation or clarification is not issued prior to bidding, the interpretation or clarification will be made only by Owner's Representative, and Contractor shall

- comply with the decisions. In the event the installation contradicts the directions given, the installation shall be corrected by Contractor at no additional cost to Owner.
- F. Verify dimensions and grades at job site before work is commenced. All obstructions, conflicts, or discrepancies shall be brought to the attention of the Owner's Representative.
 - G. Make all field measurements necessary for the work noting the relationship of the irrigation work to the other trades. Coordinate with other trades (landscaping and other site work trades). Project shall be laid out essentially as indicated on the approved Irrigation Plans, making minor adjustments for variations in the planting arrangement. Major changes shall be reviewed with the Owner's Representative prior to proceeding.
 - H. Coordinate installation of all sprinkler materials, including pipe, to avoid conflict with the trees, shrubs, or other plantings.
 - I. At all times, protect existing irrigation, landscaping, paving, structures, walls, footings, etc. from damage. Any inadvertent damage to the work of another trade shall be reported at once.
 - J. Replace, or repair to the satisfaction of the Owner, all existing paving disturbed during course of work. New paving shall be the same type, strength, texture, finish, and be equal in every way to removed paving.

3.2 PIPE AND FITTINGS INSTALLATION

- A. Using proper width trencher chain, excavate a straight (vertical) and true trench to a depth as required for pipe invert elevation. Trenching within the protected areas of existing trees shall be hand work only; avoid damage to significant existing roots.
- B. In installing irrigation pipe the Contractor shall route the pipe as necessary to prevent damage to tree roots. Where trenching must occur near trees, the Contractor shall provide proper root pruning and sealing methods to all roots 1-inch and larger.
- C. Loam or topsoil encountered within the limits of trench excavation for irrigation mains and branch lines shall be carefully removed to the appropriate lines and depths and stockpiled for subsequent replacement in the upper 6 inches of the trench from which it is excavated. Such removal and replacement of the quantities of loam shall be considered incidental to the irrigation system and no additional compensation will be allowed therefore.
- D. Pipe shall be laid on undisturbed trench bottom provided suitable base is available - no rock larger than 1 inch or sharp edges; if not, excavate 2 inches below pipe invert and provide and install sand base or crushed stone upon which to lay pipe.
- E. Back filling shall be accomplished as follows: the first 10 inches of backfill material shall contain no foreign matter and no rock larger than 1 inch in diameter. Carefully place material around pipe and wire and tamp in place. Remainder of backfill shall be laid-up in 6-inch (maximum) lifts and tamped to compaction with appropriate mechanical equipment. Compact backfill in trenches to dry density equal to the adjacent undisturbed soil, and conform to adjacent grades without dips, sunken area, humps, or other irregularities. Frozen material shall not be used for backfill.
- F. Do backfilling when pipe is cool. During hot weather cool pipe by operating the system for a short period, or by backfilling in the early part of the morning before the heat of the day.
- G. Throughout the guarantee period it will be the responsibility of the Contractor to refill any trenches that have settled due to incomplete compaction.

- H. Mainline pipe shall have minimum 22 inches of COVER (excavate to invert as required by pipe size). Lateral pipe shall have minimum 16 inches of COVER for PVC and 12 inches of cover for Polyethylene (excavate to invert as required by pipe size).
- I. Cut plastic pipe with handsaw or pipe-cutting tool, removing all burrs at cut ends. All pipe cuts are to be square and true. Bevel cut end as required to conform to Manufacturer's Specifications.
- J. Clean bell and spigot ends and make all gasketed joints in strict accordance with manufacturer's recommendations, making certain not to apply an excess of lubricant, and wiping off any excess lubricant from each connection. Maximum deflection per joint shall not exceed manufacturer's recommendations.
- K. Make all solvent-weld joints in strict accordance with manufacturer's recommendations, making certain not to apply an excess of primer or solvent, and wiping off excess solvent from each connection. Allow welded joints at least 15 minutes set-up/curing time before moving or handling. When the temperature is above 80° F, allow connections to set minimum 24 hours before pulling or pressure is applied to the system. When temperature is below 80° F, follow manufacturer's recommendations. Provide and install for expansion and contraction as recommended.
- L. Every precaution shall be taken to prevent foreign material from entering the pipe while it is being placed in the trench.
 - 1. At times when installation of the piping is not in progress, the open end(s) of the pipe shall be closed by a watertight plug or other means. All piping which cannot temporarily be joined shall be sealed to make as watertight as possible. This provision shall apply during the lunch hour as well as overnight. Pipe not to be installed that day shall not be laid out.
 - 2. Should water enter the trench during or after installation of the piping, no additional piping may be installed or back filled until all water is removed from the trench.
 - 3. Pipe shall not be installed when water is in the trench, when precipitation is occurring, or when the ambient temperature is at 40° F or below. Pipe installed at temperatures below 40° F shall be removed and replaced at no cost to the Owner.
 - 4. PVC pipe shall be snaked in the trench to accommodate for expansion and contraction due to changes in temperature.
- M. Maintain 6-inch minimum clearance between sprinkler lines and lines of other trades. Do not install sprinkler lines directly above another line of any kind.
- N. Maintain 1-inch minimum between lines which cross at angles of 45 to 90 degrees.
- O. Exercise care when excavating, trenching and working near existing utilities.
- P. Pulling of pipe will be allowed provided soil is suitable and specified depth of bury can be maintained.

3.3 ELECTRICAL WIRE CONDUIT INSTALLATION

- A. Electrical conduit shall be installed in all non-soil areas, as well as for all above ground wiring where wire passes under or through walls, walks and paving to controllers and rain sensor.
- B. Wire shall be laid in same trench as mainline and at pipe invert.

- C. Conduit shall extend 18 inches beyond edges of walls and pavement.

3.4 PIPE SLEEVING INSTALLATION

- A. Sleeving shall be installed wherever piping is going under a non-soil area. Minimum cover over all sleeving pipe shall be 24 inches.
- B. Sleeving shall extend 18 inches beyond edges of walls and pavement.

3.5 VALVE BOX INSTALLATION

- A. Furnish and install a valve access box for each electric valve, quick coupling valve, isolation valve, flushing valve, air relief valve and wire splice.
- B. All valve access boxes shall be installed on a minimum 4-inch crushed stone base. Finish elevation of all boxes shall be at grade. All crushed stone to be supplied by the Contractor and installed before valve box. Crushed stone shall not be poured into previously installed valve boxes.

3.6 24 VOLT CONTROL VALVE INSTALLATION

- A. Control valves shall be installed on a level crushed stone base. Grade of bases shall be consistent throughout the project so that finish grades fall within the limits of work. Valves shall be set plumb with adjusting handle and all bolts, screws and wiring accessible through the valve box opening. Valves shall be set in a plumb position with 24-inch minimum maintenance clearance from other equipment.
- B. Install at sufficient depth to provide more than 6-inch, nor less than 4-inch cover from top of valve to finish grade.
- C. Adjust zone valve operation after installation using flow control device on valve.

3.7 WIRING INSTALLATION

- A. Wiring shall be installed along with the main line. Multiple wire bundles shall be cinched together at maximum 12-foot centers using plastic cable cinches and shall be laid beside, and at the same invert as, the irrigation lines. Sufficient slack for expansion and contraction shall be maintained and wiring shall at no point be installed tightly. Provide and install an additional 8 inches to 12 inches slack at all changes of direction. Wiring in valve boxes shall be a sufficient length to allow the valve solenoid, splice, and all connections to be brought above grade for servicing. This additional slack shall be coiled for neatness in the valve box. Each valve shall have a separate wire back to the controller.
- B. All wire shall be laid in trenches and shall be carefully back-filled to avoid any damage to the wire insulation or wire conductors themselves. In areas of unsuitable material, the trench shall have a 2 inches layer of sand or stone dust on the bottom before the wires are laid into the trench and back-filled. The wires shall have a minimum of 12 inches of cover. Wire not to be installed that day shall not be laid out.
- C. An expansion curl shall be provided and installed within 6 inches of each wire connection to a solenoid and at least every 100 feet of wire length on runs more than 100 feet in length. Expansion curls can be formed by wrapping five (5) turns of wire around a 1-inch diameter or larger pipe and then withdrawing the pipe.
- D. Provide and install a common ground wire of white color. No white color shall be used for power wire. Control wire shall be red and spare wiring shall be blue in color.
- E. Service wiring in connection with Drawings, manufacturer's instructions, and local codes for 24-volt service. All in-ground wire connections shall be waterproofed with

3M DBY-6 splice kits or Approved Equal. All splices shall be made in valve boxes (wire runs requiring splices between valve locations shall be provided and installed in splice box-valve box shall be used). Splice locations shall be shown on the Record Drawings.

- F. Contractor shall provide a complete wiring diagram showing wire routing for the connections between the controller and valves. See section one for the inclusion of wiring diagram in operation and maintenance manuals.

3.8 CONTROLLER INSTALLATION

- A. Contractor to install controller in water cabinet unless otherwise directed by the Landscape Architect and Owner. Contractor to wire valves and rain sensor into controller and set proper program.
- B. Wire controller to 120-volt electrical supply provided and installed to the controller locations by licensed electrician.
- C. Keys shall be turned over to Owner's Representative.

3.9 CONTROLLER GROUNDING INSTALLATION

- A. Grounding rod shall be driven into the ground its full length within 8 feet of the controller and connected via a Cadweld or Approved Equal connection to #6 solid, bare copper wire. The copper wire is to be installed in as straight a line as possible, and if it is necessary to make a turn or bend, it shall be done in a sweeping curve with a minimum radius of 8 inches and a minimum included angle of 90 degrees. There shall be no splices in the bare copper wire. The top of the ground rod shall be driven below the ground surface. A 4-inch grated cover as specified, set a minimum of 1-inch below grade, shall be placed over the ground rod and Cadweld or Approved Equal connection for periodic maintenance. Cover shall be installed on a minimum of 6 inches of 4-inch ADS or Approved Equal corrugated polyethylene, perforated drainage pipe. Plate shall be installed 36 inches below grade with 50 lbs of Power Set ground enhancement material spread evenly below the plate and 50 lbs of Power Set ground enhancement material spread evenly above the plate in accordance with the manufacturer's requirements. Plate shall also be covered with a 4 inch grated cover as specified, set a minimum of 1-inch below grade, to facilitate drainage onto the plate. Cover shall be installed on a minimum of 36 inches of 4-inch ADS corrugated polyethylene, perforated drainage pipe.
- B. Grid shall be installed in an irrigated area.

3.10 RAIN SENSOR INSTALLATION

- A. Install rain sensor on light pole, wall, fence post, or other vertical feature, at a location approved in the field by the Landscape Architect and the Owner's Representative. Rain sensor shall be in direct contact with the weather and not in contact with the irrigation spray.

3.11 SPRINKLER INSTALLATION

- A. Spray sprinklers, small rotary sprinklers and medium rotary sprinklers shall be installed flush (perpendicular) to grade on swing pipe assemblies, minimum length 6 inches, maximum 18 inches.
- B. Sprinklers shall not exceed maximum spacing indicated.
- C. Adjust sprinkler zone after installation using flow control device on valve.

3.12 QUICK COUPLING VALVE INSTALLATION

- A. Provide and install quick coupling valves at appropriate locations so that no hose used for hand-watering needs to be more than 50 feet in length.
- B. Quick coupling valves to be mounted on 1-inch prefabricated PVC unitized swing joint assemblies with integral o-rings, minimum length 12 inches with brass insert and stabilizer as per details.

3.13 CHECK/TEST/START-UP/ADJUST

- A. Flushing:
 - 1. After all piping, valves, sprinkler bodies, pipe lines and risers are in place and connected, but prior to installation of sprinkler internals, open the control valves and flush out the system under a full head of water.
 - 2. Sprinkler internals, flush caps and riser nozzles shall be installed only after flushing of the system has been accomplished to the full satisfaction of the Owner's Representative.
 - 3. Contractor shall be responsible for flushing the entire system after installation is complete and will be responsible for any clogged nozzles for ninety (90) days after substantial completion of this portion of the landscape irrigation system.
- B. Testing:
 - 1. Leakage test: test all lines for leaks under operating pressure. Repair all leaks and re-test.
 - 2. Coverage test: perform a coverage test in the presence of the Owner's Representative (notify Architect at least seven (7) days in advance of scheduled coverage test). Representative will determine if the water coverage is complete and adequate. Readjust heads and/or head locations as necessary or directed to achieve proper coverage.
 - 3. All testing shall be at the expense of the Contractor.

3.14 CLEANING AND ADJUSTING

- A. At the completion of the work, all parts of the installation shall be thoroughly cleaned. All equipment, pipe, valves and fittings shall be cleaned of grease, metal cuttings and sludge which may have accumulated by the operation of the system for testing.
- B. Adjust sprinkler heads, valve boxes, and quick coupling valves to grade as required, so that they will not be damaged by mowing operations.
- C. Continue sprinkler coverage adjustment as required by settlement, etc., throughout the guarantee period.
- D. Each control zone shall be operated for a minimum of 5 minutes and all heads checked for consistency of delivering water. Adjustments shall be made to sprinklers that are not consistent to the point that they match the manufacturer's standards. All sprinklers, valves, timing devices or other mechanical or electrical components, which fail to meet these standards, shall be rejected, replaced and tested until they meet the manufacturer's standards.

3.15 ACCEPTANCE AND OPERATION BY OWNER

- A. Upon completion of the work and acceptance by the Owner, the Contractor shall be responsible for the training of the Owner's Representative(s) in the operation of the system (provide minimum 48 hours written notice in advance of test), including a complete walk-through on the site with the Owner's Representative and a representative from the Department of Public Works.
- B. In addition to the Record Drawings and operational manuals, the Contractor shall furnish copies of all available specification sheets and catalog sheets to the Owner's personnel responsible for the operation of the irrigation system.
- C. The Contractor shall be responsible for the first winterization of the system, and the first start-up the following spring. Both winterization and start-up shall be performed in the presence of and with instruction provided to the Owner's Representative and the Department of Public Works; provide minimum 48 hours written notice in advance of the test.
- D. The Contractor shall guarantee all parts and labor for a minimum period of one (1) year from date of acceptance.

END OF SECTION

SECTION 32 90 00 PLANTING

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. The conditions of the Contract and Division 1 General Requirements apply to the work under this Section.
- B. The Work of this section is integral with the whole of the Contract Documents and is not intended to be interpreted outside the context. This Section consists of the provision of all materials, labor, equipment and the like for the complete execution of all planting and lawn establishment and related items as indicated on the Drawings and/or as specified herein.
- C. All reference to products by manufacturer, trade name or performance Specification bearing the connotation "or approved equal" shall be as determined by the Landscape Architect and the City, per MGL c. 30 s. 39M, part b, criteria 1.
- D. Contractor shall comply with all laws, regulations, and quarantines for agricultural and horticultural products.

1.2 WORK INCLUDED

- A. The principal Work of this Section consists of all planting work, including the provision of all materials, labor, equipment, services and incidentals necessary to complete all of the Work in accordance with the Contract Documents, and the like for the complete execution of all planting and related items, as indicated on the Drawings and/or as specified herein and includes, but is not limited to the following:
 - 1. Topsoil (loam borrow), Fine Grading and Loaming;
 - 2. Soil Additives;
 - 3. Grass sod;
 - 4. Maintenance and protection of lawn, until final acceptance;
 - 5. Bark Mulch (under Alt. 1).

1.3 SPECIAL CONDITIONS

- A. No burning will be permitted on the project site.
- B. Prior to commencement of Work, the Contractor shall submit a plan for legal disposal of removed materials, acceptable to the Owner.

1.4 REFERENCES

- A. Examine all other Sections of the Specifications and all Drawings for the relationship of the work under this Section and the work of other trades. Cooperate with all other trades and all departments of the City of Boston and coordinate all work under this Section therewith.
- B. The following related items are included under the Sections listed below:
 - 1. Section 02 41 00 - Site Preparation & Demolition
 - 2. Section 31 00 00 - Earthwork

1.5 SUBMITTALS AND PRODUCT LITERATURE

- A. Prior to ordering the below listed materials, submit representative samples to Landscape Architect for selection and approval, in accordance with requirements of General Condition and special provisions as follows. Do not order material until Landscape Architect's approval has been obtained. Delivered materials shall closely match the approved samples.
- B. For each product or material used, submit manufacturer's product data, including installation instructions, use, limitations and recommendations.
- C. Submit the following:
 - 1. Topsoil;
 - 2. Sod specifications;
 - 3. Submit material specifications and installation instructions where applicable attesting that soil additives, fertilizer, and lime are as specified;
 - 4. Submit information on soil aeration or tilling machinery.

1.6 PRODUCT DELIVERY AND HANDLING

- A. All topsoil, whether from stockpiles on site or loam borrow, shall be stored in piles not to exceed six feet in height, and shall not be handled when frozen or not in a friable condition.
- B. Inspection may be made before digging if the Landscape Architect directs, but no lawn shall be planted by the Contractor until planted area is inspected by the Landscape Architect at the site of the work.

