

RFQ

CONVERSION of STREETLIGHT AND OUTDOOR LIGHTING ENERGY MANAGEMENT SERVICES



CITY OF QUINCY

**MAYORS OFFICE
1305 HANCOCK STREET
QUINCY, MA 02169**

APRIL 7, 2016 @ 11:00 A.M.

**Director of Operations
Alfred J. Grazioso**

**Purchasing Agent
Kathryn R. Hobin**

Request for Qualifications (RFQ)
For:
CONVERSION of STREETLIGHT & OUTDOOR LIGHTING
ENERGY MANAGEMENT SERVICES

The Public Buildings Department working with and on behalf of the City of Quincy, Mayors Office (Awarding Authority), issues this request for Qualifications (RFQ), pursuant to MGL Ch. 25A, from Qualified Energy Management Service Companies interested in implementing a comprehensive, performance-based, Energy Conservation Project with guaranteed energy savings for streetlight and exterior lighting systems. The City of Quincy intends to select and enter into an Energy Management Services Contract with the most highly qualified provider per the evaluation criteria herein.

The City of Quincy may cancel this RFQ, or may reject in whole or in part any and all responses, as well as sub-contractors if the City determines that cancellation or rejection is in its best interest.

1. Definitions

Contractor. The vendor selected by the Local Governmental Body to perform the energy management services solicited through an RFP under 225 CMR 10.00 also known as an Energy Services Company (RESPONDENT).

DCAMM. The Division of Capital Asset Management and Maintenance, established by M.G.L. c. 7, § 4A.

DOER. The Department of Energy Resources, established by M.G.L. c. 25A, §1.

Eligible. Able to meet all requirements for offerors or bidders set forth in section 11C or 11I and section 44D of chapter 149 and not barred from bidding under section 44C of said chapter 149 or any other applicable law, and who shall certify that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work.

Energy Conservation. A modification of, or change in, the operation of real or personal property in a manner likely to improve the efficiency of energy use, and shall include Energy Conservation Measures and any Energy Audits to identify and specify energy and cost savings.

Energy Conservation Measures. Measures involving modifications of maintenance and operating procedures of a building or facility and installations therein, which are designed to reduce energy consumption in such building or facility, or the installation or modification of an installation in a building or facility, which is primarily intended to reduce energy consumption.

Energy Management Services (EMS). A program of services, including Energy Audits, Energy Conservation Measures, Energy Conservation Projects or a combination thereof, and building maintenance and financing services, primarily intended to reduce the cost of energy and water in operating buildings, which may be paid for, in whole or in part, by cost savings attributable to a reduction in energy and water consumption that result from such services. The EMS contract may extend for a term not to exceed five years. The allowable length of the contract may also reflect the useful life of the cost savings measures.

Energy Savings. A measured reduction energy and its costs, or operating or maintenance costs resulting from the implementation of Energy Conservation Measures or Projects; provided, however, that any payback analysis to evaluate the energy savings of electric consumption savings, maintenance savings and shall use an average escalation rate based on the most recent information for electric rates compiled by the Energy Information Administration of the United States Department of Energy.

Guarantee of Savings. The written guarantee of a Contractor, warranting the energy savings to be derived from a particular Energy Conservation Measure, Energy Conservation Project, Energy Management Services, or Energy Savings. Such written guarantee shall include a detailed description of the cost of the energy usage measures, all causally connected work, and ancillary improvements provided for in the contract. The guarantee shall state the annual savings expressed in applicable energy units per year and be based on dollars saved by reference to established unit rates.

Investment Grade Audit (IGA). An Energy Audit that includes a detailed evaluation of the Energy Conservation Project cost, including but not limited to the investment opportunities for Energy Conservation Measures, operations and maintenance. The IGA shall provide a return on investment that represents an optimized bundle of short-term payback Energy Conservation Measures combined with long-term payback Energy Conservation Measures to meet Local Governmental Body Energy Savings and financial goals.

Minor informalities. Minor deviations, insignificant mistakes, and matters of form rather than substance of the proposal or contract document which may be waived or corrected without prejudice to other offerors, potential offerors, or the public agency.

Responsive Offeror. A person who has submitted a proposal, which conforms in all respects to the RFQ and who possesses the skill, ability, and integrity necessary to faithfully perform the work, based upon a determination of competent workmanship and financial soundness in accordance with M.G.L. c. 149, §44D.

Update Statement. A form developed by DCAM, as defined in 810 CMR 4.01: *Definitions*, to be completed by a General Contractor and submitted with all proposals.

Qualified provider. Responsible and eligible person able to meet all requirements set forth in section 11C or 11I, and not barred from bidding under section 44C of chapter 149 or any other applicable law and experienced in the design, implementation and installation of energy savings measures.

Responsible. Demonstrably possessing the skill, ability and integrity necessary to faithfully perform the work required by a particular contract, based upon a determination of competent workmanship and financial soundness in accordance with section 11C or 11I and section 44D of chapter 149.

Responsive offeror. A person who has submitted a proposal which conforms in all respects to the requests for qualifications.

2. Solicitation & Qualification Process

2.1 STAGE ONE: DCAMM Contractor Certification Process

To be Eligible to respond, the Respondent must be certified by the Massachusetts Division of Capital Asset Management and Maintenance (DCAMM), pursuant to M.G.L. c. 149 § 44. Certification application forms are available from [DCAMM Contractor Certification Office](#) at (617) 727-9320. ***Respondents must be certified as a prime contractor, not sub-bidder, by DCAMM in “ENERGY MANAGEMENT SERVICES.”***

2.2 STAGE TWO: Optional Systems Tour

Given that the streetlights, traffic lights and other outdoor lights are all on public roadways or spaces, Respondents may conduct site visits of the Systems (See Appendix I: **Systems Profiles**) at their own leisure. The purpose of any site visit is to provide Respondents with an opportunity to observe existing conditions. Respondents may not use the site visits or any other communication with the municipality to

seek additional information that is not provided in the RFQ and is not available to other respondents. Further, Respondents may not use the site visits or any other communication with the municipal contacts to inform the community of the Respondent's own qualifications.

All questions and inquiries concerning this RFQ must be submitted in writing via email to purchasing@quincyma.gov no later than **12:00 PM March 31, 2016**. Inquiries will not be answered directly. The City of Quincy will issue an addendum to address the written questions. Any addenda will be sent via email to all Respondents on record as having received the RFQ. It is the responsibility of the Respondent to check the City of Quincy's website prior to the submittal deadline to ensure that the Respondent has received all addenda issued by the City.

The City of Quincy reserves the right to amend this RFQ based on questions and issues raised.

2.3 STAGE THREE: Submission of Qualifications

Any qualified respondent who wishes to submit a response to this RFQ shall submit one (1) original and three (3) copies of the RFQ and one single-file electronic version (in the form of either thumb drive or CD) to Quincy City Hall, Procurement Department, 1305 Hancock St. Quincy, MA 02169, no later than **11:00 a.m. local time on April 7, 2016**. All submissions must be clearly marked "Request for Qualifications for Quincy Streetlight and other Outside lighting EMS" and shall conform to the format and requirements of **Appendix 2: RFQ Form of Response**. The clock of the Quincy Chief Procurement Officer shall be considered official. No late submissions shall be considered. Respondents will be evaluated only on the criteria set forth in this RFQ, which are identified in **Appendix 3: Evaluation Form**.

By submission of a Response, the Respondent indicates acceptance of all terms and conditions of this RFQ. Upon finding any omissions or discrepancy in this RFQ, each Respondent shall notify the City of Quincy, Purchasing Department immediately so that any necessary addenda may be issued. Failure of a Respondent to investigate completely the RFQ and/or to be thoroughly familiar with this RFQ shall in no way relieve any such Respondent from any obligation with respect to their submission.

Submission of a Response shall be deemed permission to the City of Quincy, Selection Committee to make inquiries concerning the Respondent to any persons or firms deemed appropriate by the Selection Committee, including any named subcontractors. Moreover, once a vendor has been selected by the committee, please be advised the City of Quincy reserves the right to accept or reject any and all sub-contractors the Respondent plans to have working on City property.

All submissions will be opened publically at the time and date stated above, in the presence of two or more witnesses.

2.4 STAGE FOUR: Selection of Vendor

The City of Quincy will assemble a Selection Committee comprised of members of the Awarding Authority to evaluate and rank all Responses based upon the criteria listed in this RFQ and reserves the right to waive any minor informalities. The Selection Committee will hold discussions with all respondents as well as conversations with professional references. The Selection Committee reserves the right to select the Respondent that provides the most responsive and responsible Response, which best meets the needs of the Awarding Authorities, taking into account the evaluation criteria.

Following selection of the top-ranked Respondent ("selected contractor"), City of Quincy and the selected contractor will negotiate a Memorandum of Understanding (MOU) (See **Appendix 4**) that permits the selected contractor to enter into an agreement with the Awarding Authority for an energy audit to verify the proposed conservation strategy. Based upon the results of the energy audit, the Awarding Authority may negotiate an Energy Management Services Contract with the selected

Contractor. If an acceptable contract cannot be reached, the Awarding Authority may initiate negotiations with the second ranked RESPONDENT.