1.7 DEFINITIONS

- A. The following related items are included herein and shall mean:
 - 1. SSHB: The Commonwealth of Massachusetts, Department of Public Works, Standard Specifications for Highways and Bridges, latest edition
 - 2. AOAC: Association of Official Agricultural Chemists
 - 3. AAN: American Association of Nurserymen

1.8 CERTIFICATE OF ACCEPTANCE AND GUARANTEE FOR PLANTINGS

- A. The Contractor shall be responsible for maintenance until the LATER of: the acceptance of the project as substantially complete, or 90 days after installation. After the minimum ninety (90) day maintenance period and substantial completion of the project, the Contractor shall request of the Landscape Architect, in writing, an inspection to determine whether the lawns and plantings are acceptable. If the plant material and workmanship are acceptable, written notice will be given by the Landscape Architect to the Contractor stating that the guarantee period begins from the date of the Certificate of Acceptance. Acceptance shall be given only for the entire lawn area covered by the Contract, and for all plantings.
- B. Lawns shall exhibit a uniform, thick, well-developed stand of grass, which has received a minimum of three cuttings. Lawn areas shall have no bare spots in excess of four inches in diameter, and bare spots shall comprise no more than two percent of the total area of the lawn. No lawn areas shall exhibit signs of damage from erosion, washouts, gullies, or other causes.

1.9 EXAMINATION OF SITE CONDITIONS

- A. All areas to be planted shall be inspected by the Contractor before starting work and any defects shall be reported to the Landscape Architect prior to beginning this work. The commencement of work by the Contractor shall indicate his acceptance of the areas to be planted and he shall assume full responsibility.
- B. Environmental Requirements: Contractor shall not work on or with soils when they are dry, wet, or frozen. Field Test: Form soil in palm of hand; if soil retains shape and crumbles upon touching, then it may be worked (if it will not retain its shape, it is too dry; if it does not crumble, it is too wet). Landscape Architect shall be final authority on condition of soil.

1.10 PROTECTION

- A. The Contractor shall be liable for any damage to property caused by the work, and all areas disturbed shall be returned to their original condition to the satisfaction of the Landscape Architect. During all work of this section, the Contractor shall protect all site improvements from contact with agricultural chemicals, soil amendments, and fertilizers.
- B. The Contractor shall provide all erosion, sedimentation, and environmental controls necessitated by site and governing codes.

1.11 QUALITY ASSURANCE

- A. Qualifications: Sodding shall be performed only by a certified landscape contractor with experienced workmen familiar with sodding procedures and under the supervision of a qualified supervisor. Contractor shall have a minimum of five (5) years experience with Work similar in nature and scope to this Section.

1.12 WARRANTIES

- A. All lawns to be guaranteed for one (1) year from date of substantial completion. Any lawn replacement shall come with a new one (1) year guarantee.
- B. Manufacturers shall provide their standard guaranties for work specified in the Section. However, such guaranties shall be in addition to and not in lieu of all other liabilities which manufacturers and Contractor may have by law or by other provisions of the Contract Documents.

PART 2 - PRODUCTS

2.1 TOPSOIL (LOAM BORROW)

- A. Loam shall be a "fine sandy loam" or a "sandy loam" determined by mechanical analysis and based on the USDA classification system. It shall be of uniform composition, without admixture of subsoil. It shall be free of stones greater than one inch, lumps, plants and their roots, debris and other extraneous matter over one inch in diameter or excess of smaller pieces of the same materials as determined by the Landscape Architect. It shall not contain toxic substances harmful to plant growth. Loam shall contain not less than 4% nor more than 10% organic matter as determined by the loss on ignition of oven-dried samples. Test samples shall be oven-dried to a constant weight at a temperature of 230 F, plus or minus 9.
- B. Loam shall have an acidity range of pH 5.6 to pH 6.5.

- C. The amount of either sulfur or limestone required to adjust the planting loam to the proper pH range (above) shall be determined by the Landscape Architect on the basis of soil tests as specified herein.
- D. Soil tests for this area shall be through the University of Massachusetts Amherst Cooperative Extension Soil Testing Laboratory, with recommendations for both Grasses/Lawns and Trees/Shrubs, or Approved Equal testing service (submit proposed alternative before testing).

2.2 SOIL ADDITIVES

- A. Commercial fertilizer, manufactured compost, peat, humus or other additives shall be used to counteract soil deficiencies as recommended by the soil analysis and as directed by the Landscape Architect.
 - 1. Commercial fertilizer shall be a product complying with the State and United States Fertilizer Laws. Deliver to the site in the original unopened containers that shall bear the manufacturer's Certificate of Compliance covering analysis which shall be furnished to the Landscape Architect. At least 50% by weight of the Nitrogen content shall be derived from organic materials. Fertilizer shall contain not less than the percentages of weight of ingredients as follows or as recommended by the soil analysis:

	Nitrogen	Phosphorus	Potash
First application	18%	21%	12%
Second application	5%	10%	5%

- 2. Fertilizer plan, including schedule and specific mix, must be submitted and approved by the Landscape Architect and the Owner's Representative.
- B. Ground dolomite limestone shall be an approved agricultural limestone containing not less than 85% of total calcium or magnesium carbonates. Limestone shall be ground to such fineness that 50% will pass through a 100 mesh sieve and 90% will pass through a 20 mesh sieve.
- C. Humus shall be natural humus, reed peat or sedge peat. It shall be free from excessive amounts of zinc, low in wood content, free from hard lumps and in a shredded or granular form. According to the methods of testing of A.O.A.C., latest edition, the acidity range shall be approximately 5.5 pH to 7.6 pH and the organic matter shall be not less than 85% as determined by loss on ignition. The minimum water absorbing ability shall be 200% by weight on an oven-dry basis.
- D. Peat moss shall be composed of the partly decomposed stems and leaves of any or several species of sphagnum moss. It shall be free from wood, decomposed colloidal residue and other foreign matter. It shall have an acidity range of 3.5 pH to 5.5 pH as determined in accordance with the methods of testing of A.O.A.C., latest edition. Its water absorbing ability shall be a minimum of 1,100% by weight on an oven-dry basis. Manufactured Compost of comparable qualities will be accepted in lieu of peat moss.
- E. Superphosphate: Superphosphate shall be composed of finely ground phosphate rock as commonly used for agricultural purposes containing not less than 18% available phosphoric acid.

2.3 GRASS SOD

- A. Sod shall be nursery grown sod composed of grasses grown from the following seed mixtures.
- | % by Weight | Common Name of Grass |
|--------------------|------------------------------|
| 20 | America Kentucky Bluegrass |
| 15 | Award Kentucky Bluegrass |
| 15 | Hampton Kentucky Bluegrass |
| 15 | Victory Chewings Fescue |
| 15 | Jasper Creeping Red Fescue |
| 20 | Manhattan Perennial Ryegrass |
- B. The sod shall be grown by Tuckahoe Turf Farms, Inc., Slocum, Rhode Island, (800) 556 – 6985, or by Kingston Turf Farms, Inc., Kingston, Rhode Island, or other approved source.
- C. Sod shall be machine cut at a uniform soil thickness of $\frac{3}{4}$ inch, plus or minus $\frac{1}{4}$ inch, at the time of cutting. Measurement for thickness shall exclude top growth and thatch. Individual pieces of sod shall be cut to the supplier's standard width and length. Maximum allowable deviation from standard widths and length shall be 5%. Broken pads and torn or uneven ends will not be acceptable. Sod shall be at least one (1) year old from time of original seeding.
- D. Sod shall be furnished and installed in either of the following dimensions, to be selected by the Contractor:
1. In rectangular sod strips measuring 12 inches or 16 inches in width and from 4 feet to 6 feet in length, stored in rolls with the grass top side inverted so that the topsoil is to the exterior.
 2. Sod shall be harvested, delivered and installed within a period of 36 hours. Sod not transplanted within this period shall be inspected and approved by the Landscape Architect prior to its installation. Soil on sod pads shall be kept moist at all times.
 3. If delivered in multiple shipments, the sods shall match one another in texture and consistency, in the judgment of the Landscape Architect.

2.4 INSECTICIDE

- A. No insecticide shall be used except as specifically approved in writing by the Landscape Architect and the Owner's Representative.

2.5 WATER

- A. The Contractor shall be responsible to furnish his/her own supply of water to the site at no extra cost.
- B. All work injured or damaged due to the lack of water, or the use of too much water, shall be the Contractor's responsibility to correct. Water shall be free from impurities injurious to vegetation.

2.6 BARK MULCH

- A. Mulch shall be undyed pine bark aged a minimum of six (6) months. The mulch shall be naturally dark brown in color, free of chunks and pieces of wood thicker than one-quarter inch (1/4"). Mulch must be free of stringy material over three inches (3") in length and shall not contain, in the judgment of the Landscape Architect, an excess of fine particles.
- B. Mulch shall be 98% organic matter with the pH range of 3.5 to 4.5. Moisture content of packaged material shall not exceed 35%.
- C. Submit sample for the Landscape Architect's approval.

PART 3 - EXECUTION

3.1 FINE GRADING AND LOAM

- A. After the areas to be loamed have been brought to subgrade, and immediately prior to dumping and spreading the loam, the subgrade shall be loosened by disking or rototilling to a depth of at least three inches (3") to permit bonding of the loam to the subsoil. Remove all stones greater than two inches (2") and all debris or rubbish. Such material shall be removed from the site.
- B. Loam shall be placed and spread over approved areas to a depth sufficiently greater than six inches (6") so that after natural settlement and light rolling, the completed work will conform to the lines, grading and elevations indicated. Supply additional loam, after testing and approval, as may be needed to give the specified depths and finished grades under the contract without additional cost to the Owner.
- C. No subsoil or loam shall be handled in any way if it is in a wet, dry, or frozen condition.
- D. Sufficient grade stakes shall be set for checking the finished grades. Grades shall be established which are accurate to one-tenth (1/10th) of a foot either way. Connect contours and spot elevations with an even slope.
- E. After lime, fertilizer, and humus if required have been spread and incorporated into the bed, it shall be carefully prepared by scarifying or harrowing and hand raking. All large stiff clods, lumps, brush, roots, stumps, litter and other foreign matter, and stones over one inch (1") in diameter shall be removed from the loam. Loam shall also be free of smaller stones in excessive quantities as determined by the Landscape Architect.
- F. The whole surface shall then be rolled with a hand roller weighing not more than 100 lbs. per foot of width. During the rolling, all depressions caused by settlement or rolling shall be filled with additional loam and the surface shall be regraded and rolled until presenting a smooth and even finish to the required grade. The finish grades shall be inspected by the Landscape Architect for approval before final acceptance.

3.2 SOIL ADDITIVES

- A. Follow all recommendations for soil additives as determined by an approved Soil Testing Laboratory, and all manufacturers' instructions pertaining to additives.

3.3 SODDING

- A. Limit of sodding shall be shown on the Drawings. All areas on the plan shall be loamed and sodded only after written approval of the finished grading or as directed by the Landscape Architect.
- B. Planting season for sod shall be from April 15 to June 1. The actual planting of sod shall be done, however, only during periods within this season which are normal for such work as determined by weather conditions and be accepted practice in this locality. At this option and on his responsibility the Contractor may plant sod under unseasonable conditions without additional compensation, but subject to the Landscape Architect's approval as to time and methods.
- C. Soil additives shall be spread and thoroughly incorporated into the later of loam and the upper 1 inch of the underlying subsoil by harrowing or other methods approved by the Landscape Architect. The following soil additives shall be incorporated:
 - 1. Ground limestone as required by soil analysis to achieve a pH of 6.0 to 6.5.
 - 2. Fertilizer as required by soil analysis.
 - 3. Superphosphate at the rate of 20 lbs. Per 1,000 square feet.
 - 4. Humus as required by soil analysis.
- D. Sodding of lawns shall be done only by experienced workmen under the supervision of qualified foreman. Sodding shall consist of soil preparation, sodding, rolling, pegging, weeding, fertilizing, watering and otherwise providing all labor and materials necessary to secure the establishment of acceptable turf.
- E. The soil on which the sod is laid shall be reasonably moist and shall be watered, if directed by the Landscape Architect. The sod shall be laid smoothly, edge to edge, and where continuous or solid sodding is called for on the plans sod shall be laid with the longest dimension parallel to the contours. Sodding shall start at the base of slopes and progress upward in continuous parallel rows. Vertical joints between sods shall be staggered. Immediately after laying, sod shall be pressed firmly into contact with the sod bed by tamping, rolling, or by other approved method – press firmly as to eliminate all air pockets, provide true and even surfaces, ensure knitting and protect all exposed sod edges, but without displacement of the sod or deformation of the surface. The sodded areas shall be watered evenly and at a rate of 5 gallons per square yard, unless otherwise directed by the Landscape Architect.

3.4 MAINTENANCE AND PROTECTION OF LAWNS

- A. During construction, Contractor is responsible for mowing all of the existing lawn within the property. This includes the portion of lawn within the no cut / no fill zone.
- B. Maintenance shall begin immediately after an area is planted and shall continue until final acceptance. The minimum maintenance period shall be ninety (90) calendar days after completion of all plant installations. Watering and mowing shall be done by the Contractor for the full 90 days. If 90 day period has not elapsed before watering, mowing, and maintenance must stop due to cold weather, the remaining days of the maintenance period will be fulfilled when the growing season begins the following spring.
- C. Maintenance shall consist of keeping the grass in a healthy growing condition and shall include replacements, watering, weeding, cultivating, fertilizing, seeding, and mowing.
- D. Contractor shall warrant lawn for one (1) year after final acceptance.

- E. Protection: Sod areas shall be protected against trespassing and damage of any kind. This shall include the provision and installation of approved temporary fencing if necessary. If any lawn becomes damaged or injured by vandalism or neglect prior to provisional acceptance, the Contractor shall treat or replace them at his own expense.
- F. Watering of Lawn Areas:
 - 1. First week: The Contractor shall provide all labor and arrange for all watering necessary for rooting of the sod. In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week and in sufficient quantity to maintain moist soil to a depth of at least 4 inches. Watering shall not be done during the heat of the day to help prevent wilting.
 - 2. Second and Subsequent weeks: The Contractor shall water the lawn as required to maintain adequate moisture, until final acceptance, in the upper 4 inches of soil.
 - 3. Watering shall be done in a manner that will provide uniform coverage, prevent erosion due to application of excessive quantities over small areas, and prevent damage to the finished surface by the watering equipment. The Contractor shall furnish sufficient watering equipment to apply one (1) complete coverage to the lawn areas in an eight (8) hour period.
 - 4. Mowing: The first mowing of lawn areas shall not be attempted until the seed or sod is firmly rooted and secure in place. Not more than 40% of the grass leaf shall be removed by initial or subsequent mowings. Grass height shall be maintained between 2 inches and 2-1/2 inches unless otherwise specified. Thereafter grass shall be maintained at 2 inches until acceptance.
 - 5. Fertilizing: A second application of fertilizer, as specified herein, shall be applied approximately 6 weeks after the sod has been installed as directed by the Landscape Architect. Fertilizer shall be applied at the rate of 10 pounds per 1,000 square feet.
 - 6. Erosion Control: Contractor is responsible for soil stabilization while lawns are being established. Erosion control methods include mulching and installation of biodegradable mesh.

3.5 FINAL ACCEPTANCE

- A. Contractor is to maintain all lawn upon installation. Ninety day maintenance period begins after all lawn has been planted. After the 90 day maintenance period, lawn areas will be reviewed for final acceptance.
- B. Conditions of Final Acceptance
 - 1. Lawn acceptance shall be given for entire completed lawn area. No partial acceptance shall be given.
 - 2. Lawns shall exhibit uniform, thick, well-developed stand of grass. Lawn areas shall have no bare spots.
 - 3. No lawn areas shall exhibit signs of damage from erosion, washouts, gullies, or other causes.

4. Pavement surfaces and site improvements adjacent to lawn areas shall be clean and free of spills from placing or handling of loam borrow and sodding operations.

C. Inspection and Final Acceptance

1. Upon completion of 90 day maintenance period, request Landscape Architect's review to determine if work is acceptable.
2. If work is not accepted, Landscape Architect will issue a written list of outstanding work. Maintenance period to be extended until completion of work.
3. Contractor shall notify Landscape Architect when outstanding work is completed and ready for review. When work is complete, as determined by Landscape Architect, a letter of Final Acceptance will be issued.

3.6 BARK MULCH

- A. Contractor shall install approved bark mulch material to the limits and depths shown on the Drawings and specified herein.

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**SECTION 33 00 00
UTILITIES**

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. The conditions and general requirements of the Contract, Division 0 and applicable parts of Division 1, apply to the work under this Section.
- B. All references to products by manufacturer, trade name or performance Specifications bearing the connotation "or Approved Equal" shall be as determined by the Landscape Architect and the City, per MGL c. 30 s. 39M, part b, criteria 1.

1.2 WORK INCLUDED

- A. Provide all labor, equipment, implements and materials required to furnish, install, construct and perform all site improvements complete as shown on the Drawings and specified herein.
- B. The Contractor shall pay for all costs and fees related to connecting the utilities and drainage systems to existing services and shall file all applications, details, and drawings required by the local authority having jurisdiction.
- C. To be included, but not limited to the following:
 - 1. Water Utility Cabinet Contents and Meter;
 - 2. Water Connections, Service Lines, Fittings, and Accessories;
 - 3. Testing and Disinfection of Water Systems;
 - 4. Connection of electrical supply to Irrigation Controller and GFCI in water cabinet.

1.3 REFERENCES

- A. Examine all other Sections of the Specifications and all Drawings for the relationship of the work under this Section and the work of other trades. Cooperate with all trades and all departments of the City and coordinate all work under this Section therewith.
- B. The following related items are included under the Sections listed below:
 - 1. Section 02 41 00 – Demolition and Site Preparation
 - 2. Section 05 50 00 – Metal Fabrications
 - 3. Section 31 00 00 – Earthwork

1.4 SUBMITTALS

- A. Shop Drawings and Samples
 - 1. Provide complete Shop Drawings and/or samples and catalog cuts for all items called for on the Drawings and as specified and in accordance with applicable requirements under Division 1.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in manufacturer's original unopened and undamaged packages with labels legible and intact.