3. RFQ Procedures

Modification or Withdrawal of RFQ: Any response may be withdrawn or modified by written request of the RESPONDENT, provided such request is received by the Awarding Authority at the above address prior to the due date for Responses. Such submissions must be clearly marked, as appropriate, "Correction, Modification or Withdrawal of Statement of Qualifications of Streetlight Energy Management Services."

Cost of Response Preparation: The City of Quincy will not reimburse RESPONDENTS for any costs incurred in preparing Responses, including site visits or preliminary engineering analyses.

Public Record: Submission of this RFQ shall be deemed acknowledgement that the Respondent is familiar with the Massachusetts Public Records Law, MGL c. 66, § 10 and is bound thereby. Disclosure of any information provided by any Respondent in connection with this RFQ shall be in strict accordance with the laws and regulations regarding such disclosure pursuant to MGL Ch. 66, § 10. Pursuant to MG.L. c 149 § 44D, the DCAMM Update Statement and its Addenda are not public record. Additionally, Pursuant to MG.L. c 149A §8, the Financial Statements are not public record. As a result, the DCAMM Update Statement, its Addenda, and the Financial Statements will not be made available for public inspection, including during the public opening. To review a copy of responses submitted to the City of Quincy after the contract has been awarded, submit a written request in compliance with the State's Freedom of Information Act to the RFQ Contact Person identified above.

4. General Information

The Awarding Authority seeks responses from qualified providers interested in implementing a comprehensive, performance-based Energy Management Services Project¹ at its streetlight and certain other outdoor lighting systems including but not limited to traffic signals, parking lot lighting systems identified in **Appendix 1: Systems Profile**

This Project will upgrade facilities and optimize utility and operating budgets through a comprehensive infrastructure renewal process. It will ensure continued and/or improved peak efficiency through proactive maintenance and service programs and training, customized for the Awarding Authority staff and facilities. In specific, its goals for the lighting retrofit are:

Safety ó The design should accurately match the Awarding Authority's current needs for the location of each light and should result in improved public safety from streets no longer being under- or over- lit, improved color rendering, more consistent light levels across a streetlight's range, and heightened detection distance.

Standardization ó A consistent design will improve wattage continuity on streets and reduce the variety of replacement lights needed for inventory.

Energy & Cost Savings ó The design should maximize the energy and cost savings achieved within the parameters of safety and standardization, as well as any other community concerns.

The Awarding Authority intends to leverage energy savings to fund the cost of the Project to the greatest extent possible so the cost of implementing efficiency measures is paid for in whole or in part by the energy savings guaranteed from the project by the chosen vendor. The Awarding Authority may consider additional improvements resulting in an overall project that ensures a comprehensive renewal of facilities.

The Project should include a comprehensive range of energy conservation measures² and services including, without limitation, (a) a detailed energy audit³ (b) the installation or modification of new and existing equipment to reduce energy consumption associated with lighting systems, (c) innovative project financing (optional at the Awarding Authority's sole discretion), (d) proactive maintenance and service programs and staff training, and (e) the work associated with monitoring and verifying project savings and the study and/or design of the subject work.

Payments for all services will be indexed to measured reductions in energy cost savings and there will be no up-front costs to the Awarding Authority. Respondents may wish to enhance their responses by considering participation in any utility programs.

¹ "Energy management services", a program of services, including energy audits, energy conservation measures, energy conservation projects or a combination thereof, and building maintenance and financing services, primarily intended to reduce the cost of energy and water in operating buildings, which may be paid for, in whole or in part, by cost savings attributable to a reduction in energy and water consumption which result from such services. G.L. c. 25A, §3.

² "Energy conservation measures", measures involving modifications of maintenance and operating procedures of a building or facility and installations therein, which are designed to reduce energy consumption in such building or facility, or the installation or modification of an installation in a building or facility which is primarily intended to reduce energy consumption. G.L. c. 25A, §3.

³ "Energy audit", a determination of the energy consumption characteristics of a building or facility which: (a) identifies the type, size and rate of energy consumption of such building or facility and the major energy using systems of such building or facility; (b) determines appropriate energy conservation maintenance and operating procedures; and (c) indicates the need, if any, for the acquisition and installation of energy conservation measures or alternative energy property.

In accordance with G.L. c.71, §38R, the Awarding Authority may request and obtain all available criminal offender record information (CORI) from the Criminal History Systems Board of any contractor "who may have direct and unmonitored contact with children." As a condition of the award of any contract and prior to commencement of any work, the successful Respondent shall complete and sign a Request Form to obtain CORI. The Respondent shall be responsible to have all of its contractors complete and sign the form.

5. Terms of Qualifications

Responses shall be submitted in accordance with the format and requirements outlined in **Appendix 2: Format of Response**. Below is a summary of salient requirements:

5.1 General Terms

The Awarding Authority intends to use this Project to replace existing streetlight, traffic lights and other outdoor lighting fixtures with light-emitting diode (LED) fixtures that reduce energy consumption and energy and maintenance costs. The Proposal should include:

1. A complete range of conservation services (i.e., auditing, equipment selection and installation, rate monitoring, operation and maintenance strategy, training of facility personnel, commissioning, proper disposal of ballasts with PCBs, disposal of lamps with mercury, etc.) to provide energy efficiency upgrades at no up-front cost to the Awarding Authority.
2. Any and all available utility rebates and/or grants.
3. A review of maintenance and operation procedures of each lighting system for energy saving options.
4. Where applicable, the installation of integrated energy management systems/advanced controls for some or all systems.

5. If the respondent is not Massachusetts based, identify and describe the organization, experience, and relationship of the firm that will guarantee the local support services necessary for fulfilling the contract terms.

6. Respondents shall include in their Response information on its past experience performing streetlight, traffic signals and outdoor lighting Investment Grade Energy Audits and retrofits with LEDs.

5.2 Respondent's Abilities

1. Please provide the resumes of project team members, including the prime contractor and any subcontractors, and a description of their respective responsibilities. The project team must include a Massachusetts Registered Professional Engineer. Resumes should include each participant's background, specific areas of expertise, copies of licenses held and previous experience with projects of this type and size.

2. Provide a minimum of five (5) reference projects. These project references should be of the same size and type of project as the Project.

5.3 Finance Options

Financing for performance contracts may be provided in a variety of ways. Respondents shall include information regarding financing provided by the RESPONDENT directly, or through a third party. Other financing mechanisms may be included in the Response provided they are paid out of energy savings and the RESPONDENT guarantees the savings. The Awarding Authority reserves the right to secure financing from whichever source(s) it determines is in its best interest.

RESPONDENTs should include in their responses (a) information regarding all potential funding sources that could be applied to any or all potential energy management services, (b) description of the applicant's experience(s) in securing such funding, and (c) description of any new sources of funding that may have recently become available but that the respondent has not yet had experience with. Such funding sources may include, but are not limited to utility rebates; demand response payments; grants; or sale of efficiency benefits on the ISO New England Forward Capacity Market. All benefits that stem from the implementation of energy management services under the Energy Management Services contract EMSA and that are deemed to have a monetary or societal value shall be the sole property of the Awarding Authority.

The Selection Committee will weigh the merit and value added to the Awarding Authority by any proposed financing source or financing model. The RESPONDENT should note if any part of the Response is conditional upon the Awarding Authority utilizing an identified financing source or proposed model and describe any way in which rejection of the financing proposal would change any other part of the Response.

At a minimum, the RESPONDENT must cooperate with the Awarding Authority in obtaining financing. This cooperation may include the provision of backup or supplementary information to support the Awarding Authority's financing application, answering questions orally and in writing to one or more prospective financing entities, and providing adequate disclosures in connection with the due diligence of a financing entity.

All applications or requests for financing, grants, or other assistance made by the RESPONDENT on the Awarding Authority's behalf are subject to review and approval by the Awarding Authority prior to submission.

5.4 Guaranteed Savings

The guaranteed savings provision shall be fully defined in the EMS Contract and shall be the measured reduction in energy and operating or maintenance costs resulting from the implementation of the Scope of Services defined in the Contract. Such guaranteed savings shall be determined when compared with an established baseline of previous energy and operating or maintenance costs, including, but not limited to, future capital replacement expenditures avoided as a result of equipment installed or services performed pursuant to the Contract.

The selected RESPONDENT shall provide the Awarding Authority with a written guarantee that either the amount of energy savings guaranteed will be achieved on an annual basis or the RESPONDENT shall reimburse the Awarding Authority for the full shortfall amount each year for which the shortfall exists. Methods for measurement and verification of guaranteed savings shall conform to the most recent standards established by the Federal Energy Management Program of the U.S. Department of Energy and the most recent International Performance Measurement & Verification Protocol (IPMVP).

The value of guaranteed savings may represent either all or part of annual payments at the discretion of the Awarding Authority. The overall term of the EMS Agreement, including the performance term shall not exceed 5 years. The guarantee shall be a first party direct guarantee from the RESPONDENT to Awarding Authority. No third-party guarantee shall be allowed, except however, corporate guarantees from a parent company of the RESPONDENT will be considered. All savings in excess of the guaranteed savings shall be the sole property of the Awarding Authority.

$$\text{Savings} = \text{Baseline Energy} - \text{Post Installation Energy} \pm \text{Adjustments}^5$$

6. Energy Audit Agreement – SCOPE OF WORK

In accordance with 225 CMR 19.00, the Awarding Authority and the selected Contractor will negotiate the scope of work for an Investment Grade Energy Audit (IGA Agreement), by which the Selected Contractor will conduct an energy audit of energy systems at the in the City of Quincy to substantiate its ability to achieve energy and cost savings for the City.

⁵ FEMP M&V Guidelines: Measurement and Verification for Federal Energy Projects, Version 3.0, U.S. Department of Energy.

6.1 Audit Agreement – SCOPE OF WORK

The Agreement shall use the Model Energy Audit Agreement (**Appendix 5: *Investment Grade Audit Agreement***), and include, but not be limited to:

1. **Inventory Assessment:** A systems and maintenance assessment, including a streetlight, traffic signals and other outdoor lighting inventory of all streetlights and the outdoor lights on specified properties using GIS data capture. It must include attributes for each light such as:

GPS location	Pole mounting configuration
Fixture type	Street name
Controls	Pole #
Wattage	Issues (e.g. evidence of corrosion, obstructions to light)
Annual hours of operation	Road type (or other classification pertinent to design)
Mast length	Date of data capture
Pole type	

NOTE: During the inventory assessment, the contractor will meet with the Awarding Authority regularly (e.g. weekly) to report and review issues so that the Awarding Authority may begin to address them in order to minimize any delay on the eventual retrofit.

2. **Utility Bill Reconciliation:** comparison of the inventory produced to actual utility bills and all other pertinent utility data in order to confirm the accuracy of the ownership, eligibility for rebates, and billing record information. If this process identifies discrepancies with the utility inventory, present the information to the municipality, and at the municipality's direction, take all necessary steps to reconcile the sources.

3. **Audit Report with Recommendations:** A written investment quality comprehensive energy audit report for a comprehensive and sustainable conservation program. Respondent will work with the Awarding Authority on the design and recommendations that will comprise the program.

4. **Scope of Work:** A detailed proposed technical scope of work for construction/implementation of the Selected Contractor recommendations including systems improvements and maintenance and/or owner training programs.

The Awarding Authority expects the Selected Contractor to use the design goals identified in **Section 4. General Information** as the primary input for its streetlight, traffic lights and other outdoor lighting for retrofit design. It also expects the Respondent to provide expert guidance on the appropriate equipment to utilize, including assistance determining whether to use wireless controls. Additionally, the contractor should incorporate an analysis of the following data points to identify target areas that may need special consideration:

- * Pedestrian/vehicle and bicycle/vehicle crash data for the last 5 years to identify areas where light levels and/or spacing have affected public safety. Contractor will perform the analysis of crash data to generate data points for display.
- * Important local land uses (e.g. parks, schools, hospitals, etc.)
- * Relative volumes of pedestrian and bicycle activity
- * Unique neighborhood characteristics

The Selected contractor will present to the Awarding Authority a design that best meets the goals showing cost, savings, product type, guaranteed savings, and payback. The Selected contractor will also present relevant variables affecting the cost, savings, payback, and uses such as product type, option such as the ability to dim or adjust output in future, cases where additional energy reduction does not lead to proportional cost savings due to utility tariff structure or increased fixture costs, etc. Additionally, the contractor should indicate if adequate light levels could be achieved by removing lights in areas that may currently have excess lights. The luminaires proposed in the design shall have a minimum of a ten year manufacturer's warranty. The design's determination of adequate light levels for safety of pedestrians, bicyclists, and vehicles shall be guided by the Illuminating Engineering Society (IES) Standard for Roadway Lighting (RP-8-00) and Trade Manual 12-12 for light level equivalencies between the existing lights and replacement lights. The municipality recognizes that existing pole placement limits the degree to which IES standards may be met. The design should be visualized with the GIS software to facilitate a spatial review.

Note that as part of this process of finalizing the design, the municipality will require the installation of multiple pilot lights to evaluate light quality and color. The Awarding Authority anticipates roughly 12 fixtures for the pilot.

Warranty and Replacements. The selected Contractor shall agree to offer products with a minimum ten (10) year manufacturer's warranty for all electronic components including the fixture, photocell, wireless control (if installed), and in-line fuse and a ten (10) year manufacturer's warranty on finish and materials. The minimal manufacturer's warranty shall not be tied to the lease financing purchase term if applicable for a municipality. The contractor may make an argument as to why products with a shorter warranty should be considered. Unless explicitly agreed to by the Awarding Authorities, the minimal manufacturer's warranty period shall not be decreased.

- * **Technical Specifications.** The Respondents in their Statements of Qualifications shall agree to offer products that meet or exceed the DesignLights Consortium (DLC) technical requirements and that are listed or will be listed by the time of application for utility incentives as qualified products on the DLC Qualified Products List. Streetlight improvements proposed in the Streetlight IGA and negotiated in the final scope of work in individual Streetlight EMSAs are expected to comply with these minimum technical requirements. DLC Technical Requirements and Qualified Products List can be found online at the following address:
<http://www.designlights.org/solidstate.manufacturer.requirements.php>.

5. **M&V:** Proposed methods of measurement and verification of guaranteed savings that conform to the most recent standards established by the Federal Energy Management Program of the United States Department of Energy.

6. **Guaranteed Savings:** A proposed Guaranteed Energy Savings provision.

6.2 Audit Report Detail

Upon completion of the Energy Audit, the Selected Contractor will provide Awarding Authority with a detailed written report (the Audit Report) containing:

1. Assessment of the current street light system. This will include results of the GIS inventory assessment, produced as a file suitable for use in common GIS software (e.g. ESRI ArcMap), as well as Microsoft Excel.
2. The methodology used for the lighting system component of the audit shall be as follows:
 - a. To ensure consistency in the lighting system component of the audit, the abbreviations for lighting systems shown below should be used.

C	Compact fluorescent	EE	Energy efficient lamp
HW	Hard wired fixture	HO	High output lamp
LV	Low voltage	VHO	Very high output lamp
FIXT	Fixture	STD	Standard Ballast
BX	Biax/Twin tube lamp	NEW	New fixture
R	Reflector	SI	Screw in lamp
T/TW	Tandem wire	PAR/P	Parabolic lens
MV	Mercury vapor lamp	WRAP	Wrap style fixture
MH	Metal halide lamp	T8	T8 Lamp/Elect. ballast
Lens/Rep	Lens replacement	HPS	High pressure sodium
EEMAG	Energy efficient magnetic	LED	Light Emitting Diode

5. Allocation of total energy for street and outdoor lighting end uses.
6. List of recommendations. For each of the proposed improvements, the Selected Contractor shall provide costs and annual savings, the source of energy saving, the amount and type of energy saved, the cost savings, the implementation cost and a payback analysis (including any major assumptions made in the analysis).
7. The savings shall be calculated using the same method described above and shall consider the interactions among measures. The total annual cost to operate and maintain the proposed conservation measures.
8. Exploration of appropriateness of current utility rates and available incentive/rebate programs.
9. Energy usage for the last two fiscal years (to be provided by the facility).
10. The audit must be stamped by a Massachusetts Registered Professional Engineer.
11. Selected contractor's proposed baseline and proposed annual adjustments. Inventory of all energy using equipment and appliances during base year including ratings and capacities.
12. The method utilized for determining actual energy savings by the selected contractor's that agree with the most recent version of the FEMP Guidelines.

6.3 Acceptance of the Audit Report

As part of its consideration of the Audit Report and the recommendations of the Selected Contractor, the Awarding Authority may, in its sole discretion and prior to the execution of the EMS Agreement, elect to proceed with all or any portion of the Response. The Awarding Authority may also elect to proceed with certain improvements on a "phased" basis, whether over a period of months or years if it determines that proceeding with all of the selected improvements simultaneously is not in the best interests of the Awarding Authority.

If the Awarding Authority decides not to enter into a Contract with the Selected Contractor after the Energy Audit, even though the proposed contract terms meet all the conditions set forth in the RFQ, the Awarding Authority will pay costs under the IGA Agreement.

7. Energy Management Services Contract

The Response shall conform to the terms and services in the Model EMS Contract, found at **Appendix 6**, and discussed below. The Response may contain additional services or terms, but no Response will be considered if these minimum conditions cannot be met. The IGA report with finalized design, cost, and guaranteed savings will serve as the basis for the Energy Management Services Agreement (EMSA). The Selected Contractor will use a method for computing the energy baseline and subsequent energy savings which is wholly consistent with the letter and intent of the most recent version of the U.S. Department of Energy, Federal Energy Management Measurement and Verification Guidelines (FEMP Guidelines).

7.1 Energy Management Services –Scope of Work

1. **Procurement:** The Selected Contractor will procure necessary materials (e.g. luminaire, photocell, fuse, etc.) and perform the installation and disposal appropriately and according to the identified schedule.

2. **Installation Preparation:**

The contractor will meet with the Awarding Authority to coordinate installation activities with any relevant municipal departments, including police for the provision of police details where needed. Based on these meetings, the Selected Contractor will develop a detailed installation plan identifying the geographic areas and dates of the installation. The installation plan should minimize disruptions to traffic and the use of police details. The plan will allow the municipality to notify residents of planned work in their area and any potential traffic disruptions that might be expected.