- B. Store materials in unopened packages in a manner to prevent damage from the environment and construction operations.
- C. Handle in accordance with manufacturer's instructions.
- D. The Contractor shall be solely responsible for all materials stored on the site once delivered. Any materials left unsecured at the job site shall be solely at the contractor's own risk.

1.6 REFERENCE STANDARDS AND SPECIFICATIONS

- A. Perform work strictly as required by rules, regulations, standards, codes, ordinances, and laws of local, state, and federal government, and other authorities that have lawful jurisdiction.
- B. All materials and installations for Electrical components shall be in accordance with the latest edition of the Massachusetts Electrical Code, and all applicable local codes and ordinances. Materials and equipment shall be listed by Underwriters Laboratories (UL). Special Attention shall be paid to the latest edition of the following standards:
 - 1. City of Chelsea Department of Public Works Regulations and Standards
 - 2. American National Standards Institute ANSI
 - 3. American Society for Testing & Materials ASTM
 - 4. American Water Works Association AWWA
 - 5. Institute of Electrical & Electronics Engineers IEEE
 - 6. Insulated Cable Engineers' Association ICEA
 - 7. National Electrical Code NEC
 - 8. National Electrical Manufacturer's Association NEMA
 - 9. National Electrical Safety Code NESC
 - 10. InterNational Electrical Testing Association NETA
 - 11. National Fire Protection Association NFPA
 - 12. Occupational Safety & Health Administration OSHA
 - 13. Underwriter's Laboratories, Inc. UL
- C. The above listed codes and standards are referenced to establish minimum requirements; wherever this Section requires higher grades of materials and workmanship than required by the listed codes and standards, this Section shall apply. In the event a conflict occurs between the above listed codes and standards and this Section, the more stringent requirement shall govern.

1.7 MAINTENANCE KIT

- A. At the completion of construction, the Contractor shall provide to the City Department of Public Works, Parks Maintenance Division, a Maintenance Kit containing all touch-up paint, maintenance instructions, spare parts, and other maintenance materials provided by the manufacturers of all improvements.
- B. The Maintenance Kit shall be delivered in a single container clearly labeled with the Park Name, and each item shall be identified as to the source.

1.8 PERMITS AND FEES

- A. Obtain all necessary permits and licenses, file necessary plans and pay all fees (where not waived by City; see 01 41 00 Permits) for permits and inspections. Permit fees, where not waived by the City, are the responsibility of the Contractor as part of his bid, as is all coordination with the local utilities. Contractor is also responsible for obtaining any site specific utility requirements for this project prior to the start of construction and notifying local utilities for all inspections prior to backfilling, etc.

PART 2 - PRODUCTS

2.1 NEW UTILITY CABINET AND METER

- A. Cabinet Fabrication shall be as described in Section 05 50 00 – Metal Fabrications.
- B. Water Meter shall be as directed by the Chelsea Public Works Department. The Contractor shall provide all coordination and pay all fees associated with the meter installations. The meters shall be mounted to the respective Cabinets and readable from the exterior.
- C. Shop Drawings and Diagrams
 - 1. Provide Manufacturer's Cut Sheets or Shop Drawings for all components and cabinet, and plumbing and wiring diagrams, including detailing of proposed hangings and supports, with all features clearly labeled, for review and Approval by the Landscape Architect, the Owner's Representative, and the City of Chelsea Department of Public Works.
 - 2. Water Cabinet Required Component Submittals:
 - a. Plumbing Diagram and Cabinet Shop Drawings showing all clearances, connections, and components for review by Department of Public Works;
 - b. Pipes and tubing (Copper, CLDI, PVC, and polybraid);
 - c. Backflow Preventers;
 - d. Pressure Regulators as needed;
 - e. Meter and mounting;
 - f. Hose Bib;
 - g. Irrigation Controller and fittings, including electrical connection, control box, and mounting;
 - h. GFI Electrical Receptacle (2-outlet);
 - i. Straps and clamps for mounting.

2.2 EMBEDMENT MATERIALS

- A. Ductile iron water pipe shall use materials defined in AWWA C 600, Sec. 3.5, Backfilling.
- B. Crushed stone fill shall consist of clean, crushed stone conforming to that specified in Section 31 00 00, EARTHWORK.
- C. Fill for Type K copper, PVC, and Polyethylene water and irrigation service lines shall be clean washed sand.

2.3 CORPORATION STOPS/CURB STOPS

- A. Corporation stops shall be bronze or brass with ground keys, threaded to receive compression-type fittings. The stop shall be of the size shown on the Contract Drawings or as required by the Public Works Department if not shown, and shall be as manufactured by Mueller, Red Head, Ford or equal.
- B. Curb stops shall be Mueller Oriseal II curb stop or Approved Equal, threaded to receive compression-type fittings.

2.4 SERVICE BOXES

- A. Curb boxes shall be cast iron improved extension type with arch pattern base. Covers shall be held in place with bronze bolts and the word "Water" shall be cast into the cover. Curb box shafts shall have a minimum inside diameter of 2-1/2 inches. Curb boxes shall be as manufactured by Mueller Corp. or Approved Equal.

2.5 WATER SERVICE PIPING

- A. Service lines two 2 inches or smaller shall be copper water tubing, Type K, for underground water service and shall be in accordance with ANSI/AWWA C800, latest issue.
- B. Type K copper tubing material shall be in conformance with ASTM B88.
- C. Water service fittings including couplings and adapters, check valves and service saddles shall be in conformance with ANSI/AWWA C800, "Underground Service Line Valves and Fittings."
- D. Joints in copper tubing shall be made with three part compression couplings, flared tube fittings, or an approved equal.
- E. Service lines greater than two [2] inches shall be ductile iron pipe.

2.6 ELECTRICAL SYSTEM: GENERAL

- A. Materials and products furnished shall be designed for the intended use, shall meet all requirements of the latest edition of the National Electric Code (NEC), and all local codes.
- B. Materials shall be manufactured in accordance with the standards indicated in this Section, and typical industry standards and codes for the products specified. Materials and equipment shall be Underwriter's Laboratory (UL) listed.
- C. The materials used shall be new, unused, and of the best quality for the intended use. All equipment shall have the manufacturer's name, address, model or type designation, serial number and all applicable ratings clearly marked thereon in a location which can be readily observed after installation. The required information should be marked on durable nameplates that are permanently fastened to the equipment.
- D. Electrical equipment shall at all times during construction be adequately protected against mechanical injury or damage by water. Electrical equipment shall not be stored outside exposed to the elements. If any equipment or apparatus is damaged, such damage shall be repaired at no additional cost, or replaced at no additional cost as directed by the Landscape Architect.

2.7 RACEWAYS

- A. Rigid Metallic Conduit: UL6 and ANSI C80.1.

- B. Flexible Metallic Conduit: UL1. Liquidtight flexible metal conduit shall be used in wet locations.
- C. Polyvinyl Chloride (PVC) Conduit, electrical, gray, Schedule 40 or Schedule 80 as specified, meeting the requirements of UL 651 and NEMA TC-2. If concrete encasement is required, a minimum of 3,000 psi concrete shall be used. All conduits placed under roadways, and subject to vehicular traffic, shall be concrete-encased Schedule 40.
- D. Minimum size of conduit shall be 3/4". Unless indicated on Drawings, conduit sizes can be sized in accordance with National Electric Code (NEC). Conduit bends shall not have kinks or flats, and shall not be less than standard radii.
- E. Rigid Galvanized Steel (RGS) conduit shall be used for all power, control signal, and instrumentation wiring, except where noted. Conduit shall be fully threaded at both ends and each length shall be furnished with one threaded coupling. All 90 degree conduit sweeps shall be RGS for all entry and exit into concrete pads and at riser poles, with ground bushings connected to new grounding with minimum #4Awg ground wire for conduit grounding bushings.
- F. Conduits shall be made electrically continuous at coupling and connections to boxes and cabinets by means of joining fasteners or copper bond wires. Conduit shall be connected to grounded structural steel or the ground network. After assembly all conduit locknuts, all EMT coupling fittings, and all bond wire screws shall be set up tight before installation of wiring. Insulated metallic bushings shall be used on all conduits entering panel cabinets, pull-boxes, and wiring gutters, except on branch lighting circuits.
- G. Expansion fittings shall be provided on all conduits as required by the 2008 National Electrical Code, and as required by local and state codes. This includes, but is not limited to, vertical conduit risers coming from below-grade.

2.8 WIRE AND CABLE

- A. Unless otherwise noted, conductors for power, lighting, and grounding above grade shall be No. 12 through No. 8 AWG, NEC type THWN/THHN, meeting the requirements of UL 83. Conductors for power and lighting shall be no smaller than No. 12 AWG.
- B. Conductors for power, lighting, grounding, and control below grade (and in wet locations) shall be No. 2 AWG and larger, NEC type XHHW (or XHHW-2), meeting the requirements of NEMA WC7 and ICEA S-66-524.
- C. All conductors shall be annealed copper, 98% conductivity, Class B stranded, except conductors used for power and lighting circuits No. 10 AWG and smaller which may be solid. All conductors should be rated for 600 volts or less, with a thermal rating of 90° C.
- D. The outside covering of all wiring for power, lighting, grounding, and control uses shall be color coded to identify polarity as follows:

(See following page)

	208Y/120 V.	240D/120 V	480Y/277 V
	3 Phase	3 Phase	3 Phase
Phase A	Black	Black	Brown
Phase B	Red	Red	Orange
Phase C	Blue	Orange	Yellow
Neutral	White	White	Gray
Ground	Green	Green	Green

2.9 WIRE AND CABLE CONNECTORS AND DEVICES

- A. Wire and cable connectors and devices shall meet the requirements of UL 486. Connectors, including miscellaneous nuts, bolts, and washers shall be silicon bronze. Ferrous materials shall not be used. All connectors below grade shall be water-proof secondary type, gel-filled, bolted submersible connectors (gel-port style). No "wire-nuts" are allowed to be used below grade.

2.10 BOXES

- A. Outlet and Switch Boxes: NEMA OS 1.
- B. Pull Boxes, Junction Boxes, and Equipment Enclosures: NEMA ICS 6.
- C. Pull boxes, junction boxes, and equipment enclosures shall be of NEMA Type 3R construction for outdoor or wet location use, unless otherwise noted.
- D. Box sizes shall not be less than that required by the Massachusetts Electrical Code.

2.11 WIRING DEVICES

- A. Wiring Devices: NEMA WD 1.
- B. Wiring devices for shall be specification grade, 20 ampere, ivory with Type 302 stainless steel plates. Ground fault current interrupting (GFCI) devices shall be provided where specified and/or required by applicable codes.

2.12 PANELBOARDS

- A. Panelboards: NEMA PB1, and UL 67.
- B. Panelboards (if needed) shall be door-in-door construction with copper bus. Circuit breakers shall be molded case, thermal magnetic, bolt-on type rated as noted, and rated to match panelboard voltage and interrupting rating. All panelboard doors shall open full 90 degrees without conflict with cabinets and other equipment. No modifications to panelboards or doors shall be made to accommodate installation or removal inside of Utility Cabinet.
- C. Provide panelboards and spare breakers as required by code and recommended by an electrician for the extent of the electrical system as shown on the Drawings.

2.13 WARNING TAPE

- A. Warning tape shall be six (6) inches wide, polyethylene not less than 3.5 mil thick with a minimum strength of 1,500 psi. Install 8 inches below final grade. Tape shall be red for electric conduit. Tape shall have black lettering on two lines as indicated below:

CAUTION CAUTION CAUTION
BURIED ELECTRIC LINE BELOW

2.14 ELECTRIC HANDHOLES

- A. Electric Handholes (where/if required) are to be strong, lightweight, and non-conductive, and provided in the dimensions as shown on the Contract Drawings if indicated, or as required by codes and standards if not indicated. Electric Handholes shall be Ultraviolet (UV) resistant, along with being unaffected by moisture, freezing temperatures, soil, and sub-soil chemicals. Electric Handholes to be polymer concrete composite, as approved by Landscape Architect.
- B. Handholes shall be provided with skid-resistant surface covers, with an "Electric" logo. Handholes and Covers shall be design for street-rated, heavy duty applications, meeting the requirements of either: AASHTO HS-20 or ANSI/SCTE 77-2002 Tier 15 loading, with a minimum design load of 15,000 lbs for both the handhole box and cover. Covers shall include recessed stainless steel captive bolts of a penta-head design. The nuts for the bolts shall be selfcentering and corrosion resistant. Handholes shall meet the requirements of the latest edition of the National Electric Code (2008 or later) with regards to structural integrity, installation methods, grounding of the cover and metallic parts, etc. Handholes shall be UL listed for the intended use.
- C. Color of electric handholes and covers to be green in grass areas and gray in sidewalk areas, as approved by Landscape Architect. Handholes to be installed flush with final grade. A layer of 6-inches of crushed rock shall be installed below and in the bottom of each handhole to assist with drainage, and this compacted gravel base material shall extend out beyond the sidewalls of the handhole. Conduits shall sweep up and be at least 4-inches above top of crushed rock layer.
- D. Handhole size to be 13"W x 24"L x 18"D minimum for this project.

PART 3 - EXECUTION

3.1 MATERIALS AND WORKMANSHIP

- A. Work shall be executed in a workmanlike manner and shall present a neat, rectilinear and mechanical appearance when completed. Do not run raceway, pipe, or service exposed unless shown exposed on Drawings.
- B. Material and equipment shall be new and installed according to manufacturer's recommended best practice so that complete installation shall operate safely and efficiently.

3.2 CONTINUITY OF SERVICES

- A. Do not interrupt existing services without Owner's, Utilities', and Landscape Architect's approvals.

3.3 NEW UTILITY CABINET AND METER

- A. Fabrication and finishing of cabinet shall be in accordance with Section 05 50 00, Metal Fabrications, and with all applicable codes and approved shop drawings.
- B. Installation to comply with all applicable codes and standards, and with City of Chelsea Department of Public Works requirements.

- C. The Contractor performing the work on these items shall be a licensed MA Plumber and/or Electrician, as appropriate.
- D. All plumbing work shall be inspected by the City Plumbing Inspector, before backfilling occurs.
- E. Contractor to touch up any scratches and all mars to surfaces and finishes.

3.4 WATER SERVICES

- A. Copper Service Pipe: Care shall be exercised in placing and laying of service line to be sure that the pipe does not have kinks or sharp bends and to assure against its being in contact with sharp stones or ledge which would cause damage to the pipe. At least 6 inches of sand shall be placed adjacent to, under, and above the pipe, and no stone larger than 2 inches shall be placed over the pipe until the depth of backfill above the pipe is in excess of 1 foot.
- B. Corporation Cock: Corporation cock shall be of a size equal to the size of the service pipe. Taps to the main shall be threaded and shall be made at the horizontal diameter of the main. The tap made in the main by means of a tapping machine manufactured for this purpose and supplied by the Contractor. Corporation cock shall be screwed firmly into the water main with the key upward and the inlet end projecting at least 1/8-inch beyond the inside face of the main. Corporation cock shall be left in the on [open] position.
- C. Curb Stop and Curb Boxes shall be of a size equal to the size of the service pipe and shall be installed in the locations shown on the Drawings or as ordered by the Landscape Architect. The boxes shall be set in a true vertical position and flush with the adjoining ground.
- D. Ductile Iron Service Pipe: Each ductile iron service pipe shall be valved with gate valve where and as directed, and a valve box shall be installed over the valve, all as specified elsewhere in these Specifications. Connections of service lines at the main shall be made with appropriate size tees.

3.5 WATER SERVICES TESTING

- A. All portions of the water system shall be tested for leakage. System may be tested by the use of either water or low-pressure air.
- B. General test requirements.
 - 1. Piping shall be adequately restrained against movement before testing. Pressure line shall have thrust blocks installed and the concrete shall have attained full design strength before test pressure is applied to the line.
 - 2. Piping system shall be flushed clean, and sediment, scale, dirt, and debris removed before piping is tested.
 - 3. Adequate provision shall be made for carrying off flushing water without causing erosion or other damage.
 - 4. Piping shall be tested before joints are concealed or made inaccessible.
 - 5. Tests shall be made in the presence of an Inspector of the authority having jurisdiction.
- C. Notice of tests shall be made in writing to the Landscape Architect and the Chelsea DPW, and received by them not less than five days before the date of test.

- D. Pressure and Leakage Tests.
1. Pressure pipe shall be given combined pressure and leakage tests in sections of acceptable length.
 2. The Contractor shall furnish and install suitable temporary testing plugs or caps; all necessary pressure pumps, pipe connections, meters, gages, and other necessary equipment; and all labor required.
 3. Unless it has already been done, the section of pipe to be tested shall be filled with water of approved quality, and all air shall be expelled from the pipe. If hydrants or blowoffs are not available at high points for releasing air, the Contractor shall make the necessary excavations and do the necessary backfilling and shall make the necessary taps at such points, and shall plug said holes after completion of the test.
 4. The section under test shall be maintained full of water for a period of 24 hours prior to the combined pressure and leakage test being applied.
 5. The meter and gage shall be installed by the Contractor and shall be kept in use during the test in such a manner that all water entering the water main under test will be measured and the pressure in the water main indicated.
 6. The pressure test shall consist of first raising the water pressure (based on the elevation of the lowest point of the section under test and corrected to the gage location) to a pressure of 125 lbs. per sq. in. If the Contractor cannot achieve the specified pressure and maintain it for a period of one hour with no additional pumping, the section shall be considered as having failed to pass the test.
 7. Following a successful pressure test, or concurrently therewith, the Contractor shall make a leakage test by metering the flow of water into the pipe while maintaining in the watermain a pressure equal to the specified test pressure. If the average leakage during the 4-hour period exceeds a rate of 20 gallons per 24 hours per inch of inside diameter per mile of pipeline, the section shall be considered as having failed the leakage test.
 8. If the section shall fail to pass the pressure test, the leakage test, or both, the Contractor shall do everything necessary to locate, uncover, and repair or replace defective pipes, fittings, or joints, all at his own expense, and without extension of the time for completion of the work. Additional tests and repairs shall be made until the section passes the specified tests.
 9. All joints within vaults shall have no visible leakage. Joints from which water continues to run or squirt in an active manner will not be accepted.
 10. Upon successful completion of the tests, plugs or caps installed for the testing shall be removed.
 11. If, in the judgment of the Landscape Architect, it is impracticable to follow the foregoing procedure exactly for any reason, modifications in the procedure shall be made as required and accepted, but in any event the Contractor shall be responsible for the ultimate tightness of the line within the above leakage and pressure requirements.
- E. Before submitting system for final approval of the authorities having jurisdiction, the Contractor shall submit to the Architect a written statement stating that the work has been completed in accordance with the Specifications and Drawings.
- F. Promptly following satisfactory completion of leakage testing, a report fully describing test procedures and listing test results shall be submitted to the Architect and to

governmental agencies having jurisdiction. The Contractor's Superintendent shall sign the report.

3.6 WATER SERVICES DISINFECTION

- A. The Contractor shall disinfect the lines carrying potable water. The work shall be supervised or performed by an approved chemical testing laboratory at the Contractor's cost. Test results shall be sent to the Architect.
- B. The Contractor shall furnish all equipment and materials necessary to do the work of disinfection, and shall perform the work in accordance with the procedure outlined in AWWA C601, except as otherwise specified herein.
- C. The dosage shall be such so as to produce a chlorine concentration of not less than 10 ppm after a contact period of not less than 24 hours.
- D. After treatment, the pipeline shall be flushed with clean water until the residual chlorine content does not exceed 0.2 ppm.
- E. During the disinfection period, care shall be exercised to prevent contamination of water in existing mains.

3.7 ELECTRICAL SERVICES: GENERAL

- A. This Section covers the requirements for installation of materials, proper workmanship, testing, cleaning, grounding, and work methods to be followed by the Contractor. This Section also includes specific instructions and to be used in conjunction with the contract Drawings. Any discrepancies noted between the specification, Drawings, and actual installation shall be reported immediately to the Owner, Engineer, and Architect. Failure on the part of the Contractor to report discrepancies immediately will be considered negligent and Contractor will be responsible for correcting actions at no cost to Owner.
- B. Contractor is responsible for coordinating work with other trades, Owner, and Architect's schedule. Work will be coordinated such that systems can be properly located, and conflicts and delays are avoided. Contractor shall consider commencement of work acceptance of existing conditions.

3.8 ELECTRICAL SYSTEM TESTING, INSPECTION AND CLEANING

- A. Test wiring and connections for continuity and grounds before fixtures are connected; demonstrate insulation resistance by megger test as required at not less than 500 volts. Insulation resistance between conductors and grounds for secondary distribution systems shall meet National Electrical Code (NEC) and interNational Electrical Testing Association (NETA) requirements.
- B. Verify and correct as necessary: voltages, tap settings, trip settings and phasing on equipment from secondary distribution system to point of use. Test secondary voltages at transformers, bus in panelboards, and at other locations on distribution systems as necessary. Test secondary voltages under no-load and full-load conditions.
- C. Test lighting fixtures with specified lamps in place for 100 hours. Replace lamps that fail within 90 days after acceptance by Owner at no extra cost to Owner (no exceptions).
- D. Provide necessary testing equipment and testing services.
- E. Failures or defects in workmanship or materials revealed by tests or inspection shall be corrected promptly and retested. Replace defective material.

- F. Clean panels and other equipment. Panelboard interiors shall be cleaned and vacuumed.
- G. Equipment with damage to painted finish shall be repaired to Owner's and Landscape Architect's satisfaction. After completion of project, clean exterior surfaces of electrical equipment.

3.9 WIRING METHODS

- A. Install wire and cables in approved raceways as specified and as approved by authorities that have jurisdiction.
- B. Follow homerun circuit numbers and/or notes as shown on Drawings to connect circuits to panelboards. Where homerun circuit numbers are not shown on Drawings, divide similar types of connected loads among phase buses so that currents are approximately equal in normal usage.
- C. Run concealed conduit in as direct lines as possible with a minimum number of bends of longest possible radius. Run exposed conduit parallel to or at right angles to building/field lines. Bends shall be free from dents or flattening. The exact locations and routing of conduit shall be determined by the Contractor subject to the approval of the Owner and Landscape Architect.
- D. Polarity of all electrical connections shall be observed in order to preserve phase relationship in all feeders and equipment.
- E. Splices shall be made in neat, workmanlike manner using approved mechanical connectors. After splicing, insulation equal to that on the spliced wires shall be applied at each splice. Splices are permitted only in junction boxes, outlet boxes, or other permanently accessible locations. Splices installed in electric handholes shall be weather and waterproof, pre-molded polymer splices. Hand taping of splices below-grade is not acceptable.

3.10 GROUNDING

- A. Bond and ground equipment and systems connected under this Section in accordance with standards of the NEC and other applicable regulations and codes.
- B. Conduit system shall be electrically continuous throughout, grounded at service entrance. Equipment frames, enclosures, boxes, etc. shall be grounded by use of green-jacketed (or bare copper) ground, sized as per Table 250-95 of the NEC.
- C. Green bonding jumper shall be installed in flexible conduits.
- D. Copper fittings for ground connections shall conform to the requirements of ASTM B 30. All bolts, u-bolts, cap screws, nuts, and lock washers for copper fitting shall be of approved corrosion-resisting material. Compression connectors required for all below-grade grounding connections. Exothermic (cad-weld) connectors are also acceptable for use below grade. The use of bolted grounding and ground rod connectors below grade is not acceptable.
- E. Ground Rods shall be 5/8" diameter and 8' in length, copperweld as required by applicable codes (NEC, NESC). Bonding connections to ground rods shall be permanent, welded or crimped, with copper connectors. All wire used for grounding shall be no smaller than #4 Awg copper, stranded conductor. Contractor shall bond all meter enclosure cabinets, meter sockets, safety disconnects, conduit grounding bushes, etc.

3.11 INSTALLATION OF ELECTRICAL EQUIPMENT

- A. Contractor to Furnish and Install all major electrical components, and all necessary minor and expected accessories.
- B. Contractor to meet with local wiring inspector prior to the start of any work and obtain any local site requirements and restrictions, which must be followed. Contractor shall also meet with local utility, any other City officials, as directed by Owner and wire inspector, prior to the start of work, or ordering of materials. Failure to meet with the local officials and utility prior to ordering materials and start of construction will be considered negligent and all necessary corrections resulting from this failure will be at no cost to Owner.
- C. Provide, furnish and install all products and work outlined in Paragraph 1.02.G of this Specification Section.
- D. Provide all grounding of new electrical installations. Grounding to be installed per installation details and National Electrical Code.
- E. Balance the lighting, receptacle and electrical load evenly on all circuits and on all phases of each circuit.
- F. Provide new handholes and conduit system for electrical work, in locations as shown on Contract Drawings or as directed in the field by the Landscape Architect and Owner.
- G. Install all equipment in locations as shown on Contract Drawings. All deviations must be approved, in advance by Owner, Architect and Engineer.
- H. Install all equipment per manufacturer's instructions.

END OF SECTION

Bidder Information Form
Polonia Park Site Improvements

(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:

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

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
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 CONTRACT:

I hereby certify that I am the 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)

Bid Form: Polonia Park Site Improvements

To The Awarding Authority:

A. The undersigned proposes to furnish all labor and materials required for the City of Chelsea in Chelsea, Massachusetts in accordance with the Contract Documents for the **Polonia Park Site Improvements**, for the contract price specified below.

B. This bid includes addenda number(s) _____.

C. The subdivision of the proposed Contract Price is as follows:

(Bidder: insert words and numbers. In cases of conflict between words and numbers, the words shall control). Low bid will be based on the lowest lump sum bid.

Description and Amount in words

Amount in Figures

Lump Sum Bid	
Lump Sum Bid Price (words)	(figures)

See Specifications Section 01 23 00, Alternates, for instructions.

The following are ALTERNATES which, if adopted by the City, shall either increase or decrease the Contractor's base bid contract price and lump sum bid. The City reserves the right to determine the lowest eligible bidder on the basis of the base bid or the adoption of the ALTERNATES, selected in order, and in combination with the base bid. (For example: Base Bid, Base Bid + Alternate 1)

Alternate Number	Change	Description	Price Change	Price Change
1	ALTERNATE	Extend the irrigation system to cover the additional area(s) shown on the Drawings. Add 3" new bark mulch to all plant beds as indicated on the Drawings.	ADD \$ _____ (words)	ADD \$ _____ (figures)

Company Name: _____

Company Address: _____

Telephone Number: _____ Fax Number: _____

Signature: _____

Print Name: _____ Date: _____

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 responses 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 Responder 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_____, 2016.

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: **Polonia Park Site Improvements**

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:

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))

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 waiver 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
Thomas G. Ambrosino, City Manager
500 Broadway
City Hall
Chelsea, MA 02150

With a Copy to:
Cheryl Watson Fisher
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

Thomas G. Ambrosino, 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

TAX COMPLIANCE CERTIFICATION

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

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.

City of Chelsea

Conflict of Interest Law

Compliance Statement and Requirements for Vendors

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

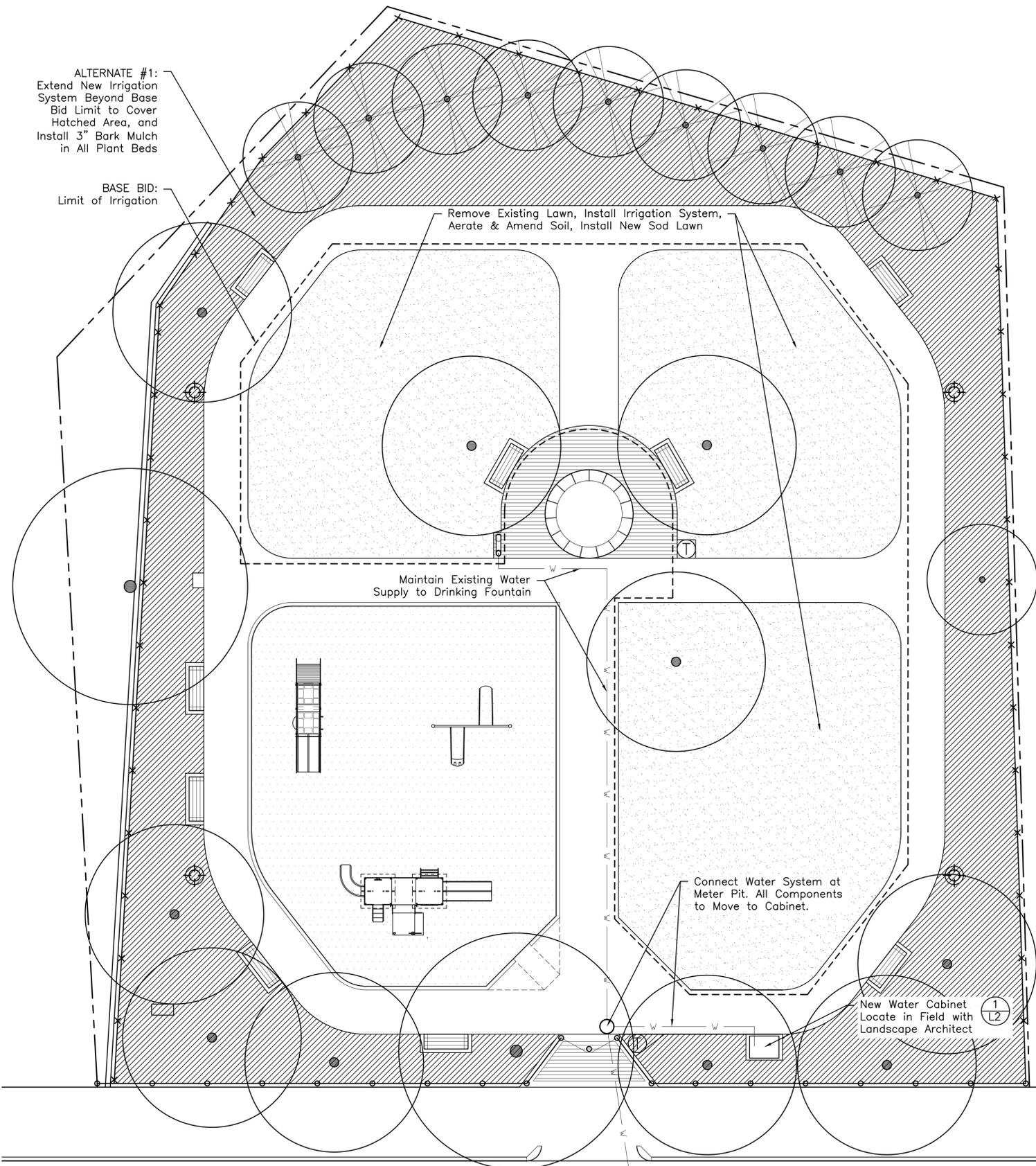
_____.
(date)

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



TREMONT STREET



DEMOLITION NOTES

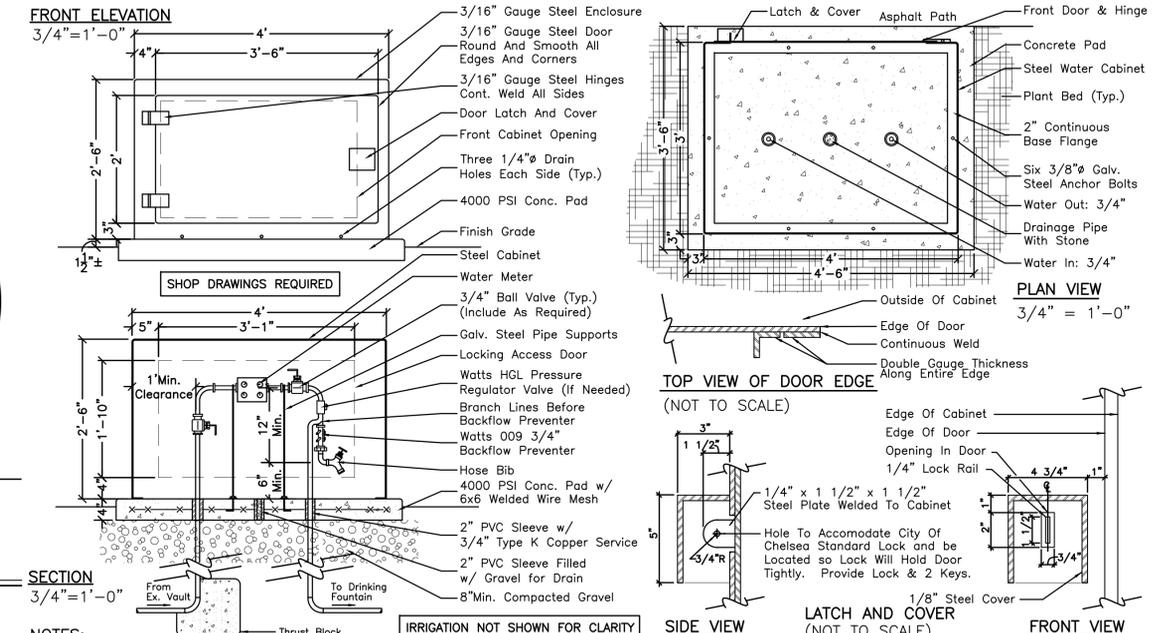
1. The Contractor shall verify location of and protect all utilities, drainage, and sub-drainage structures prior to starting construction. Call DIG-SAFE (1-888-DIG-SAFE).
2. Contractor shall complete all demolition and removals required to complete the intent of the proposed design.
3. Protect from damage all trees, shrubs, curbs, paving, and any other site feature that is not designated for removal. Any damaged item not scheduled for removal shall be restored by the Contractor at no extra charge to Owner.
4. ALL REMOVALS AND ALL EXCAVATIONS outside Tree Protection Fencing but within the dripline of existing trees shall be HAND WORK or AIR SPADE ONLY. Cut NO ROOTS without the express permission of Landscape Architect or Owner's Representative. Provide 48 hours notice before all such work in "Hand Work Only" areas to allow Landscape Architect or Owner's Representative to observe work. (See Specifications 01 57 00.)
5. Temporary fencing with construction signage shall be installed around the perimeter of the work and staging areas to secure project site and notify the public of the closure for construction. The Temporary Fencing shall be the Limit of Work unless otherwise directed. All public pathways outside the fencing shall remain open.

PLANTING NOTES

1. The Contractor shall guarantee all new lawns for one year following installation.
2. Under Alternate #1, all plant beds shall receive 3" shredded bark mulch; supply sample for approval by Landscape Architect.
3. See Specifications for sod species mix. No substitutions shall be allowed without approval of Landscape Architect.