The Selected contractor will be responsible for the staging and storage of all materials. If space is needed within the municipality for storage and staging, the contractor will coordinate with the Awarding Authority to find an acceptable location. The Selected contractor will also be responsible for coordinating with the utility company to identify the best method of reporting light retrofits to facilitate billing adjustments as rapidly as possible.

3. **Installation:**

All streetlight, traffic light and additional outdoor lighting retrofit work (i.e. placing, maintaining, or removing street and area lighting) must be performed by personnel having the minimum qualifications of MA Licensed Electricians and Journeyman Lineman certified as IMSA Roadway Lighting Level I technicians or higher, and be paid prevailing wages, as well as approved to work on city property by the City of Quincy, prior to the commencement of any work. National Grid requires all work performed by the municipality's employees or contractors to place, maintain, or remove street and area lighting attachments to be in accordance with the applicable requirements and specifications of the most recent editions of the National Electrical Code (NEC); the National Electrical Safety Code (NESC); and the rules, regulations and provisions of the Occupational Safety and Health Act (OSHA). Therefore, the municipality and its contractors must use personnel that

meet all requirements for "Qualified Electrical Worker" per OSHA. Once installation has commenced, the Selected Contractor will meet with and/or report to the Awarding Authority on a regular basis (e.g. weekly) on progress and to review any new issues identified. The contractor will also be responsible for reporting retrofits to the utility company according to the utility's preferred form and schedule and for applying for incentives from the utility.

4. **Disposal:**

- a. All ballasts are suspected to contain PCBs unless they are specifically labeled otherwise. Further inquiry and clarification of PCB ballast storage and disposal can be obtained from the Massachusetts Department of Environmental Protection.
- b. Disposal plans must be documented and appropriate transportation and disposal documents prepared before disposal. Actual disposal must be documented immediately after disposal:
 - i. Lamp Ballasts Containing PCBs: The Selected Contractor will be responsible for the proper handling and storage of fluorescent lamp and HID fixture ballasts containing or suspected of containing PCBs in accordance with applicable local, state, and federal laws and regulations.
 - ii. Lamps Containing Mercury: The Selected Contractor will be responsible for the proper handling, storage, and transportation of fluorescent and HID lamps, as necessary, in accordance with applicable local, state and federal laws and regulations.

5. **Commissioning & Closeout:** The Selected Contractor is responsible for providing the Awarding Authority with an energy conservation measurement (ECM) commissioning plan that assures the Awarding Authority that the performance of the ECMs achieves facility and/or process performance requirements as set out in the Contract. ECM Commissioning is to be accomplished through a process of verification and documentation. Furthermore, commissioning requirements must be: 1) specified in the contract, 2) defined explicitly after design, 3) implemented during construction, 4) completed prior to final project acceptance, and 5) followed-up on after acceptance.

The contractor will update the GIS file produced at the streetlight inventory assessment to reflect the installed light type and wattage and any remaining issues as of installation. Additionally, the Awarding Authority has an outdated version of GIS software and requests the selected contractor make a recommendation for an updated GIS software or web-based application to utilize for on-going streetlight and outdoor data management. If the municipality elects to purchase or use such software or application, it would request basic training from selected contractor for one staff person to be able to visualize, access, and update information about the streetlights.

The Selected Contractor must provide "as built" and record drawings of all existing and modified conditions associated with the project conforming to typical engineering standards. The Awarding Authority expects this to include:

- a. Cut-sheets for all products installed
- b. GIS file and spreadsheet reflecting the original and installed light type and wattage and any remaining issues as of installation.
- c. Confirmation that fuse installations were performed according to National Grid's recommendation in "Customer Owned Outdoor Lighting Standard" page 10 (1-14) issued on 07-2014 OR specific description of fuse installations in overhead and underground feeds.
- d. Any other applicable electrical and control drawings each stamped by a Massachusetts Registered Professional Engineer (P.E.) for the corresponding discipline.

6. **Warranty:** The contractor must provide, at a minimum, of ten year warranty on parts and labor.

7. **Maintenance:** The Awarding authority desires to enter into a maintenance contract for streetlights and school lights (that require a bucket truck to be accessed) for a period equal to the length of its EMS contract. The Awarding Authority expects the contractor to train existing facility staff (e.g. school maintenance staff) on basic maintenance for lights on those properties

that can be reached without a bucket truck. The facility maintenance responsibilities will be clearly delineated in the Contract. In addition, the Selected Contractor will develop for the maintenance staff a preventive maintenance schedule for all new equipment installed as part of this project. No equipment may be installed that will require the Awarding Authority to hire additional maintenance personnel, unless contract negotiations produce an explicit exemption from this rule for a specific installation.

8. **Measurement & Verification:** The contractor will identify the appropriate protocol for monitoring, measurement and verification of guaranteed energy savings for the project that meets the M.G.L. c.25A, §11I standards. The contractor will perform such monitoring, measurement and verification in each year of the energy management services contract, unless the municipality releases them from the requirement, and will provide the municipality with the information required for annual reporting to DOER.

7.1.1 Add-Alternates; Smart Controls

Smart Controls: Proposers are encouraged to offer up to two (2) types of smart controls with varying capabilities and prices, in order to provide the municipalities flexibility to select controls that best meet their needs. Describe the technical capabilities of the each of the smart controls offered as options; include examples of the use of smart controls installed in other communities.

Describe how you propose to set up and train each municipality to use software required to use the controls.

7.2. Required EMS Contractual Language

1. Terms of the Contract must conform to the terms included in the RFQ. Terms that do not conform to the terms set forth in this RFQ shall be considered void.
2. The Awarding Authority will determine whether the material or equipment installed is equal to those specified in the Response. In the event an article of any class or materials or equipment specified by the trade name of any particular patentee, manufacturer, or dealer, or by reference to the catalog of any such article or articles or materials is to be substituted, the replacement must be equal in quality, finish and durability and equally as serviceable for the purpose for which it is or they are intended as the originally specified article. The Awarding Authority will make the final decision as to whether the materials or equipment offered are equal to those specified.
3. The SELECTED CONTRACTOR will protect and save the Awarding Authority harmless against all claims, and actions brought against it by reason of any actual infringement upon patent rights in any material, process, machine or appliance used by him in the work.
4. The SELECTED CONTRACTOR will obey and abide by all laws of the Commonwealth of Massachusetts relating to the employment of labor and public work and all ordinances and requirements of the Awarding Authority regulating or applying to public improvements.
 - a. The SELECTED CONTRACTOR agrees not to discriminate against any employee or applicant for employment, to be employed in the performance of this Contract, with respect to hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of age, sex, race, color, religion, national origin, or ancestry.
5. In the execution of the Contract, it may be necessary for the SELECTED CONTRACTOR to subcontract part of the work to others; however, the SELECTED CONTRACTOR shall not award any work to any subcontractor without prior written approval of the Awarding Authority.

- a. The SELECTED CONTRACTOR will be fully responsible to the Awarding Authority for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by the SELECTED CONTRACTOR, as it is for the acts and omissions of persons directly employed by it. Nothing contained in this Agreement shall create any contractual relation between any subcontractor and the Awarding Authority.
 - b. The SELECTED CONTRACTOR will not assign, transfer, convey, or otherwise dispose of the Contract, or any part hereof, or its right, title or interest in the same or any part thereof, without the prior written consent of the Awarding Authority. The SELECTED CONTRACTOR will not assign by power-of-attorney, or otherwise, any of the moneys due or to become due and payable under this Agreement, without the prior written consent of the Awarding Authority.
6. During the life of the Contract, the SELECTED CONTRACTOR will procure and maintain Worker's Compensation Insurance in accordance with the Worker's Compensation Act of the Commonwealth of Massachusetts.
7. SELECTED CONTRACTOR must carry an appropriate level of insurance for both the construction and operations phases
8. Notwithstanding any other law, the provider of the energy management services must file with the Awarding Authority a payment and performance bond relating to the installation of the project including the following:
9. Prior to entering into a Contract, the SELECTED CONTRACTOR shall furnish a certified copy and duplicate of a performance bond, with project financier as co-beneficiary along with the Awarding Authority;
10. Contractor will be responsible for proper disposal of construction demolition debris and other solid or hazardous wastes in accordance with Massachusetts State Law.
11. The SELECTED CONTRACTOR shall furnish a certified copy and duplicate of a performance bond, with project financier as co-beneficiary along with the Awarding Authority. The SELECTED CONTRACTOR shall also furnish a payment bond in duplicate;
12. Unless otherwise specified by the Awarding Authority, the performance and payment bonds shall remain in effect during the total implementation period for all ECMs. The ECM implementation period shall include all time required for installation, testing, measuring initial performance, and Awarding Authority acceptance of all installed ECMs;
13. The performance bond shall be released upon Awarding Authority acceptance of all SELECTED CONTRACTOR-installed ECMs. The payment bond shall be released upon receipt of satisfactory evidence that all subcontractors, laborers, etc., have been paid in full or final acceptance whichever is later; and,
14. The SELECTED CONTRACTOR shall not file any mechanics liens against the Awarding Authority for the project and this requirement shall flow down to all subcontractors. Therefore, the payment bond shall secure the SELECTED CONTRACTOR's obligations for payment of laborers, suppliers, and all subcontractors.
15. The SELECTED CONTRACTOR will maintain and operate the equipment in a manner that will provide the accepted standards of service and comfort (i.e.; heating, cooling, hot water, lighting and so forth).
16. Arbitration: Disputes regarding changes in and interpretations of the terms or scope of the Contract and denials of or failures to act upon claims for payment for extra work or materials shall be resolved according to the following procedures:
 - a. All claims by the Contractor shall be made in writing and submitted to an Awarding Authority for a written decision.