IRRIGATION NOTES

1. Irrigation system to be design/build. Irrigation company and design to be approved by Landscape Architect; provide plan for approval, before installation begins. See Specifications, Section 32 80 00.
2. Control box and clock shall be sized to provide 100% coverage of all indicated areas. Control Box to have a minimum of six (6) zones and to be located within the new Water Cabinet.
3. Control system provided under Base Bid shall be sufficient for Base Bid and Alternate #1 areas to allow future expansion of system if Alternate #1 is not accepted.
4. 'Pop-up' spray heads for use in lawn areas and trees in lawn. 'Drip' system for use in all perennial and shrub beds. Drip lines shall be thoroughly buried at bottom of new 3" mulch layer per Planting Note #2.
5. Irrigation system to be guaranteed for one (1) year following installation. Contractor to provide first winterization and spring start up in coordination with a representative from the Dept. of Public Works.
6. Contractor to provide irrigation sleeves under paved areas. Seal all pipe ends and joints tightly. Base Bid shall include capped sleeves under paved areas as needed for future expansion if Alt. #1 is not accepted; locations shall be clearly marked on the as-built plan.
7. Contractor to provide an "As-Built Plan", which includes sleeve locations, zone information and Operation Instructions before final payment.
8. Location of rain gauge to be determined in field with Landscape Architect and Owner's Representative.
9. All irrigation components to be Commercial-grade, no residential/light commercial grade valves, emitters, or controllers will be accepted.



- NOTES:**
1. New water line to connect to existing water supply system at the existing vault as shown on the Drawings; all plumbing components required by code to be above-grade shall be relocated to the new water cabinet. Make all necessary connections within the existing vault to maintain water supply to drinking fountain and meet all City standards.
 2. Contractor to provide a padlock which meets City of Chelsea Standard (Boston Edison 3C key) capable of locking cabinet.
 3. Irrigation Controller/Clock to be located in Water Cabinet. (Not shown for clarity of plumbing diagram.)
 4. Enclosure to be powdercoated black per Specifications 05 50 00.

1 WATER CABINET ON CONCRETE PAD

SCALE: AS NOTED





**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**

RONALD L. WALKER, II
Secretary

WILLIAM D MCKINNEY
Director

CHARLES D. BAKER
Governor

KARYN E. POLITO
Lt. Governor

Awarding Authority: City of Chelsea
Contract Number: 2016-182 **City/Town:** CHELSEA
Description of Work: Polonia Park - Site improvements to park/playground
Job Location: Chelsea, MA 02150

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 Department of Labor Standards, Division of Apprentice Standards (DLS/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. **Any apprentice not registered with DLS/DAS regardless of whether or not they are registered with any other federal, state, local, or private agency 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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	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>	12/01/2015	\$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>	12/01/2015	\$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>	08/01/2015	\$88.29	\$9.80	\$19.23	\$0.00	\$117.32
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2015	\$36.10	\$7.45	\$13.55	\$0.00	\$57.10
	06/01/2016	\$36.85	\$7.45	\$13.55	\$0.00	\$57.85
	12/01/2016	\$37.85	\$7.45	\$13.55	\$0.00	\$58.85
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2015	\$34.38	\$10.40	\$5.95	\$0.00	\$50.73
ASPHALT RAKER <i>LABORERS - ZONE 1</i>	12/01/2015	\$35.60	\$7.45	\$13.55	\$0.00	\$56.60
	06/01/2016	\$36.35	\$7.45	\$13.55	\$0.00	\$57.35
	12/01/2016	\$37.35	\$7.45	\$13.55	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.73	\$10.00	\$14.90	\$0.00	\$68.63
	06/01/2016	\$44.48	\$10.00	\$14.90	\$0.00	\$69.38
	12/01/2016	\$45.73	\$10.00	\$14.90	\$0.00	\$70.63
	06/01/2017	\$46.73	\$10.00	\$14.90	\$0.00	\$71.63
	12/01/2017	\$47.73	\$10.00	\$14.90	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.73	\$10.00	\$14.90	\$0.00	\$68.63
	06/01/2016	\$44.48	\$10.00	\$14.90	\$0.00	\$69.38
	12/01/2016	\$45.73	\$10.00	\$14.90	\$0.00	\$70.63
	06/01/2017	\$46.73	\$10.00	\$14.90	\$0.00	\$71.63
	12/01/2017	\$47.73	\$10.00	\$14.90	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 1</i>	12/01/2015	\$35.60	\$7.45	\$13.55	\$0.00	\$56.60
	06/01/2016	\$36.35	\$7.45	\$13.55	\$0.00	\$57.35
	12/01/2016	\$37.35	\$7.45	\$13.55	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 1</i>	12/01/2015	\$36.10	\$7.45	\$13.55	\$0.00	\$57.10
	06/01/2016	\$36.85	\$7.45	\$13.55	\$0.00	\$57.85
	12/01/2016	\$37.85	\$7.45	\$13.55	\$0.00	\$58.85
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BOILER MAKER	01/01/2016	\$41.62	\$6.97	\$16.21	\$0.00	\$64.80
<i>BOILERMAKERS LOCAL 29</i>	01/01/2017	\$42.92	\$6.97	\$16.21	\$0.00	\$66.10

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$27.05	\$6.97	\$10.54	\$0.00	\$44.56
2	65	\$27.05	\$6.97	\$10.54	\$0.00	\$44.56
3	70	\$29.13	\$6.97	\$11.35	\$0.00	\$47.45
4	75	\$31.22	\$6.97	\$12.16	\$0.00	\$50.35
5	80	\$33.30	\$6.97	\$12.97	\$0.00	\$53.24
6	85	\$35.38	\$6.97	\$13.78	\$0.00	\$56.13
7	90	\$37.46	\$6.97	\$14.59	\$0.00	\$59.02
8	95	\$39.54	\$6.97	\$15.40	\$0.00	\$61.91

Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$27.90	\$6.97	\$10.54	\$0.00	\$45.41
2	65	\$27.90	\$6.97	\$10.54	\$0.00	\$45.41
3	70	\$30.04	\$6.97	\$11.35	\$0.00	\$48.36
4	75	\$32.19	\$6.97	\$12.16	\$0.00	\$51.32
5	80	\$34.34	\$6.97	\$12.97	\$0.00	\$54.28
6	85	\$36.48	\$6.97	\$13.78	\$0.00	\$57.23
7	90	\$38.63	\$6.97	\$14.59	\$0.00	\$60.19
8	95	\$40.77	\$6.97	\$15.40	\$0.00	\$63.14

Notes:

Apprentice to Journeyworker Ratio:1:5

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	02/01/2016	\$49.86	\$10.18	\$19.14	\$0.00	\$79.18
<i>BRICKLAYERS LOCAL 3 (BOSTON)</i>	08/01/2016	\$50.76	\$10.18	\$19.22	\$0.00	\$80.16
	02/01/2017	\$51.33	\$10.18	\$19.22	\$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 - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.93	\$10.18	\$19.14	\$0.00	\$54.25
2	60	\$29.92	\$10.18	\$19.14	\$0.00	\$59.24
3	70	\$34.90	\$10.18	\$19.14	\$0.00	\$64.22
4	80	\$39.89	\$10.18	\$19.14	\$0.00	\$69.21
5	90	\$44.87	\$10.18	\$19.14	\$0.00	\$74.19

Effective Date - 08/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.38	\$10.18	\$19.22	\$0.00	\$54.78
2	60	\$30.46	\$10.18	\$19.22	\$0.00	\$59.86
3	70	\$35.53	\$10.18	\$19.22	\$0.00	\$64.93
4	80	\$40.61	\$10.18	\$19.22	\$0.00	\$70.01
5	90	\$45.68	\$10.18	\$19.22	\$0.00	\$75.08

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER	12/01/2015	\$43.31	\$10.00	\$14.90	\$0.00	\$68.21
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.06	\$10.00	\$14.90	\$0.00	\$68.96
	12/01/2016	\$45.29	\$10.00	\$14.90	\$0.00	\$70.19
	06/01/2017	\$46.28	\$10.00	\$14.90	\$0.00	\$71.18
	12/01/2017	\$47.27	\$10.00	\$14.90	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN	12/01/2015	\$36.45	\$7.45	\$13.75	\$0.00	\$57.65
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2016	\$37.20	\$7.45	\$13.75	\$0.00	\$58.40
	12/01/2016	\$38.20	\$7.45	\$13.75	\$0.00	\$59.40

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING LABORER	12/01/2015	\$35.30	\$7.45	\$13.75	\$0.00	\$56.50
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2016	\$36.05	\$7.45	\$13.75	\$0.00	\$57.25
	12/01/2016	\$37.05	\$7.45	\$13.75	\$0.00	\$58.25

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING TOP MAN	12/01/2015	\$35.30	\$7.45	\$13.75	\$0.00	\$56.50
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2016	\$36.05	\$7.45	\$13.75	\$0.00	\$57.25
	12/01/2016	\$37.05	\$7.45	\$13.75	\$0.00	\$58.25

For apprentice rates see "Apprentice- LABORER"

CARBIDE CORE DRILL OPERATOR	12/01/2015	\$35.60	\$7.45	\$13.55	\$0.00	\$56.60
<i>LABORERS - ZONE 1</i>	06/01/2016	\$36.35	\$7.45	\$13.55	\$0.00	\$57.35
	12/01/2016	\$37.35	\$7.45	\$13.55	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARPENTER	03/01/2016	\$43.92	\$9.80	\$16.82	\$0.00	\$70.54
<i>CARPENTERS -ZONE 1 (Metro Boston)</i>	09/01/2016	\$45.01	\$9.80	\$16.82	\$0.00	\$71.63
	03/01/2017	\$46.09	\$9.80	\$16.82	\$0.00	\$72.71
	09/01/2017	\$47.21	\$9.80	\$16.82	\$0.00	\$73.83
	03/01/2018	\$48.32	\$9.80	\$16.82	\$0.00	\$74.94
	09/01/2018	\$49.47	\$9.80	\$16.82	\$0.00	\$76.09
	03/01/2019	\$50.62	\$9.80	\$16.82	\$0.00	\$77.24

Apprentice - CARPENTER - Zone 1 Metro Boston

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.96	\$9.80	\$1.63	\$0.00	\$33.39
2	60	\$26.35	\$9.80	\$1.63	\$0.00	\$37.78
3	70	\$30.74	\$9.80	\$11.93	\$0.00	\$52.47
4	75	\$32.94	\$9.80	\$11.93	\$0.00	\$54.67
5	80	\$35.14	\$9.80	\$13.56	\$0.00	\$58.50
6	80	\$35.14	\$9.80	\$13.56	\$0.00	\$58.50
7	90	\$39.53	\$9.80	\$15.19	\$0.00	\$64.52
8	90	\$39.53	\$9.80	\$15.19	\$0.00	\$64.52

Effective Date - 09/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.51	\$9.80	\$1.63	\$0.00	\$33.94
2	60	\$27.01	\$9.80	\$1.63	\$0.00	\$38.44
3	70	\$31.51	\$9.80	\$11.93	\$0.00	\$53.24
4	75	\$33.76	\$9.80	\$11.93	\$0.00	\$55.49
5	80	\$36.01	\$9.80	\$13.56	\$0.00	\$59.37
6	80	\$36.01	\$9.80	\$13.56	\$0.00	\$59.37
7	90	\$40.51	\$9.80	\$15.19	\$0.00	\$65.50
8	90	\$40.51	\$9.80	\$15.19	\$0.00	\$65.50

Notes:

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING	01/01/2016	\$46.44	\$10.90	\$18.71	\$1.30	\$77.35
<i>BRICKLAYERS LOCAL 3 (BOSTON)</i>						

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.22	\$10.90	\$12.21	\$0.00	\$46.33
2	60	\$27.86	\$10.90	\$13.71	\$1.30	\$53.77
3	65	\$30.19	\$10.90	\$14.71	\$1.30	\$57.10
4	70	\$32.51	\$10.90	\$15.71	\$1.30	\$60.42
5	75	\$34.83	\$10.90	\$16.71	\$1.30	\$63.74
6	80	\$37.15	\$10.90	\$17.71	\$1.30	\$67.06
7	90	\$41.80	\$10.90	\$18.71	\$1.30	\$72.71

Notes:

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

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2015	\$35.60	\$7.45	\$13.55	\$0.00	\$56.60
	06/01/2016	\$36.35	\$7.45	\$13.55	\$0.00	\$57.35
	12/01/2016	\$37.35	\$7.45	\$13.55	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$44.73	\$10.00	\$14.90	\$0.00	\$69.63
	06/01/2016	\$45.48	\$10.00	\$14.90	\$0.00	\$70.38
	12/01/2016	\$46.73	\$10.00	\$14.90	\$0.00	\$71.63
	06/01/2017	\$47.73	\$10.00	\$14.90	\$0.00	\$72.63
	12/01/2017	\$48.73	\$10.00	\$14.90	\$0.00	\$73.63

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$30.13	\$10.00	\$14.90	\$0.00	\$55.03
	06/01/2016	\$30.65	\$10.00	\$14.90	\$0.00	\$55.55
	12/01/2016	\$31.52	\$10.00	\$14.90	\$0.00	\$56.42
	06/01/2017	\$32.21	\$10.00	\$14.90	\$0.00	\$57.11
	12/01/2017	\$32.90	\$10.00	\$14.90	\$0.00	\$57.80

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 1</i>	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

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.76	\$7.85	\$0.00	\$0.00	\$32.61
2	55	\$27.23	\$7.85	\$3.66	\$0.00	\$38.74
3	60	\$29.71	\$7.85	\$3.99	\$0.00	\$41.55
4	65	\$32.18	\$7.85	\$4.32	\$0.00	\$44.35
5	70	\$34.66	\$7.85	\$14.11	\$0.00	\$56.62
6	75	\$37.13	\$7.85	\$14.44	\$0.00	\$59.42
7	80	\$39.61	\$7.85	\$14.77	\$0.00	\$62.23
8	90	\$44.56	\$7.85	\$15.44	\$0.00	\$67.85

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.23	\$7.85	\$0.00	\$0.00	\$33.08
2	55	\$27.75	\$7.85	\$3.66	\$0.00	\$39.26
3	60	\$30.28	\$7.85	\$3.99	\$0.00	\$42.12
4	65	\$32.80	\$7.85	\$4.32	\$0.00	\$44.97
5	70	\$35.32	\$7.85	\$14.11	\$0.00	\$57.28
6	75	\$37.85	\$7.85	\$14.44	\$0.00	\$60.14
7	80	\$40.37	\$7.85	\$14.77	\$0.00	\$62.99
8	90	\$45.41	\$7.85	\$15.44	\$0.00	\$68.70

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN LABORERS - ZONE 1 For apprentice rates see "Apprentice- LABORER"	12/01/2015	\$35.50	\$7.45	\$13.55	\$0.00	\$56.50
DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS - ZONE 1 For apprentice rates see "Apprentice- LABORER"	12/01/2015	\$36.50	\$7.45	\$13.55	\$0.00	\$57.50
DEMO: BURNERS LABORERS - ZONE 1 For apprentice rates see "Apprentice- LABORER"	12/01/2015	\$36.25	\$7.45	\$13.55	\$0.00	\$57.25
DEMO: CONCRETE CUTTER/SAWYER LABORERS - ZONE 1 For apprentice rates see "Apprentice- LABORER"	12/01/2015	\$36.50	\$7.45	\$13.55	\$0.00	\$57.50
DEMO: JACKHAMMER OPERATOR LABORERS - ZONE 1 For apprentice rates see "Apprentice- LABORER"	12/01/2015	\$36.25	\$7.45	\$13.55	\$0.00	\$57.25
DEMO: WRECKING LABORER LABORERS - ZONE 1 For apprentice rates see "Apprentice- LABORER"	12/01/2015	\$35.50	\$7.45	\$13.55	\$0.00	\$56.50

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.31	\$10.00	\$14.90	\$0.00	\$68.21
	06/01/2016	\$44.06	\$10.00	\$14.90	\$0.00	\$68.96
	12/01/2016	\$45.29	\$10.00	\$14.90	\$0.00	\$70.19
	06/01/2017	\$46.28	\$10.00	\$14.90	\$0.00	\$71.18
	12/01/2017	\$47.27	\$10.00	\$14.90	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$58.86	\$9.80	\$19.23	\$0.00	\$87.89
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$63.06	\$9.80	\$19.23	\$0.00	\$92.09
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$88.23	\$9.80	\$19.23	\$0.00	\$117.26
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) <i>ELECTRICIANS LOCAL 103</i>	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56
For apprentice rates see "Apprentice- ELECTRICIAN"						
ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56

Apprentice - ELECTRICIAN - Local 103

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.47	\$13.00	\$0.55	\$0.00	\$32.02
2	40	\$18.47	\$13.00	\$0.55	\$0.00	\$32.02
3	45	\$20.78	\$13.00	\$12.34	\$0.00	\$46.12
4	45	\$20.78	\$13.00	\$12.34	\$0.00	\$46.12
5	50	\$23.09	\$13.00	\$12.71	\$0.00	\$48.80
6	55	\$25.39	\$13.00	\$13.07	\$0.00	\$51.46
7	60	\$27.70	\$13.00	\$13.44	\$0.00	\$54.14
8	65	\$30.01	\$13.00	\$13.81	\$0.00	\$56.82
9	70	\$32.32	\$13.00	\$14.18	\$0.00	\$59.50
10	75	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18

Notes :