- b. Contractor shall not delay, suspend, or curtail performance under the Contract as a result of any dispute subject to this section.
- c. Within sixty (60) days of submission of the dispute to an Awarding Authority, the Awarding Authority shall issue a written decision stating the reasons therefore, and shall notify the parties of their right of appeal under this section. If the official or his designee is unable to issue a decision within sixty (60) days, he shall notify the parties to the dispute in writing of the reasons and of the date by which the decision shall issue.

Failure to issue a decision within one hundred and twenty (120)-day period or within the additional period specified in such written notice shall give the petitioner the right to pursue any legal remedies available to him without further delay. In case of dispute; please note: the Laws and Courts of Massachusetts shall govern.

- 17. Within one month of contract execution, the Selected Contractor will begin implementation of preliminary operations and procedures to save energy at the named properties of the Awarding Authority.
- 18. The Awarding Authority retains ultimate approval over scope of work, choice of subcontractor, equipment installed, and end use conditions. No work can proceed without the prior written consent of the Awarding Authority. However, such approval shall not be unreasonably withheld.
- 19. The Awarding Authority will review all proposed modifications to the systems, including any material and/ or equipment installed and must approve of them before commencement of any work. Such approval shall not be unreasonably withheld when applicable.
- 20. Selected Contractor is required to pay minimum wage rates for all employees involved in providing contract services, as determined by the Division of Occupational Safety². Please note wage rates are valid only for 90 days from date of issue. Further inquiry and clarification of prevailing wage laws can be obtained from the Massachusetts Division of Occupational Safety.
- 21. All work shall meet the minimum standards of ASHRAE and the Massachusetts Building Code.
- 22. The Awarding Authority is responsible for determining end-use condition requirements at all times, and must have override capability to deal with emergencies, malfunctions, or extra-ordinary needs. At all times, the requirements of the Massachusetts Building Code shall be met. Minimum acceptable illumination must be kept for the use intended. Light levels within other space types should be determined using the most current Illuminating Engineering Society guidelines based upon the tasks performed. Please note bench testing and test retrofits may be requested to verify illumination levels. In areas where light levels are specifically mandated by code, light levels must meet these requirements at all times.
- 23. The Awarding Authority must have access to inspect both the work conducted at project site(s) during construction and operations phases, and to the books, records, and other compilations of data, which pertain to the performance of the provisions and requirements of this agreement. Records shall be kept on a generally recognized accounting basis, and calculations kept on file in legible form.
- 24. Prior to contract termination, the Selected Contractor will be obligated to perform a walk-through survey of the facility and to prepare an assessment of the condition of the equipment installed as part of the project. The Awarding Authority retains the right to hire an independent, certified professional engineer to prepare an assessment of the condition of the equipment installed as part of the contract.
- 25. All drawings, reports and materials prepared by the Selected specifically in performance of the Energy Services Agreement shall become the property of the Awarding Authority, and shall be delivered to the Awarding Authority as needed or upon contract termination.

² The Massachusetts prevailing wage laws require that employees on public works projects, except those who perform strictly supervisory functions, be paid a minimum hourly rate set by the Department of Labor and Workforce Development, Division of Occupational Safety (DOS) (Mass. General Laws c. 149, s.26).

Appendix 1: NGrid Invoices listing Streetlights-School Dept.

NGrid Invoices listing Streetlights - School Dept							
			HPS FLD 400W	HPS RWY 250W	HPS FLD 250W	HPS RWY 400W	MV FLD 400W
School Dept	0322845018	Woodard Ave	15	1	1		
School Dept	0322862019	Russell Park	2		2		
School Dept	0327220002	Atherton Hough	3				
School Dept	1556275007	Caledonia Ave	1				
School Dept	1560385016	Coddington St	4				
School Dept	2799607017	Montclair	20		6	1	
School Dept	4045466004	Hancock So Art	4				
School Dept	4049702001	Fenno St	2				
School Dept	6537461006	Palmer St					1
TOTALS:			51	1	9	1	1

OUTDOOR LIGHTING ELECTRICITY USE FY 2014 and FY 2015			2014	2015
		NGRID Acct #	Electric (kWh)	Electric (kWh)
Open Space	Ruth Gordon Amphitheater	5179324009	2,624	
Open Space	Faxon Park	1445419019	23,290	25,403
Open Space	Kinkaide Park	2722050019	18,675	14,127
Open Space	Spot Lights	2781506001	264	264
Open Space	Spot Lights	5273308003	264	264
Open Space	Spot Lights	6519740004	420	420
Open Space	Fenno Street Tennis Court	2835751009	12,591	9,288
Open Space	Faxon Field / Russell Park	1993970005	3,721	3,409
Open Space	Faxon Field / Russell Park	9065899013	18,042	15,124
Open Space	Veterans Memorial Stadium	00 23910009	1,176	1,130
Open Space	Veterans Memorial Stadium	6573035002	5,520	8,085
Open Space	Veterans Memorial Stadium	7818706005	42,893	62,009
Open Space	Misc parks	3767943003	0	0
Open Space	Misc parks	5344378011	35,185	30,681
Open Space	Misc parks	6262875003	0	0
Open Space	Misc parks	6262978009	0	0
Open Space	Bishop Playground	7509648003	15,847	11,588
Open Space	O'Rourke Field	5215667007	2,040	3,595
Open Space	Welcome Young Field	6519869004	3,068	3,141
Open Space	Fueling Station	5183106000	21,594	19,653
Open Space	Adams Field	2741967011	44,300	39,700
Open Space	LeBreque Field Basketball Cts	0 203541011	0	0
Street/Traffic Lights	Traffic Lights	0 206494019	2,064	2,066
Street/Traffic Lights	Traffic Lights	0 206578010	1,743	1,695
Street/Traffic Lights	Traffic Lights	0 243179017	1,675	1,984
Street/Traffic Lights	Traffic Lights	0 243217003	1,662	2,095
Street/Traffic Lights	Traffic Lights	0 303554001	456	456
Street/Traffic Lights	Traffic Lights	0 303555008	708	708
Street/Traffic Lights	Traffic Lights	0 303556005	132	132
Street/Traffic Lights	Traffic Lights	0 303557002	240	240
Street/Traffic Lights	Traffic Lights	0 303558009	360	360
Street/Traffic Lights	Traffic Lights	0 303846013	1,560	1,560
Street/Traffic Lights	Traffic Lights	0 303855012	1,188	1,188
Street/Traffic Lights	Traffic Lights	0 322944007	6,168	6,168
Street/Traffic Lights	Traffic Lights	0 322946001	8,136	8,136
Street/Traffic Lights	Traffic Lights	0 327719013	1,188	1,188
Street/Traffic Lights	Traffic Lights	0 327721013	1,188	1,188
Street/Traffic Lights	Traffic Lights	0 344780016	1,176	1,176
Street/Traffic Lights	Traffic Lights	1445366004	2,312	4,317
Street/Traffic Lights	Traffic Lights	1445513003	1,599	1,590
Street/Traffic Lights	Traffic Lights	1477935006	1,120	1,119
Street/Traffic Lights	Traffic Lights	1537961006	456	456
Street/Traffic Lights	Traffic Lights	1537962003	708	708
Street/Traffic Lights	Traffic Lights	1537963000	240	240
Street/Traffic Lights	Traffic Lights	1537964007	240	240
Street/Traffic Lights	Traffic Lights	1537965004	360	360
Street/Traffic Lights	Traffic Lights	1537966001	60	60
Street/Traffic Lights	Traffic Lights	1556549002	480	480
Street/Traffic Lights	Traffic Lights	1560753014	1,188	1,188
Street/Traffic Lights	Traffic Lights	2519913012	1,891	1,900
Street/Traffic Lights	Traffic Lights	2724251005	1,343	1,282
Street/Traffic Lights	Traffic Lights	2724296004	1,618	1,593
Street/Traffic Lights	Traffic Lights	2781507008	516	516
Street/Traffic Lights	Traffic Lights	2781508005	708	708

Street/Traffic Lights	Traffic Lights	2781509002	300	300
Street/Traffic Lights	Traffic Lights	2781510005	240	240
Street/Traffic Lights	Traffic Lights	2781511002	420	420
Street/Traffic Lights	Traffic Lights	2781586009	120	120
Street/Traffic Lights	Traffic Lights	2781590012	1,560	1,560
Street/Traffic Lights	Traffic Lights	2781592016	1,440	1,440
Street/Traffic Lights	Traffic Lights	2799692007	864	864
Street/Traffic Lights	Traffic Lights	2799693013	1,176	1,176
Street/Traffic Lights	Traffic Lights	2799694001	8,352	8,352
Street/Traffic Lights	Traffic Lights	2803967019	1,188	1,188
Street/Traffic Lights	Traffic Lights	3767950008	1,292	1,333
Street/Traffic Lights	Traffic Lights	3935990009	2,473	2,153
Street/Traffic Lights	Traffic Lights	3968509009	494	488
Street/Traffic Lights	Traffic Lights	3970730005	1,113	1,079
Street/Traffic Lights	Traffic Lights	4027318005	5,280	5,280
Street/Traffic Lights	Traffic Lights	4027319002	708	708
Street/Traffic Lights	Traffic Lights	4027320005	300	300
Street/Traffic Lights	Traffic Lights	4027321002	240	240
Street/Traffic Lights	Traffic Lights	4027322009	468	468
Street/Traffic Lights	Traffic Lights	4027397006	120	120
Street/Traffic Lights	Traffic Lights	4027403018	2,100	2,100
Street/Traffic Lights	Traffic Lights	4045565002	360	360
Street/Traffic Lights	Traffic Lights	4045566009	60	60
Street/Traffic Lights	Traffic Lights	4049448002	600	600
Street/Traffic Lights	Traffic Lights	4049574016	1,188	1,188
Street/Traffic Lights	Traffic Lights	4049575013	1,188	1,188
Street/Traffic Lights	Traffic Lights	4066036006	168	168
Street/Traffic Lights	Traffic Lights	5014869003	1,547	1,377
Street/Traffic Lights	Traffic Lights	5016016000	1,431	1,342
Street/Traffic Lights	Traffic Lights	5033225012	762	758
Street/Traffic Lights	Traffic Lights	5179751006	2,759	2,222
Street/Traffic Lights	Traffic Lights	5179812004	1,728	1,693
Street/Traffic Lights	Traffic Lights	5182366002	1,989	2,003
Street/Traffic Lights	Traffic Lights	5182380002	2,050	2,060
Street/Traffic Lights	Traffic Lights	5182807017	1,929	1,918
Street/Traffic Lights	Traffic Lights	5182819008	2,962	2,441
Street/Traffic Lights	Traffic Lights	5217117000	1,789	1,785
Street/Traffic Lights	Traffic Lights	5273309000	576	576
Street/Traffic Lights	Traffic Lights	5273310003	924	924
Street/Traffic Lights	Traffic Lights	5273311000	348	348
Street/Traffic Lights	Traffic Lights	5273312007	300	300
Street/Traffic Lights	Traffic Lights	5273313004	468	468
Street/Traffic Lights	Traffic Lights	5273388001	120	120
Street/Traffic Lights	Traffic Lights	5273389008	48	48
Street/Traffic Lights	Traffic Lights	5273393002	1,020	1,020
Street/Traffic Lights	Traffic Lights	5273394009	900	900
Street/Traffic Lights	Traffic Lights	5291526018	1,512	1,512
Street/Traffic Lights	Traffic Lights	5291527006	516	516
Street/Traffic Lights	Traffic Lights	5291528003	156	156
Street/Traffic Lights	Traffic Lights	5295667010	1,188	1,188
Street/Traffic Lights	Traffic Lights	5296194016	1,800	1,800
Street/Traffic Lights	Traffic Lights	5311886008	168	168
Street/Traffic Lights	Traffic Lights	6262952005	1,523	1,532
Street/Traffic Lights	Traffic Lights	6262962010	1,940	2,037
Street/Traffic Lights	Traffic Lights	6263615001	1,871	1,936
Street/Traffic Lights	Traffic Lights	6429313008	1,539	1,188

Street/Traffic Lights	Traffic Lights	6429624006	2,039	2,034
Street/Traffic Lights	Traffic Lights	6495262001	681	2,154
Street/Traffic Lights	Traffic Lights	6519741001	576	576
Street/Traffic Lights	Traffic Lights	6519742008	924	924
Street/Traffic Lights	Traffic Lights	6519743005	420	420
Street/Traffic Lights	Traffic Lights	6519744002	300	300
Street/Traffic Lights	Traffic Lights	6519745009	468	468
Street/Traffic Lights	Traffic Lights	6519819004	120	120
Street/Traffic Lights	Traffic Lights	6519821004	48	48
Street/Traffic Lights	Traffic Lights	6519826009	8,304	8,304
Street/Traffic Lights	Traffic Lights	6519851011	12,000	12,000
Street/Traffic Lights	Traffic Lights	6537725005	936	936
Street/Traffic Lights	Traffic Lights	6537726002	552	552
Street/Traffic Lights	Traffic Lights	6537728006	240	240
Street/Traffic Lights	Traffic Lights	6558027004	168	168
Street/Traffic Lights	Traffic Lights	7508857008	1,476	1,450
Street/Traffic Lights	Traffic Lights	7509736017	1,441	1,445
Street/Traffic Lights	Traffic Lights	7672980001	1,367	1,662
Street/Traffic Lights	Traffic Lights	7675812000	1,064	1,126
Street/Traffic Lights	Traffic Lights	7675984001	3,123	2,826
Street/Traffic Lights	Traffic Lights	7709558008	1,257	1,259
Street/Traffic Lights	Traffic Lights	7765790008	348	348
Street/Traffic Lights	Traffic Lights	7765791005	648	648
Street/Traffic Lights	Traffic Lights	7765792002	984	984
Street/Traffic Lights	Traffic Lights	7765793009	456	456
Street/Traffic Lights	Traffic Lights	7765794006	300	300
Street/Traffic Lights	Traffic Lights	7765795003	528	528
Street/Traffic Lights	Traffic Lights	7765869008	120	120
Street/Traffic Lights	Traffic Lights	7765871008	108	108
Street/Traffic Lights	Traffic Lights	7783523005	720	720
Street/Traffic Lights	Traffic Lights	7783525018	1,212	1,212
Street/Traffic Lights	Traffic Lights	7783526006	900	900
Street/Traffic Lights	Traffic Lights	7787997001	1,067	1,055
Street/Traffic Lights	Traffic Lights	7801864001	396	396
Street/Traffic Lights	Traffic Lights	7803550019	8,388	8,388
Street/Traffic Lights	Traffic Lights	7803953001	336	336
Street/Traffic Lights	Traffic Lights	8757847008	1,746	1,770
Street/Traffic Lights	Traffic Lights	8920366005	1,062	1,102
Street/Traffic Lights	Traffic Lights	8922956007	2,136	2,130
Street/Traffic Lights	Traffic Lights	8923060000	2,351	2,355
Street/Traffic Lights	Traffic Lights	8923156010	2,016	2,066
Street/Traffic Lights	Traffic Lights	8955699008	1,987	1,940
Street/Traffic Lights	Traffic Lights	8956889006	1,332	1,321
Street/Traffic Lights	Traffic Lights	9012827001	408	408
Street/Traffic Lights	Traffic Lights	9012828008	708	708
Street/Traffic Lights	Traffic Lights	9012829005	132	132
Street/Traffic Lights	Traffic Lights	9012830008	696	696
Street/Traffic Lights	Traffic Lights	9012831005	360	360
Street/Traffic Lights	Traffic Lights	9012832002	588	588
Street/Traffic Lights	Traffic Lights	9012907004	120	120
Street/Traffic Lights	Traffic Lights	9012908001	132	132
Street/Traffic Lights	Traffic Lights	9012909008	108	108
Street/Traffic Lights	Traffic Lights	9012916012	1,512	1,512
Street/Traffic Lights	Traffic Lights	9030734009	936	936
Street/Traffic Lights	Traffic Lights	9030736012	1,692	1,692
Street/Traffic Lights	Traffic Lights	9034678011	1,188	1,188