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

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2016	\$54.53	\$14.43	\$14.96	\$0.00	\$83.92
	01/01/2017	\$55.86	\$15.28	\$15.71	\$0.00	\$86.85

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.27	\$14.43	\$0.00	\$0.00	\$41.70
2	55	\$29.99	\$14.43	\$14.96	\$0.00	\$59.38
3	65	\$35.44	\$14.43	\$14.96	\$0.00	\$64.83
4	70	\$38.17	\$14.43	\$14.96	\$0.00	\$67.56
5	80	\$43.62	\$14.43	\$14.96	\$0.00	\$73.01

Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.93	\$15.28	\$0.00	\$0.00	\$43.21
2	55	\$30.72	\$15.28	\$15.71	\$0.00	\$61.71
3	65	\$36.31	\$15.28	\$15.71	\$0.00	\$67.30
4	70	\$39.10	\$15.28	\$15.71	\$0.00	\$70.09
5	80	\$44.69	\$15.28	\$15.71	\$0.00	\$75.68

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>	01/01/2016	\$38.17	\$14.43	\$14.96	\$0.00	\$67.56
	01/01/2017	\$39.10	\$15.28	\$15.71	\$0.00	\$70.09
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR <i>LABORERS - ZONE 1</i>	12/01/2015	\$35.60	\$7.45	\$13.55	\$0.00	\$56.60
	06/01/2016	\$36.35	\$7.45	\$13.55	\$0.00	\$57.35
	12/01/2016	\$37.35	\$7.45	\$13.55	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2015	\$40.49	\$10.00	\$14.55	\$0.00	\$65.04
	05/01/2016	\$41.03	\$10.00	\$14.90	\$0.00	\$65.93
	11/01/2016	\$41.62	\$10.00	\$14.90	\$0.00	\$66.52
	05/01/2017	\$42.50	\$10.00	\$14.90	\$0.00	\$67.40
	11/01/2017	\$43.23	\$10.00	\$14.90	\$0.00	\$68.13
	05/01/2018	\$43.94	\$10.00	\$14.90	\$0.00	\$68.84
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2015	\$41.93	\$10.00	\$14.55	\$0.00	\$66.48
	05/01/2016	\$42.47	\$10.00	\$14.90	\$0.00	\$67.37
	11/01/2016	\$43.07	\$10.00	\$14.90	\$0.00	\$67.97
	05/01/2017	\$43.96	\$10.00	\$14.90	\$0.00	\$68.86
	11/01/2017	\$44.69	\$10.00	\$14.90	\$0.00	\$69.59
	05/01/2018	\$45.41	\$10.00	\$14.90	\$0.00	\$70.31
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>	11/01/2015	\$21.71	\$10.00	\$14.55	\$0.00	\$46.26
	05/01/2016	\$21.88	\$10.00	\$14.90	\$0.00	\$46.78
	11/01/2016	\$22.23	\$10.00	\$14.90	\$0.00	\$47.13
	05/01/2017	\$22.76	\$10.00	\$14.90	\$0.00	\$47.66
	11/01/2017	\$23.18	\$10.00	\$14.90	\$0.00	\$48.08
	05/01/2018	\$23.61	\$10.00	\$14.90	\$0.00	\$48.51
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS</i> <i>LOCAL 103</i>	03/01/2016	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$36.34	\$10.00	\$14.90	\$0.00	\$61.24
	06/01/2016	\$36.96	\$10.00	\$14.90	\$0.00	\$61.86
	12/01/2016	\$38.00	\$10.00	\$14.90	\$0.00	\$62.90
	06/01/2017	\$38.84	\$10.00	\$14.90	\$0.00	\$63.74
	12/01/2017	\$39.67	\$10.00	\$14.90	\$0.00	\$64.57
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER <i>LABORERS - ZONE 1</i>	12/01/2015	\$20.50	\$7.45	\$13.55	\$0.00	\$41.50
	06/01/2016	\$20.50	\$7.45	\$13.55	\$0.00	\$41.50
	12/01/2016	\$20.50	\$7.45	\$13.55	\$0.00	\$41.50
For apprentice rates see "Apprentice- LABORER"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</i>	03/01/2016	\$42.13	\$9.80	\$17.62	\$0.00	\$69.55

Apprentice - FLOORCOVERER - Local 2168 Zone 1

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.07	\$9.80	\$1.79	\$0.00	\$32.66
2	55	\$23.17	\$9.80	\$1.79	\$0.00	\$34.76
3	60	\$25.28	\$9.80	\$12.25	\$0.00	\$47.33
4	65	\$27.38	\$9.80	\$12.25	\$0.00	\$49.43
5	70	\$29.49	\$9.80	\$14.04	\$0.00	\$53.33
6	75	\$31.60	\$9.80	\$14.04	\$0.00	\$55.44
7	80	\$33.70	\$9.80	\$15.83	\$0.00	\$59.33
8	85	\$35.81	\$9.80	\$15.83	\$0.00	\$61.44

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.73	\$10.00	\$14.90	\$0.00	\$68.63
	06/01/2016	\$44.48	\$10.00	\$14.90	\$0.00	\$69.38
	12/01/2016	\$45.73	\$10.00	\$14.90	\$0.00	\$70.63
	06/01/2017	\$46.73	\$10.00	\$14.90	\$0.00	\$71.63
	12/01/2017	\$47.73	\$10.00	\$14.90	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$30.13	\$10.00	\$14.90	\$0.00	\$55.03
	06/01/2016	\$30.65	\$10.00	\$14.90	\$0.00	\$55.55
	12/01/2016	\$31.52	\$10.00	\$14.90	\$0.00	\$56.42
	06/01/2017	\$32.21	\$10.00	\$14.90	\$0.00	\$57.11
	12/01/2017	\$32.90	\$10.00	\$14.90	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 1)</i>	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 - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.40	\$7.85	\$0.00	\$0.00	\$30.25
2	55	\$24.64	\$7.85	\$3.66	\$0.00	\$36.15
3	60	\$26.88	\$7.85	\$3.99	\$0.00	\$38.72
4	65	\$29.12	\$7.85	\$4.32	\$0.00	\$41.29
5	70	\$31.36	\$7.85	\$14.11	\$0.00	\$53.32
6	75	\$33.60	\$7.85	\$14.44	\$0.00	\$55.89
7	80	\$35.84	\$7.85	\$14.77	\$0.00	\$58.46
8	90	\$40.32	\$7.85	\$15.44	\$0.00	\$63.61

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.88	\$7.85	\$0.00	\$0.00	\$30.73
2	55	\$25.16	\$7.85	\$3.66	\$0.00	\$36.67
3	60	\$27.45	\$7.85	\$3.99	\$0.00	\$39.29
4	65	\$29.74	\$7.85	\$4.32	\$0.00	\$41.91
5	70	\$32.03	\$7.85	\$14.11	\$0.00	\$53.99
6	75	\$34.31	\$7.85	\$14.44	\$0.00	\$56.60
7	80	\$36.60	\$7.85	\$14.77	\$0.00	\$59.22
8	90	\$41.18	\$7.85	\$15.44	\$0.00	\$64.47

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HOISTING ENGINEER/CRANES/GRADALLS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.73	\$10.00	\$14.90	\$0.00	\$68.63
	06/01/2016	\$44.48	\$10.00	\$14.90	\$0.00	\$69.38
	12/01/2016	\$45.73	\$10.00	\$14.90	\$0.00	\$70.63
	06/01/2017	\$46.73	\$10.00	\$14.90	\$0.00	\$71.63
	12/01/2017	\$47.73	\$10.00	\$14.90	\$0.00	\$72.63

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 12/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$24.05	\$10.00	\$0.00	\$0.00	\$34.05
2	60	\$26.24	\$10.00	\$14.90	\$0.00	\$51.14
3	65	\$28.42	\$10.00	\$14.90	\$0.00	\$53.32
4	70	\$30.61	\$10.00	\$14.90	\$0.00	\$55.51
5	75	\$32.80	\$10.00	\$14.90	\$0.00	\$57.70
6	80	\$34.98	\$10.00	\$14.90	\$0.00	\$59.88
7	85	\$37.17	\$10.00	\$14.90	\$0.00	\$62.07
8	90	\$39.36	\$10.00	\$14.90	\$0.00	\$64.26

Effective Date - 06/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$24.46	\$10.00	\$0.00	\$0.00	\$34.46
2	60	\$26.69	\$10.00	\$14.90	\$0.00	\$51.59
3	65	\$28.91	\$10.00	\$14.90	\$0.00	\$53.81
4	70	\$31.14	\$10.00	\$14.90	\$0.00	\$56.04
5	75	\$33.36	\$10.00	\$14.90	\$0.00	\$58.26
6	80	\$35.58	\$10.00	\$14.90	\$0.00	\$60.48
7	85	\$37.81	\$10.00	\$14.90	\$0.00	\$62.71
8	90	\$40.03	\$10.00	\$14.90	\$0.00	\$64.93

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2016	\$43.31	\$10.70	\$21.95	\$2.28	\$78.24
	08/01/2016	\$44.46	\$10.70	\$21.95	\$2.28	\$79.39
	02/01/2017	\$45.56	\$10.70	\$21.95	\$2.28	\$80.49
	08/01/2017	\$46.66	\$10.70	\$21.95	\$2.28	\$81.59
	02/01/2018	\$47.81	\$10.70	\$21.95	\$2.28	\$82.74

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) <i>ELECTRICIANS LOCAL 103</i>	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56
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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>	02/01/2016	\$43.31	\$10.70	\$21.95	\$2.28	\$78.24
	08/01/2016	\$44.46	\$10.70	\$21.95	\$2.28	\$79.39
	02/01/2017	\$45.56	\$10.70	\$21.95	\$2.28	\$80.49
	08/01/2017	\$46.66	\$10.70	\$21.95	\$2.28	\$81.59
	02/01/2018	\$47.81	\$10.70	\$21.95	\$2.28	\$82.74
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) <i>PIPEFITTERS LOCAL 537</i>	03/01/2016	\$49.19	\$9.70	\$18.14	\$0.00	\$77.03
	09/01/2016	\$50.19	\$9.70	\$18.14	\$0.00	\$78.03
	03/01/2017	\$51.19	\$9.70	\$18.14	\$0.00	\$79.03
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537</i>	03/01/2016	\$49.19	\$9.70	\$18.14	\$0.00	\$77.03
	09/01/2016	\$50.19	\$9.70	\$18.14	\$0.00	\$78.03
	03/01/2017	\$51.19	\$9.70	\$18.14	\$0.00	\$79.03
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 1</i>	12/01/2015	\$36.10	\$7.45	\$13.55	\$0.00	\$57.10
	06/01/2016	\$36.85	\$7.45	\$13.55	\$0.00	\$57.85
	12/01/2016	\$37.85	\$7.45	\$13.55	\$0.00	\$58.85
For apprentice rates see "Apprentice- LABORER"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2015	\$43.81	\$11.50	\$13.80	\$0.00	\$69.11
	09/01/2016	\$45.81	\$11.50	\$13.80	\$0.00	\$71.11
	09/01/2017	\$47.81	\$11.50	\$13.80	\$0.00	\$73.11
	09/01/2018	\$50.06	\$11.50	\$13.80	\$0.00	\$75.36
	09/01/2019	\$52.56	\$11.50	\$13.80	\$0.00	\$77.86

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

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.91	\$11.50	\$10.05	\$0.00	\$43.46
2	60	\$26.29	\$11.50	\$10.80	\$0.00	\$48.59
3	70	\$30.67	\$11.50	\$11.55	\$0.00	\$53.72
4	80	\$35.05	\$11.50	\$12.30	\$0.00	\$58.85

Effective Date - 09/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.91	\$11.50	\$10.05	\$0.00	\$44.46
2	60	\$27.49	\$11.50	\$10.80	\$0.00	\$49.79
3	70	\$32.07	\$11.50	\$11.55	\$0.00	\$55.12
4	80	\$36.65	\$11.50	\$12.30	\$0.00	\$60.45

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (BOSTON AREA)</i>	03/16/2016	\$43.40	\$7.80	\$20.85	\$0.00	\$72.05
	09/16/2016	\$44.05	\$7.80	\$20.85	\$0.00	\$72.70
	03/16/2017	\$44.65	\$7.80	\$20.85	\$0.00	\$73.30

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - IRONWORKER - Local 7 Boston

Effective Date - 03/16/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.04	\$7.80	\$20.85	\$0.00	\$54.69
2	70	\$30.38	\$7.80	\$20.85	\$0.00	\$59.03
3	75	\$32.55	\$7.80	\$20.85	\$0.00	\$61.20
4	80	\$34.72	\$7.80	\$20.85	\$0.00	\$63.37
5	85	\$36.89	\$7.80	\$20.85	\$0.00	\$65.54
6	90	\$39.06	\$7.80	\$20.85	\$0.00	\$67.71

Effective Date - 09/16/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.43	\$7.80	\$20.85	\$0.00	\$55.08
2	70	\$30.84	\$7.80	\$20.85	\$0.00	\$59.49
3	75	\$33.04	\$7.80	\$20.85	\$0.00	\$61.69
4	80	\$35.24	\$7.80	\$20.85	\$0.00	\$63.89
5	85	\$37.44	\$7.80	\$20.85	\$0.00	\$66.09
6	90	\$39.65	\$7.80	\$20.85	\$0.00	\$68.30

Notes:

** Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:**

JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 1	12/01/2015	\$35.60	\$7.45	\$13.55	\$0.00	\$56.60
	06/01/2016	\$36.35	\$7.45	\$13.55	\$0.00	\$57.35
	12/01/2016	\$37.35	\$7.45	\$13.55	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

LABORER LABORERS - ZONE 1	12/01/2015	\$35.35	\$7.45	\$13.55	\$0.00	\$56.35
	06/01/2016	\$36.10	\$7.45	\$13.55	\$0.00	\$57.10
	12/01/2016	\$37.10	\$7.45	\$13.55	\$0.00	\$58.10

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LABORER - Zone 1

Effective Date - 12/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$21.21	\$7.45	\$13.55	\$0.00	\$42.21
2	70	\$24.75	\$7.45	\$13.55	\$0.00	\$45.75
3	80	\$28.28	\$7.45	\$13.55	\$0.00	\$49.28
4	90	\$31.82	\$7.45	\$13.55	\$0.00	\$52.82

Effective Date - 06/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$21.66	\$7.45	\$13.55	\$0.00	\$42.66
2	70	\$25.27	\$7.45	\$13.55	\$0.00	\$46.27
3	80	\$28.88	\$7.45	\$13.55	\$0.00	\$49.88
4	90	\$32.49	\$7.45	\$13.55	\$0.00	\$53.49

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER: CARPENTER TENDER LABORERS - ZONE 1	12/01/2015	\$35.35	\$7.45	\$13.55	\$0.00	\$56.35
	06/01/2016	\$36.10	\$7.45	\$13.55	\$0.00	\$57.10
	12/01/2016	\$37.10	\$7.45	\$13.55	\$0.00	\$58.10

For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER LABORERS - ZONE 1	12/01/2015	\$35.35	\$7.45	\$13.55	\$0.00	\$56.35
	06/01/2016	\$36.10	\$7.45	\$13.55	\$0.00	\$57.10
	12/01/2016	\$37.10	\$7.45	\$13.55	\$0.00	\$58.10

For apprentice rates see "Apprentice- LABORER"

LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS - ZONE 1	12/01/2015	\$35.50	\$7.45	\$13.55	\$0.00	\$56.50
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For apprentice rates see "Apprentice- LABORER"

LABORER: MASON TENDER LABORERS - ZONE 1	12/01/2015	\$35.60	\$7.45	\$13.55	\$0.00	\$56.60
	06/01/2016	\$36.35	\$7.45	\$13.55	\$0.00	\$57.35
	12/01/2016	\$37.35	\$7.45	\$13.55	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

LABORER: MULTI-TRADE TENDER LABORERS - ZONE 1	12/01/2015	\$35.35	\$7.45	\$13.55	\$0.00	\$56.35
	06/01/2016	\$36.10	\$7.45	\$13.55	\$0.00	\$57.10
	12/01/2016	\$37.10	\$7.45	\$13.55	\$0.00	\$58.10

For apprentice rates see "Apprentice- LABORER"

LABORER: TREE REMOVER LABORERS - ZONE 1	12/01/2015	\$35.35	\$7.45	\$13.55	\$0.00	\$56.35
	06/01/2016	\$36.10	\$7.45	\$13.55	\$0.00	\$57.10
	12/01/2016	\$37.10	\$7.45	\$13.55	\$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 LABORERS - ZONE 1	12/01/2015	\$35.60	\$7.45	\$13.55	\$0.00	\$56.60
	06/01/2016	\$36.35	\$7.45	\$13.55	\$0.00	\$57.35
	12/01/2016	\$37.35	\$7.45	\$13.55	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2016	\$38.08	\$10.18	\$17.70	\$0.00	\$65.96
	08/01/2016	\$38.78	\$10.18	\$17.78	\$0.00	\$66.74
	02/01/2017	\$39.24	\$10.18	\$17.78	\$0.00	\$67.20

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

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.04	\$10.18	\$17.70	\$0.00	\$46.92
2	60	\$22.85	\$10.18	\$17.70	\$0.00	\$50.73
3	70	\$26.66	\$10.18	\$17.70	\$0.00	\$54.54
4	80	\$30.46	\$10.18	\$17.70	\$0.00	\$58.34
5	90	\$34.27	\$10.18	\$17.70	\$0.00	\$62.15