Street/Traffic Lights	Street Lights	0	204161017	222,240	202,480
Street/Traffic Lights	Street Lights	0	322860006	1,285	1,285
Street/Traffic Lights	Street Lights	0	380350014	6,629	8,863
Street/Traffic Lights	Street Lights		1445585018	17,035	13,340
Street/Traffic Lights	Street Lights		1556290004	1,968	1,968
Street/Traffic Lights	Street Lights		2519666009	10,729	1,566
Street/Traffic Lights	Street Lights		2799612018	78,068	77,487
Street/Traffic Lights	Street Lights		2853933018	32,419	36,738
Street/Traffic Lights	Street Lights		4008653016	18,123	16,694
Street/Traffic Lights	Street Lights		4027317008	264	264
Street/Traffic Lights	Street Lights		4049129011	91,165	91,166
Street/Traffic Lights	Street Lights		5182402003	0	0
Street/Traffic Lights	Street Lights		5217390009	0	0
Street/Traffic Lights	Street Lights		5291250000	1,968	1,968
Street/Traffic Lights	Street Lights		5295813012	27,571	39,386
Street/Traffic Lights	Street Lights		5295879010	19,852	22,109
Street/Traffic Lights	Street Lights		6429406017	25,608	18,868
Street/Traffic Lights	Street Lights		6429800006	3,275	2,426
Street/Traffic Lights	Street Lights		6537448003	1,968	1,968
Street/Traffic Lights	Street Lights		7675628017	27,078	25,100
Street/Traffic Lights	Street Lights		7675661003	233	173
Street/Traffic Lights	Street Lights		7709825004	0	0
Street/Traffic Lights	Street Lights		7783423000	6,630	6,303
Street/Traffic Lights	Street Lights		8757895004	3,645	3,858
Street/Traffic Lights	Street Lights		8758455004	5,944	6,934
Street/Traffic Lights	Street Lights		8923309002	1,990	2,026
Street/Traffic Lights	Street Lights		8957364017	91,974	83,846
Street/Traffic Lights	Street Lights		9030635001	9,157	9,156
Street/Traffic Lights	Street Lights		9030636017	3,409,116	3,406,328
Street/Traffic Lights	Street Lights		9030650017	15,745	15,746
Street/Traffic Lights	Vane Street Parking Lot	00	25262006	7,780	6,387
Street/Traffic Lights	Street Lighting Accounts - School Dept Woodard Ave	0	322845018	32,059	32,059
Street/Traffic Lights	Street Lighting Accounts - School Dept Russell Park	0	322862019	7,700	7,700
Street/Traffic Lights	Street Lighting Accounts - School Dept Atherton Hough	0	327220002	5,903	5,903
Street/Traffic Lights	Street Lighting Accounts - School Dept Calendonia Ave		1556275007	1,968	1,968
Street/Traffic Lights	Street Lighting Accounts - School Dept Coddington St		1560385016	7,872	7,871
Street/Traffic Lights	Street Lighting Accounts - School Dept Montclair		2799607017	48,858	48,859
Street/Traffic Lights	Street Lighting Accounts - School Dept Hancock So Art		4045466004	7,872	7,871
Street/Traffic Lights	Street Lighting Accounts - School Dept Fenno St		4049702001	3,935	3,936
Street/Traffic Lights	Street Lighting Accounts - School Dept Palmer St		6537461006	1,898	1,253
Street/Traffic Lights	Main Library Street lights		4045465007	1,968	1,968
Street/Traffic Lights	Quincy Shore Drive Bridge		6427029003	1,558	1,509
Street/Traffic Lights	Clock--Church of Presidents, 1306 Hancock		2706115006	6,505	5,256
Street/Traffic Lights	McIntyre Mall Street Lamps		2689482015	56,619	43,578
Street/Traffic Lights	Yule light accounts		3768359005	0	0
Street/Traffic Lights	Yule light accounts		5182738008	1,119	1,239
Street/Traffic Lights	Yule light accounts		5217197008	723	0
Street/Traffic Lights	Yule light accounts		8923318001	1,608	292
Street/Traffic Lights	Outdoor Lighting		5296196001	1,968	1,968
Street/Traffic Lights	Outdoor Lighting	0	322848000	1,285	1,285
Street/Traffic Lights	Metered	0	773078005	45,093	45,093
Street/Traffic Lights	Metered		2333235002	40,659	40,537
Street/Traffic Lights	Metered		2333445008	4,912	4,713
Street/Traffic Lights	Metered		3613850000	2,649	2,631
Street/Traffic Lights	Metered		3835258013	2,480	2,462
Street/Traffic Lights	Metered		3934538014	2,193	3,031

Street/Traffic Lights	Metered	4504584001	2,678	2,784
Street/Traffic Lights	Metered	4778960011	1,569	827
Street/Traffic Lights	Metered	5744067002	2,654	2,656
Street/Traffic Lights	Metered	5984322004	2,243	262
Street/Traffic Lights	Metered	7339441009	2,279	2,257
Street/Traffic Lights	Metered	8353469000	2,281	2,224
Street/Traffic Lights	Metered	8957274036	6,836	6,997
Street/Traffic Lights	Metered	9039400031	2,532	975

Other Exterior Pole Lights		
This is an estimate of other exterior pole lights in Quincy		
<u>Location</u>	<u>Exterior Pole Lights</u>	<u>Comments</u>
Squantum ES - 50 Huckins Ave	6	
Engine 7 - 86 Huckins Ave	0	
Kennedy Senior - 440 E. Squantum St	2	
Bus Barn - 400 Rear E. Squantum St	4	Need to confirm who owns poles on street, may increase #
NQHS - 316 Hancock St	5	mix of floods on streetlights and on property
GOALS - 12 Hunt St	1	
Engine 2 - 311 Hancock St	0	
North Quincy Branch - 381 Hancock St	0	
Atlantic MS - 86 Hollis Ave	4	
Parker ES - 148 Billings Road	0	
Montclair - 8 Belmont St	27	on NGrid bill
Bishop Baseball Playground - Hamilton Ave+Holbrook Rd	15	
Wollaston ES - 204 Beale St	1	
Engine 4 - 111 Beale St + Arlington St	0	
Wollaston Branch - 41 Beale St	0	
Beechwood Knolls - 225 Fenno St	2	verified; and on NGrid bill
Beechwood Knoll Playground - Fenno St	1	
Central MS - 875 Hancock St	at least 1	NGrid bill states 4
Mitchel/McCoy Softball Field - Merrymount Pkwy	2	
Vietnam Veterans Drive - Merrymount Parkway	12	acorn shape
Ruth Gordon Amphitheater - Merrymount Parkway	4	on 2 poles
Parks Depart Headquarters - 1 Merrymount Parkway	6	on 4 poles
Merrymount ES - 4 Agawam Rd	4	on 3 poles
Perkins Playground - Narragansett Rd+Agawam Rd	1	on 1 pole
Broad Meadows - 50 Calvin Road	0	
Adams Shore Branch - 519 Sea St+Palmer	1	
Atherton Hough - 1084 Sea St	3	verified; and on NGrid bill
Engine 6 - 1082 Sea St	0	
Brill Field - Island Ave + Sea St	3	
LaBrecque Field - Sea St + Darrow	1	
Baker Beach Park - Palmer St + Broady Ave	1	
Snug Harbor - 333 Palmer St	2	
Engine 8 - 140 Doane St	0	
Mt. Wollaston Cemetery - 20 Sea St	1	
DPW - 55 Sea St	7	Verify number, this is estimate
Police Station - 442 Southern Artery	7	different kinds, verify number, this is estimate
QHS - 100 Coddington St	1	multihead fixture on Coddington. Parking lot is LEDs, Also, see other school streetlight accounts.
Coddington Hall - 26 Coddington St	0	
Crane Library - 40 Washington St	17	7 poles in parking lot, 10 varying poles on property
City Hall and City Hall Annex	10	Need to verify ownership of different lights. This is estimate
Point Webster - 60 Lancaster St	1	
Clifford Marshall - 200 Moody St	0	Already LED
Engine 3- 615 Washington+ Cleverly Ct.	0	
Fore River Clubhouse - Nevada Rd+Beechwood St	1	
Lincoln Hancock - 300 Granite St	2	
Fire Hqtrs - 40 Quincy Ave	3	Decorative
Sterling - 444 Granite St	2	Change in building plans in near future
Engine 5 - 182 Copeland St+Miller	0	
Kincaide Park - Roberts St+Water St	1	
Sterling MS Park - Roberts St+Jr. Terrace	1	Change in bldg plans in near future
Della Chiesa ECC - 100 Brooks Avenue	2	
815 Willard St Cemetery	1	
Bernazzani - 701 Furnace Brook Parkway	0	
Forbes Hill Playground - Reservoir Rd near Welgate Circle	4	on 1 pole
Stoney Brae Playground - South Central Ave near 184 So. Central Ave	1	

Likely OUTDOOR LIGHTING ACCOUNTS per MEI by Acct Number			1/29/2016
Department	Facility		Account #
Park and Forestry	Veterans Memorial Stadium	00	23910009
School Department	Bus Garage	00	24517011
Street, Parking, and Misc Lighting	Vane Street Parking Lot	00	25262006
Park and Forestry	Fore River Field (Harrison St.)	0	202843016
Park and Forestry	LeBreque Field Basketball Cts	0	203541011
Street, Parking, and Misc Lighting	Street Lights	0	204161017
Traffic and Parking	Traffic Lights	0	206494019
Traffic and Parking	Traffic Lights	0	206578010
Traffic and Parking	Traffic Lights	0	243179017
Traffic and Parking	Traffic Lights	0	243217003
Traffic and Parking	Traffic Lights	0	303554001
Traffic and Parking	Traffic Lights	0	303555008
Traffic and Parking	Traffic Lights	0	303556005
Traffic and Parking	Traffic Lights	0	303557002
Traffic and Parking	Traffic Lights	0	303558009
Traffic and Parking	Traffic Lights	0	303846013
Traffic and Parking	Traffic Lights	0	303855012
School Department	Street Lighting Accounts	0	322845018
Veterans Services	Outdoor Lighting	0	322848000
Street, Parking, and Misc Lighting	Street Lights	0	322860006
School Department	Street Lighting Accounts	0	322862019
Traffic and Parking	Traffic Lights	0	322944007
Traffic and Parking	Traffic Lights	0	322946001
School Department	Street Lighting Accounts	0	327220002
Traffic and Parking	Traffic Lights	0	327719013
Traffic and Parking	Traffic Lights	0	327721013
Traffic and Parking	Traffic Lights	0	344780016
Street, Parking, and Misc Lighting	Street Lights	0	380350014
Street, Parking, and Misc Lighting	Metered	0	773078005
Traffic and Parking	Traffic Lights		1445366004
Park and Forestry	Faxon Park		1445419019
Traffic and Parking	Traffic Lights		1445513003
Street, Parking, and Misc Lighting	Street Lights		1445585018
Traffic and Parking	Traffic Lights		1477935006
Park and Forestry	A-Park Dept. - Headquarters		1498100012
Traffic and Parking	Traffic Lights		1537961006
Traffic and Parking	Traffic Lights		1537962003
Traffic and Parking	Traffic Lights		1537963000
Traffic and Parking	Traffic Lights		1537964007
Traffic and Parking	Traffic Lights		1537965004
Traffic and Parking	Traffic Lights		1537966001
School Department	Street Lighting Accounts		1556275007
Street, Parking, and Misc Lighting	Street Lights		1556290004