Effective Date - 08/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.39	\$10.18	\$17.78	\$0.00	\$47.35
2	60	\$23.27	\$10.18	\$17.78	\$0.00	\$51.23
3	70	\$27.15	\$10.18	\$17.78	\$0.00	\$55.11
4	80	\$31.02	\$10.18	\$17.78	\$0.00	\$58.98
5	90	\$34.90	\$10.18	\$17.78	\$0.00	\$62.86

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS, TILELAYERS & TERRAZZO MECH <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2016	\$49.90	\$10.18	\$19.14	\$0.00	\$79.22
	08/01/2016	\$50.80	\$10.18	\$19.22	\$0.00	\$80.20
	02/01/2017	\$51.37	\$10.18	\$19.22	\$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 - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.95	\$10.18	\$19.14	\$0.00	\$54.27
2	60	\$29.94	\$10.18	\$19.14	\$0.00	\$59.26
3	70	\$34.93	\$10.18	\$19.14	\$0.00	\$64.25
4	80	\$39.92	\$10.18	\$19.14	\$0.00	\$69.24
5	90	\$44.91	\$10.18	\$19.14	\$0.00	\$74.23

Effective Date - 08/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.40	\$10.18	\$19.22	\$0.00	\$54.80
2	60	\$30.48	\$10.18	\$19.22	\$0.00	\$59.88
3	70	\$35.56	\$10.18	\$19.22	\$0.00	\$64.96
4	80	\$40.64	\$10.18	\$19.22	\$0.00	\$70.04
5	90	\$45.72	\$10.18	\$19.22	\$0.00	\$75.12

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.31	\$10.00	\$14.90	\$0.00	\$68.21
	06/01/2016	\$44.06	\$10.00	\$14.90	\$0.00	\$68.96
	12/01/2016	\$45.29	\$10.00	\$14.90	\$0.00	\$70.19
	06/01/2017	\$46.28	\$10.00	\$14.90	\$0.00	\$71.18
	12/01/2017	\$47.27	\$10.00	\$14.90	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.31	\$10.00	\$14.90	\$0.00	\$68.21
	06/01/2016	\$44.06	\$10.00	\$14.90	\$0.00	\$68.96
	12/01/2016	\$45.29	\$10.00	\$14.90	\$0.00	\$70.19
	06/01/2017	\$46.28	\$10.00	\$14.90	\$0.00	\$71.18
	12/01/2017	\$47.27	\$10.00	\$14.90	\$0.00	\$72.17

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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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

MORTAR MIXER	12/01/2015	\$35.60	\$7.45	\$13.55	\$0.00	\$56.60
<i>LABORERS - ZONE 1</i>	06/01/2016	\$36.35	\$7.45	\$13.55	\$0.00	\$57.35
	12/01/2016	\$37.35	\$7.45	\$13.55	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS)	12/01/2015	\$22.27	\$10.00	\$14.90	\$0.00	\$47.17
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$22.66	\$10.00	\$14.90	\$0.00	\$47.56
	12/01/2016	\$23.31	\$10.00	\$14.90	\$0.00	\$48.21
	06/01/2017	\$23.82	\$10.00	\$14.90	\$0.00	\$48.72
	12/01/2017	\$24.34	\$10.00	\$14.90	\$0.00	\$49.24

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS)	12/01/2015	\$26.08	\$10.00	\$14.90	\$0.00	\$50.98
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$26.54	\$10.00	\$14.90	\$0.00	\$51.44
	12/01/2016	\$27.29	\$10.00	\$14.90	\$0.00	\$52.19
	06/01/2017	\$27.89	\$10.00	\$14.90	\$0.00	\$52.79
	12/01/2017	\$28.50	\$10.00	\$14.90	\$0.00	\$53.40

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OTHER POWER DRIVEN EQUIPMENT - CLASS II	12/01/2015	\$43.31	\$10.00	\$14.90	\$0.00	\$68.21
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.06	\$10.00	\$14.90	\$0.00	\$68.96
	12/01/2016	\$45.29	\$10.00	\$14.90	\$0.00	\$70.19
	06/01/2017	\$46.28	\$10.00	\$14.90	\$0.00	\$71.18
	12/01/2017	\$47.27	\$10.00	\$14.90	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS)	01/01/2016	\$49.51	\$7.85	\$16.10	\$0.00	\$73.46
<i>PAINTERS LOCAL 35 - ZONE 1</i>	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 - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.76	\$7.85	\$0.00	\$0.00	\$32.61
2	55	\$27.23	\$7.85	\$3.66	\$0.00	\$38.74
3	60	\$29.71	\$7.85	\$3.99	\$0.00	\$41.55
4	65	\$32.18	\$7.85	\$4.32	\$0.00	\$44.35
5	70	\$34.66	\$7.85	\$14.11	\$0.00	\$56.62
6	75	\$37.13	\$7.85	\$14.44	\$0.00	\$59.42
7	80	\$39.61	\$7.85	\$14.77	\$0.00	\$62.23
8	90	\$44.56	\$7.85	\$15.44	\$0.00	\$67.85

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.23	\$7.85	\$0.00	\$0.00	\$33.08
2	55	\$27.75	\$7.85	\$3.66	\$0.00	\$39.26
3	60	\$30.28	\$7.85	\$3.99	\$0.00	\$42.12
4	65	\$32.80	\$7.85	\$4.32	\$0.00	\$44.97
5	70	\$35.32	\$7.85	\$14.11	\$0.00	\$57.28
6	75	\$37.85	\$7.85	\$14.44	\$0.00	\$60.14
7	80	\$40.37	\$7.85	\$14.77	\$0.00	\$62.99
8	90	\$45.41	\$7.85	\$15.44	\$0.00	\$68.70

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2016	\$46.20	\$7.85	\$16.10	\$0.00	\$70.15
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 1	07/01/2016	\$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 - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.10	\$7.85	\$0.00	\$0.00	\$30.95
2	55	\$25.41	\$7.85	\$3.66	\$0.00	\$36.92
3	60	\$27.72	\$7.85	\$3.99	\$0.00	\$39.56
4	65	\$30.03	\$7.85	\$4.32	\$0.00	\$42.20
5	70	\$32.34	\$7.85	\$14.11	\$0.00	\$54.30
6	75	\$34.65	\$7.85	\$14.44	\$0.00	\$56.94
7	80	\$36.96	\$7.85	\$14.77	\$0.00	\$59.58
8	90	\$41.58	\$7.85	\$15.44	\$0.00	\$64.87

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.58	\$7.85	\$0.00	\$0.00	\$31.43
2	55	\$25.93	\$7.85	\$3.66	\$0.00	\$37.44
3	60	\$28.29	\$7.85	\$3.99	\$0.00	\$40.13
4	65	\$30.65	\$7.85	\$4.32	\$0.00	\$42.82
5	70	\$33.01	\$7.85	\$14.11	\$0.00	\$54.97
6	75	\$35.36	\$7.85	\$14.44	\$0.00	\$57.65
7	80	\$37.72	\$7.85	\$14.77	\$0.00	\$60.34
8	90	\$42.44	\$7.85	\$15.44	\$0.00	\$65.73

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	01/01/2016	\$44.26	\$7.85	\$16.10	\$0.00	\$68.21
PAINTERS LOCAL 35 - ZONE 1	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 - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.13	\$7.85	\$0.00	\$0.00	\$29.98
2	55	\$24.34	\$7.85	\$3.66	\$0.00	\$35.85
3	60	\$26.56	\$7.85	\$3.99	\$0.00	\$38.40
4	65	\$28.77	\$7.85	\$4.32	\$0.00	\$40.94
5	70	\$30.98	\$7.85	\$14.11	\$0.00	\$52.94
6	75	\$33.20	\$7.85	\$14.44	\$0.00	\$55.49
7	80	\$35.41	\$7.85	\$14.77	\$0.00	\$58.03
8	90	\$39.83	\$7.85	\$15.44	\$0.00	\$63.12

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.61	\$7.85	\$0.00	\$0.00	\$30.46
2	55	\$24.87	\$7.85	\$3.66	\$0.00	\$36.38
3	60	\$27.13	\$7.85	\$3.99	\$0.00	\$38.97
4	65	\$29.39	\$7.85	\$4.32	\$0.00	\$41.56
5	70	\$31.65	\$7.85	\$14.11	\$0.00	\$53.61
6	75	\$33.91	\$7.85	\$14.44	\$0.00	\$56.20
7	80	\$36.17	\$7.85	\$14.77	\$0.00	\$58.79
8	90	\$40.69	\$7.85	\$15.44	\$0.00	\$63.98

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (TRAFFIC MARKINGS) LABORERS - ZONE 1	12/01/2015	\$35.35	\$7.45	\$13.55	\$0.00	\$56.35
	06/01/2016	\$36.10	\$7.45	\$13.55	\$0.00	\$57.10
	12/01/2016	\$37.10	\$7.45	\$13.55	\$0.00	\$58.10

For Apprentice rates see "Apprentice- LABORER"

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

Apprentice - PAINTER - Local 35 Zone 1 - BRUSH NEW

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.40	\$7.85	\$0.00	\$0.00	\$30.25
2	55	\$24.64	\$7.85	\$3.66	\$0.00	\$36.15
3	60	\$26.88	\$7.85	\$3.99	\$0.00	\$38.72
4	65	\$29.12	\$7.85	\$4.32	\$0.00	\$41.29
5	70	\$31.36	\$7.85	\$14.11	\$0.00	\$53.32
6	75	\$33.60	\$7.85	\$14.44	\$0.00	\$55.89
7	80	\$35.84	\$7.85	\$14.77	\$0.00	\$58.46
8	90	\$40.32	\$7.85	\$15.44	\$0.00	\$63.61

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.88	\$7.85	\$0.00	\$0.00	\$30.73
2	55	\$25.16	\$7.85	\$3.66	\$0.00	\$36.67
3	60	\$27.45	\$7.85	\$3.99	\$0.00	\$39.29
4	65	\$29.74	\$7.85	\$4.32	\$0.00	\$41.91
5	70	\$32.03	\$7.85	\$14.11	\$0.00	\$53.99
6	75	\$34.31	\$7.85	\$14.44	\$0.00	\$56.60
7	80	\$36.60	\$7.85	\$14.77	\$0.00	\$59.22
8	90	\$41.18	\$7.85	\$15.44	\$0.00	\$64.47

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2016	\$42.86	\$7.85	\$16.10	\$0.00	\$66.81
PAINTERS LOCAL 35 - ZONE 1	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 - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.43	\$7.85	\$0.00	\$0.00	\$29.28
2	55	\$23.57	\$7.85	\$3.66	\$0.00	\$35.08
3	60	\$25.72	\$7.85	\$3.99	\$0.00	\$37.56
4	65	\$27.86	\$7.85	\$4.32	\$0.00	\$40.03
5	70	\$30.00	\$7.85	\$14.11	\$0.00	\$51.96
6	75	\$32.15	\$7.85	\$14.44	\$0.00	\$54.44
7	80	\$34.29	\$7.85	\$14.77	\$0.00	\$56.91
8	90	\$38.57	\$7.85	\$15.44	\$0.00	\$61.86

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.91	\$7.85	\$0.00	\$0.00	\$29.76
2	55	\$24.10	\$7.85	\$3.66	\$0.00	\$35.61
3	60	\$26.29	\$7.85	\$3.99	\$0.00	\$38.13
4	65	\$28.48	\$7.85	\$4.32	\$0.00	\$40.65
5	70	\$30.67	\$7.85	\$14.11	\$0.00	\$52.63
6	75	\$32.86	\$7.85	\$14.44	\$0.00	\$55.15
7	80	\$35.05	\$7.85	\$14.77	\$0.00	\$57.67
8	90	\$39.43	\$7.85	\$15.44	\$0.00	\$62.72

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PANEL & PICKUP TRUCKS DRIVER <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2015	\$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> For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PILE DRIVER - Local 56 Zone 1

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.02	\$9.80	\$19.23	\$0.00	\$50.05
2	60	\$25.22	\$9.80	\$19.23	\$0.00	\$54.25
3	70	\$29.43	\$9.80	\$19.23	\$0.00	\$58.46
4	75	\$31.53	\$9.80	\$19.23	\$0.00	\$60.56
5	80	\$33.63	\$9.80	\$19.23	\$0.00	\$62.66
6	80	\$33.63	\$9.80	\$19.23	\$0.00	\$62.66
7	90	\$37.84	\$9.80	\$19.23	\$0.00	\$66.87
8	90	\$37.84	\$9.80	\$19.23	\$0.00	\$66.87

Notes:

Apprentice to Journeyworker Ratio:1:3

PIPEFITTER & STEAMFITTER PIPEFITTERS LOCAL 537	03/01/2016	\$49.19	\$9.70	\$18.14	\$0.00	\$77.03
	09/01/2016	\$50.19	\$9.70	\$18.14	\$0.00	\$78.03
	03/01/2017	\$51.19	\$9.70	\$18.14	\$0.00	\$79.03

Apprentice - PIPEFITTER - Local 537

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.68	\$9.70	\$7.50	\$0.00	\$36.88
2	45	\$22.14	\$9.70	\$18.14	\$0.00	\$49.98
3	60	\$29.51	\$9.70	\$18.14	\$0.00	\$57.35
4	70	\$34.43	\$9.70	\$18.14	\$0.00	\$62.27
5	80	\$39.35	\$9.70	\$18.14	\$0.00	\$67.19

Effective Date - 09/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$20.08	\$9.70	\$7.50	\$0.00	\$37.28
2	45	\$22.59	\$9.70	\$18.14	\$0.00	\$50.43
3	60	\$30.11	\$9.70	\$18.14	\$0.00	\$57.95
4	70	\$35.13	\$9.70	\$18.14	\$0.00	\$62.97
5	80	\$40.15	\$9.70	\$18.14	\$0.00	\$67.99

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 LABORERS - ZONE 1	12/01/2015	\$35.60	\$7.45	\$13.55	\$0.00	\$56.60
	06/01/2016	\$36.35	\$7.45	\$13.55	\$0.00	\$57.35
	12/01/2016	\$37.35	\$7.45	\$13.55	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PLUMBERS & GASFITTERS <i>PLUMBERS & GASFITTERS LOCAL 12</i>	03/01/2016	\$51.36	\$11.07	\$15.14	\$0.00	\$77.57
	09/01/2016	\$52.41	\$11.07	\$15.14	\$0.00	\$78.62
	03/01/2017	\$53.41	\$11.07	\$15.14	\$0.00	\$79.62

Apprentice - PLUMBER/GASFITTER - Local 12

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$17.98	\$11.07	\$5.63	\$0.00	\$34.68
2	40	\$20.54	\$11.07	\$6.37	\$0.00	\$37.98
3	55	\$28.25	\$11.07	\$8.56	\$0.00	\$47.88
4	65	\$33.38	\$11.07	\$10.03	\$0.00	\$54.48
5	75	\$38.52	\$11.07	\$11.48	\$0.00	\$61.07

Effective Date - 09/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$18.34	\$11.07	\$5.63	\$0.00	\$35.04
2	40	\$20.96	\$11.07	\$6.36	\$0.00	\$38.39
3	55	\$28.83	\$11.07	\$8.55	\$0.00	\$48.45
4	65	\$34.07	\$11.07	\$10.02	\$0.00	\$55.16
5	75	\$39.31	\$11.07	\$11.48	\$0.00	\$61.86

Notes:

** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr
Step4 with lic\$57.78 Step5 with lic\$64.37

Apprentice to Journeyworker Ratio:**

PNEUMATIC CONTROLS (TEMP.) <i>PIPEFITTERS LOCAL 537</i>	03/01/2016	\$49.19	\$9.70	\$18.14	\$0.00	\$77.03
	09/01/2016	\$50.19	\$9.70	\$18.14	\$0.00	\$78.03
	03/01/2017	\$51.19	\$9.70	\$18.14	\$0.00	\$79.03

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

PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2015	\$35.60	\$7.45	\$13.55	\$0.00	\$56.60
	06/01/2016	\$36.35	\$7.45	\$13.55	\$0.00	\$57.35
	12/01/2016	\$37.35	\$7.45	\$13.55	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

POWDERMAN & BLASTER <i>LABORERS - ZONE 1</i>	12/01/2015	\$36.35	\$7.45	\$13.55	\$0.00	\$57.35
	06/01/2016	\$37.10	\$7.45	\$13.55	\$0.00	\$58.10
	12/01/2016	\$38.10	\$7.45	\$13.55	\$0.00	\$59.10

For apprentice rates see "Apprentice- LABORER"

POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.73	\$10.00	\$14.90	\$0.00	\$68.63
	06/01/2016	\$44.48	\$10.00	\$14.90	\$0.00	\$69.38
	12/01/2016	\$45.73	\$10.00	\$14.90	\$0.00	\$70.63
	06/01/2017	\$46.73	\$10.00	\$14.90	\$0.00	\$71.63
	12/01/2017	\$47.73	\$10.00	\$14.90	\$0.00	\$72.63

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.73	\$10.00	\$14.90	\$0.00	\$68.63
	06/01/2016	\$44.48	\$10.00	\$14.90	\$0.00	\$69.38
	12/01/2016	\$45.73	\$10.00	\$14.90	\$0.00	\$70.63
	06/01/2017	\$46.73	\$10.00	\$14.90	\$0.00	\$71.63
	12/01/2017	\$47.73	\$10.00	\$14.90	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$30.13	\$10.00	\$14.90	\$0.00	\$55.03
	06/01/2016	\$30.65	\$10.00	\$14.90	\$0.00	\$55.55
	12/01/2016	\$31.52	\$10.00	\$14.90	\$0.00	\$56.42
	06/01/2017	\$32.21	\$10.00	\$14.90	\$0.00	\$57.11
	12/01/2017	\$32.90	\$10.00	\$14.90	\$0.00	\$57.80
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>	07/01/2015	\$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>	07/01/2015	\$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>	12/01/2015	\$43.31	\$10.00	\$14.90	\$0.00	\$68.21
	06/01/2016	\$44.06	\$10.00	\$14.90	\$0.00	\$68.96
	12/01/2016	\$45.29	\$10.00	\$14.90	\$0.00	\$70.19
	06/01/2017	\$46.28	\$10.00	\$14.90	\$0.00	\$71.18
	12/01/2017	\$47.27	\$10.00	\$14.90	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
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> As of 9/1/09 Carpentry work on wood-frame residential WEATHERIZATION projects shall be paid the RESIDENTIAL WOOD FRAME CARPENTER rate.	05/01/2011	\$24.24	\$6.34	\$6.23	\$0.00	\$36.81

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total 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>	12/01/2015	\$35.60	\$7.45	\$13.55	\$0.00	\$56.60
	06/01/2016	\$36.35	\$7.45	\$13.55	\$0.00	\$57.35
	12/01/2016	\$37.35	\$7.45	\$13.55	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.31	\$10.00	\$14.90	\$0.00	\$68.21
	06/01/2016	\$44.06	\$10.00	\$14.90	\$0.00	\$68.96
	12/01/2016	\$45.29	\$10.00	\$14.90	\$0.00	\$70.19
	06/01/2017	\$46.28	\$10.00	\$14.90	\$0.00	\$71.18
	12/01/2017	\$47.27	\$10.00	\$14.90	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

ROOFER (Inc.Roofing Waterproofing &Roofing Damproofing) <i>ROOFERS LOCAL 33</i>	02/01/2016	\$40.11	\$11.00	\$12.90	\$0.00	\$64.01
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Apprentice - ROOFER - Local 33

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.06	\$11.00	\$3.39	\$0.00	\$34.45
2	60	\$24.07	\$11.00	\$12.90	\$0.00	\$47.97
3	65	\$26.07	\$11.00	\$12.90	\$0.00	\$49.97
4	75	\$30.08	\$11.00	\$12.90	\$0.00	\$53.98
5	85	\$34.09	\$11.00	\$12.90	\$0.00	\$57.99

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 <i>ROOFERS LOCAL 33</i>	02/01/2016	\$40.36	\$11.00	\$12.90	\$0.00	\$64.26
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For apprentice rates see "Apprentice- ROOFER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
SHEETMETAL WORKER SHEETMETAL WORKERS LOCAL 17 - A	02/01/2016	\$43.31	\$10.70	\$21.95	\$2.28	\$78.24
	08/01/2016	\$44.46	\$10.70	\$21.95	\$2.28	\$79.39
	02/01/2017	\$45.56	\$10.70	\$21.95	\$2.28	\$80.49
	08/01/2017	\$46.66	\$10.70	\$21.95	\$2.28	\$81.59
	02/01/2018	\$47.81	\$10.70	\$21.95	\$2.28	\$82.74

Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.32	\$10.70	\$4.90	\$0.00	\$32.92
2	40	\$17.32	\$10.70	\$4.90	\$0.00	\$32.92
3	45	\$19.49	\$10.70	\$9.79	\$1.20	\$41.18
4	45	\$19.49	\$10.70	\$9.79	\$1.20	\$41.18
5	50	\$21.66	\$10.70	\$10.65	\$1.29	\$44.30
6	50	\$21.66	\$10.70	\$10.90	\$1.30	\$44.56
7	60	\$25.99	\$10.70	\$12.37	\$1.47	\$50.53
8	65	\$28.15	\$10.70	\$13.24	\$1.56	\$53.65
9	75	\$32.48	\$10.70	\$14.97	\$1.74	\$59.89
10	85	\$36.81	\$10.70	\$16.18	\$1.91	\$65.60

Effective Date - 08/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.78	\$10.70	\$4.90	\$0.00	\$33.38
2	40	\$17.78	\$10.70	\$4.90	\$0.00	\$33.38
3	45	\$20.01	\$10.70	\$9.79	\$1.22	\$41.72
4	45	\$20.01	\$10.70	\$9.79	\$1.22	\$41.72
5	50	\$22.23	\$10.70	\$10.65	\$1.31	\$44.89
6	50	\$22.23	\$10.70	\$10.90	\$1.31	\$45.14
7	60	\$26.68	\$10.70	\$12.37	\$1.49	\$51.24
8	65	\$28.90	\$10.70	\$13.24	\$1.59	\$54.43
9	75	\$33.35	\$10.70	\$14.97	\$1.77	\$60.79
10	85	\$37.79	\$10.70	\$16.18	\$1.94	\$66.61

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

SPECIALIZED EARTH MOVING EQUIP < 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	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
SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	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
SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1</i>	03/01/2016	\$54.43	\$8.67	\$16.80	\$0.00	\$79.90
	10/01/2016	\$55.53	\$8.67	\$16.80	\$0.00	\$81.00
	03/01/2017	\$56.53	\$8.67	\$16.80	\$0.00	\$82.00

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$19.05	\$8.67	\$8.55	\$0.00	\$36.27
2	40	\$21.77	\$8.67	\$8.55	\$0.00	\$38.99
3	45	\$24.49	\$8.67	\$8.55	\$0.00	\$41.71
4	50	\$27.22	\$8.67	\$8.55	\$0.00	\$44.44
5	55	\$29.94	\$8.67	\$8.55	\$0.00	\$47.16
6	60	\$32.66	\$8.67	\$8.55	\$0.00	\$49.88
7	65	\$35.38	\$8.67	\$8.55	\$0.00	\$52.60
8	70	\$38.10	\$8.67	\$8.55	\$0.00	\$55.32
9	75	\$40.82	\$8.67	\$8.55	\$0.00	\$58.04
10	80	\$43.54	\$8.67	\$8.55	\$0.00	\$60.76

Effective Date - 10/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$19.44	\$8.67	\$8.55	\$0.00	\$36.66
2	40	\$22.21	\$8.67	\$8.55	\$0.00	\$39.43
3	45	\$24.99	\$8.67	\$8.55	\$0.00	\$42.21
4	50	\$27.77	\$8.67	\$8.55	\$0.00	\$44.99
5	55	\$30.54	\$8.67	\$8.55	\$0.00	\$47.76
6	60	\$33.32	\$8.67	\$8.55	\$0.00	\$50.54
7	65	\$36.09	\$8.67	\$8.55	\$0.00	\$53.31
8	70	\$38.87	\$8.67	\$8.55	\$0.00	\$56.09
9	75	\$41.65	\$8.67	\$8.55	\$0.00	\$58.87
10	80	\$44.42	\$8.67	\$8.55	\$0.00	\$61.64

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 <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.31	\$10.00	\$14.90	\$0.00	\$68.21
	06/01/2016	\$44.06	\$10.00	\$14.90	\$0.00	\$68.96
	12/01/2016	\$45.29	\$10.00	\$14.90	\$0.00	\$70.19
	06/01/2017	\$46.28	\$10.00	\$14.90	\$0.00	\$71.18
	12/01/2017	\$47.27	\$10.00	\$14.90	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.31	\$10.00	\$14.90	\$0.00	\$68.21
	06/01/2016	\$44.06	\$10.00	\$14.90	\$0.00	\$68.96
	12/01/2016	\$45.29	\$10.00	\$14.90	\$0.00	\$70.19
	06/01/2017	\$46.28	\$10.00	\$14.90	\$0.00	\$71.18
	12/01/2017	\$47.27	\$10.00	\$14.90	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2016	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$13.85	\$13.00	\$0.42	\$0.00	\$27.27
2	40	\$13.85	\$13.00	\$0.42	\$0.00	\$27.27
3	45	\$15.58	\$13.00	\$11.52	\$0.00	\$40.10
4	45	\$15.58	\$13.00	\$11.52	\$0.00	\$40.10
5	50	\$17.32	\$13.00	\$11.79	\$0.00	\$42.11
6	55	\$19.05	\$13.00	\$12.06	\$0.00	\$44.11
7	60	\$20.78	\$13.00	\$12.34	\$0.00	\$46.12
8	65	\$22.51	\$13.00	\$12.62	\$0.00	\$48.13
9	70	\$24.24	\$13.00	\$12.90	\$0.00	\$50.14
10	75	\$25.97	\$13.00	\$13.17	\$0.00	\$52.14

Notes:

Apprentice to Journeyworker Ratio:1:1

TERRAZZO FINISHERS	02/01/2016	\$48.80	\$10.18	\$19.14	\$0.00	\$78.12
BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2016	\$49.70	\$10.18	\$19.22	\$0.00	\$79.10
	02/01/2017	\$50.27	\$10.18	\$19.22	\$0.00	\$79.67

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.40	\$10.18	\$19.14	\$0.00	\$53.72
2	60	\$29.28	\$10.18	\$19.14	\$0.00	\$58.60
3	70	\$34.16	\$10.18	\$19.14	\$0.00	\$63.48
4	80	\$39.04	\$10.18	\$19.14	\$0.00	\$68.36
5	90	\$43.92	\$10.18	\$19.14	\$0.00	\$73.24

Effective Date - 08/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.85	\$10.18	\$19.22	\$0.00	\$54.25
2	60	\$29.82	\$10.18	\$19.22	\$0.00	\$59.22
3	70	\$34.79	\$10.18	\$19.22	\$0.00	\$64.19
4	80	\$39.76	\$10.18	\$19.22	\$0.00	\$69.16
5	90	\$44.73	\$10.18	\$19.22	\$0.00	\$74.13

Notes:

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2015	\$36.70	\$7.45	\$13.75	\$0.00	\$57.90
	06/01/2016	\$37.45	\$7.45	\$13.75	\$0.00	\$58.65
	12/01/2016	\$38.45	\$7.45	\$13.75	\$0.00	\$59.65
For apprentice rates see "Apprentice- LABORER"						
TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2015	\$35.42	\$7.45	\$13.75	\$0.00	\$56.62
	06/01/2016	\$36.17	\$7.45	\$13.75	\$0.00	\$57.37
	12/01/2016	\$37.17	\$7.45	\$13.75	\$0.00	\$58.37
For apprentice rates see "Apprentice- LABORER"						
TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2015	\$35.30	\$7.45	\$13.75	\$0.00	\$56.50
	06/01/2016	\$36.05	\$7.45	\$13.75	\$0.00	\$57.25
	12/01/2016	\$37.05	\$7.45	\$13.75	\$0.00	\$58.25
For apprentice rates see "Apprentice- LABORER"						
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.31	\$10.00	\$14.90	\$0.00	\$68.21
	06/01/2016	\$44.06	\$10.00	\$14.90	\$0.00	\$68.96
	12/01/2016	\$45.29	\$10.00	\$14.90	\$0.00	\$70.19
	06/01/2017	\$46.28	\$10.00	\$14.90	\$0.00	\$71.18
	12/01/2017	\$47.27	\$10.00	\$14.90	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	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>	12/01/2015	\$47.58	\$7.45	\$14.15	\$0.00	\$69.18
	06/01/2016	\$48.33	\$7.45	\$14.15	\$0.00	\$69.93
	12/01/2016	\$49.33	\$7.45	\$14.15	\$0.00	\$70.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2015	\$49.58	\$7.45	\$14.15	\$0.00	\$71.18
	06/01/2016	\$50.33	\$7.45	\$14.15	\$0.00	\$71.93
	12/01/2016	\$51.33	\$7.45	\$14.15	\$0.00	\$72.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2015	\$39.65	\$7.45	\$14.15	\$0.00	\$61.25
	06/01/2016	\$40.40	\$7.45	\$14.15	\$0.00	\$62.00
	12/01/2016	\$41.40	\$7.45	\$14.15	\$0.00	\$63.00
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2015	\$41.65	\$7.45	\$14.15	\$0.00	\$63.25
	06/01/2016	\$42.40	\$7.45	\$14.15	\$0.00	\$64.00
	12/01/2016	\$43.40	\$7.45	\$14.15	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	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
WAGON DRILL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2015	\$35.60	\$7.45	\$13.55	\$0.00	\$56.60
	06/01/2016	\$36.35	\$7.45	\$13.55	\$0.00	\$57.35
	12/01/2016	\$37.35	\$7.45	\$13.55	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.73	\$10.00	\$14.90	\$0.00	\$68.63
	06/01/2016	\$44.48	\$10.00	\$14.90	\$0.00	\$69.38
	12/01/2016	\$45.73	\$10.00	\$14.90	\$0.00	\$70.63
	06/01/2017	\$46.73	\$10.00	\$14.90	\$0.00	\$71.63
	12/01/2017	\$47.73	\$10.00	\$14.90	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12</i>	03/01/2016	\$51.36	\$11.07	\$15.14	\$0.00	\$77.57
	09/01/2016	\$52.41	\$11.07	\$15.14	\$0.00	\$78.62
	03/01/2017	\$53.41	\$11.07	\$15.14	\$0.00	\$79.62
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
Outside Electrical - East						
CABLE TECHNICIAN (Power Zone) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$26.11	\$7.25	\$1.78	\$0.00	\$35.14
	08/28/2016	\$26.61	\$7.50	\$1.80	\$0.00	\$35.91
	09/03/2017	\$27.14	\$7.75	\$1.81	\$0.00	\$36.70
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$36.98	\$7.25	\$8.12	\$0.00	\$52.35
	08/28/2016	\$37.70	\$7.50	\$8.87	\$0.00	\$54.07
	09/03/2017	\$38.45	\$7.75	\$9.53	\$0.00	\$55.73
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$30.46	\$7.25	\$8.34	\$0.00	\$46.05
	08/28/2016	\$31.05	\$7.50	\$8.89	\$0.00	\$47.44
	09/03/2017	\$31.66	\$7.75	\$9.44	\$0.00	\$48.85
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$23.93	\$7.25	\$1.72	\$0.00	\$32.90
	08/28/2016	\$24.39	\$7.50	\$1.73	\$0.00	\$33.62
	09/03/2017	\$24.88	\$7.75	\$1.75	\$0.00	\$34.38
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$36.98	\$7.25	\$12.29	\$0.00	\$56.52
	08/28/2016	\$37.70	\$7.50	\$12.95	\$0.00	\$58.15
	09/03/2017	\$38.45	\$7.75	\$13.61	\$0.00	\$59.81
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$32.63	\$7.25	\$9.05	\$0.00	\$48.93
	08/28/2016	\$33.26	\$7.50	\$9.63	\$0.00	\$50.39
	09/03/2017	\$33.92	\$7.75	\$10.21	\$0.00	\$51.88
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$23.93	\$7.25	\$1.72	\$0.00	\$32.90
	08/28/2016	\$24.39	\$7.50	\$1.73	\$0.00	\$33.62
	09/03/2017	\$24.88	\$7.75	\$1.75	\$0.00	\$34.38
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$19.58	\$7.25	\$1.59	\$0.00	\$28.42
	08/28/2016	\$19.96	\$7.50	\$1.60	\$0.00	\$29.06
	09/03/2017	\$20.35	\$7.75	\$1.61	\$0.00	\$29.71
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$43.51	\$7.25	\$15.06	\$0.00	\$65.82
	08/28/2016	\$44.35	\$7.50	\$15.83	\$0.00	\$67.68
	09/03/2017	\$45.23	\$7.75	\$16.61	\$0.00	\$69.59

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LINEMAN (Outside Electrical) - East Local 104

Effective Date - 08/30/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.11	\$7.25	\$3.28	\$0.00	\$36.64
2	65	\$28.28	\$7.25	\$3.35	\$0.00	\$38.88
3	70	\$30.46	\$7.25	\$3.41	\$0.00	\$41.12
4	75	\$32.63	\$7.25	\$4.98	\$0.00	\$44.86
5	80	\$34.81	\$7.25	\$5.04	\$0.00	\$47.10
6	85	\$36.98	\$7.25	\$5.11	\$0.00	\$49.34
7	90	\$39.16	\$7.25	\$7.17	\$0.00	\$53.58

Effective Date - 08/28/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.61	\$7.50	\$3.30	\$0.00	\$37.41
2	65	\$28.83	\$7.50	\$3.36	\$0.00	\$39.69
3	70	\$31.05	\$7.50	\$3.43	\$0.00	\$41.98
4	75	\$33.26	\$7.50	\$5.00	\$0.00	\$45.76
5	80	\$35.48	\$7.50	\$5.06	\$0.00	\$48.04
6	85	\$37.70	\$7.50	\$5.13	\$0.00	\$50.33
7	90	\$39.92	\$7.50	\$7.20	\$0.00	\$54.62

Notes:

Apprentice to Journeyworker Ratio:1:2

TELEDATA CABLE SPLICER
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 01/01/2016 \$28.98 \$4.25 \$3.12 \$0.00 \$36.35

TELEDATA LINEMAN/EQUIPMENT OPERATOR
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 01/01/2016 \$27.31 \$4.25 \$3.07 \$0.00 \$34.63

TELEDATA WIREMAN/INSTALLER/TECHNICIAN
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 01/01/2016 \$27.31 \$4.25 \$3.07 \$0.00 \$34.63

TREE TRIMMER
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 01/31/2016 \$18.51 \$3.55 \$0.00 \$0.00 \$22.06

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
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 01/31/2016 \$16.32 \$3.55 \$0.00 \$0.00 \$19.87

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 Apprentices Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentices 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.