Traffic and Parking	Traffic Lights	1556549002
School Department	Street Lighting Accounts	1560385016
Traffic and Parking	Traffic Lights	1560753014
Park and Forestry	Faxon Field / Russell Park	1993970005
Street, Parking, and Misc Lighting	Metered	2333235002
Street, Parking, and Misc Lighting	Metered	2333445008
Street, Parking, and Misc Lighting	Street Lights	2519666009
Traffic and Parking	Traffic Lights	2519913012
Street, Parking, and Misc Lighting	McIntyre Mall Street Lamps	2689482015
Street, Parking, and Misc Lighting	Clock--Church of Presidents, 1306 Hancock	2706115006
Park and Forestry	Kinkaide Park	2722050019
Traffic and Parking	Traffic Lights	2724251005
Traffic and Parking	Traffic Lights	2724296004
Park and Forestry	Adams Field	2741967011
Department of Public Works	Spot Lights	2781506001
Traffic and Parking	Traffic Lights	2781507008
Traffic and Parking	Traffic Lights	2781508005
Traffic and Parking	Traffic Lights	2781509002
Traffic and Parking	Traffic Lights	2781510005
Traffic and Parking	Traffic Lights	2781511002
Traffic and Parking	Traffic Lights	2781586009
Traffic and Parking	Traffic Lights	2781590012
Traffic and Parking	Traffic Lights	2781592016
School Department	Street Lighting Accounts	2799607017
Street, Parking, and Misc Lighting	Street Lights	2799612018
Traffic and Parking	Traffic Lights	2799692007
Traffic and Parking	Traffic Lights	2799693013
Traffic and Parking	Traffic Lights	2799694001
Traffic and Parking	Traffic Lights	2803967019
Park and Forestry	Fenno Street Tennis Court	2835751009
Street, Parking, and Misc Lighting	Street Lights	2853933018
Street, Parking, and Misc Lighting	Metered	3613850000
Park and Forestry	Misc parks	3767943003
Traffic and Parking	Traffic Lights	3767950008
Street, Parking, and Misc Lighting	Metered	3835258013
Street, Parking, and Misc Lighting	Metered	3934538014
Traffic and Parking	Traffic Lights	3935990009
Traffic and Parking	Traffic Lights	3968509009
Traffic and Parking	Traffic Lights	3970730005
Street, Parking, and Misc Lighting	Street Lights	4008653016
Street, Parking, and Misc Lighting	Street Lights	4027317008
Traffic and Parking	Traffic Lights	4027318005
Traffic and Parking	Traffic Lights	4027319002
Traffic and Parking	Traffic Lights	4027320005
Traffic and Parking	Traffic Lights	4027321002

Traffic and Parking	Traffic Lights	4027322009
Traffic and Parking	Traffic Lights	4027397006
Traffic and Parking	Traffic Lights	4027403018
Library	Main Library Street lights	4045465007
School Department	Street Lighting Accounts	4045466004
Traffic and Parking	Traffic Lights	4045565002
Traffic and Parking	Traffic Lights	4045566009
Street, Parking, and Misc Lighting	Street Lights	4049129011
Traffic and Parking	Traffic Lights	4049448002
Traffic and Parking	Traffic Lights	4049574016
Traffic and Parking	Traffic Lights	4049575013
School Department	Street Lighting Accounts	4049702001
Traffic and Parking	Traffic Lights	4066036006
Street, Parking, and Misc Lighting	Metered	4504584001
Street, Parking, and Misc Lighting	Metered	4778960011
Traffic and Parking	Traffic Lights	5014869003
Traffic and Parking	Traffic Lights	5016016000
Traffic and Parking	Traffic Lights	5033225012
Traffic and Parking	Traffic Lights	5179751006
Traffic and Parking	Traffic Lights	5179812004
Traffic and Parking	Traffic Lights	5182366002
Traffic and Parking	Traffic Lights	5182380002
Street, Parking, and Misc Lighting	Street Lights	5182402003
Traffic and Parking	Traffic Lights	5182807017
Traffic and Parking	Traffic Lights	5182819008
Park and Forestry	O'Rourke Field	5215667007
Traffic and Parking	Traffic Lights	5217117000
Street, Parking, and Misc Lighting	Street Lights	5217390009
Department of Public Works	Spot Lights	5273308003
Traffic and Parking	Traffic Lights	5273309000
Traffic and Parking	Traffic Lights	5273310003
Traffic and Parking	Traffic Lights	5273311000
Traffic and Parking	Traffic Lights	5273312007
Traffic and Parking	Traffic Lights	5273313004
Traffic and Parking	Traffic Lights	5273388001
Traffic and Parking	Traffic Lights	5273389008
Traffic and Parking	Traffic Lights	5273393002
Traffic and Parking	Traffic Lights	5273394009
Street, Parking, and Misc Lighting	Street Lights	5291250000
Traffic and Parking	Traffic Lights	5291526018
Traffic and Parking	Traffic Lights	5291527006
Traffic and Parking	Traffic Lights	5291528003
Traffic and Parking	Traffic Lights	5295667010
Street, Parking, and Misc Lighting	Street Lights	5295813012
Street, Parking, and Misc Lighting	Street Lights	5295879010

Traffic and Parking	Traffic Lights	5296194016
Park and Forestry	Outdoor Lighting	5296196001
Traffic and Parking	Traffic Lights	5311886008
Traffic and Parking	17 Vernon St Garage	5312084026
Park and Forestry	Misc parks	5344378011
Street, Parking, and Misc Lighting	Metered	5744067002
Street, Parking, and Misc Lighting	Metered	5984322004
Park and Forestry	Misc parks	6262875003
Traffic and Parking	Traffic Lights	6262952005
Traffic and Parking	Traffic Lights	6262962010
Park and Forestry	Misc parks	6262978009
Traffic and Parking	Traffic Lights	6263615001
Street, Parking, and Misc Lighting	Quincy Shore Drive Bridge	6427029003
Traffic and Parking	Traffic Lights	6429313008
Street, Parking, and Misc Lighting	Street Lights	6429406017
Traffic and Parking	Traffic Lights	6429624006
Street, Parking, and Misc Lighting	Street Lights	6429800006
Traffic and Parking	Traffic Lights	6495262001
Department of Public Works	Spot Lights	6519740004
Traffic and Parking	Traffic Lights	6519741001
Traffic and Parking	Traffic Lights	6519742008
Traffic and Parking	Traffic Lights	6519743005
Traffic and Parking	Traffic Lights	6519744002
Traffic and Parking	Traffic Lights	6519745009
Traffic and Parking	Traffic Lights	6519819004
Traffic and Parking	Traffic Lights	6519821004
Traffic and Parking	Traffic Lights	6519826009
Traffic and Parking	Traffic Lights	6519851011
Park and Forestry	Welcome Young Field	6519869004
Street, Parking, and Misc Lighting	Street Lights	6537448003
School Department	Street Lighting Accounts	6537461006
Traffic and Parking	Traffic Lights	6537725005
Traffic and Parking	Traffic Lights	6537726002
Traffic and Parking	Traffic Lights	6537728006
Traffic and Parking	Traffic Lights	6558027004
Park and Forestry	Veterans Memorial Stadium	6573035002
Street, Parking, and Misc Lighting	Metered	7339441009
Traffic and Parking	Traffic Lights	7508857008
Park and Forestry	Bishop Playground	7509648003
Traffic and Parking	Traffic Lights	7509736017
Traffic and Parking	Traffic Lights	7672980001
Street, Parking, and Misc Lighting	Street Lights	7675628017
Street, Parking, and Misc Lighting	Street Lights	7675661003
Traffic and Parking	Traffic Lights	7675812000
Traffic and Parking	Traffic Lights	7675984001

Traffic and Parking	Traffic Lights	7709558008
Street, Parking, and Misc Lighting	Street Lights	7709825004
Traffic and Parking	Traffic Lights	7765790008
Traffic and Parking	Traffic Lights	7765791005
Traffic and Parking	Traffic Lights	7765792002
Traffic and Parking	Traffic Lights	7765793009
Traffic and Parking	Traffic Lights	7765794006
Traffic and Parking	Traffic Lights	7765795003
Traffic and Parking	Traffic Lights	7765869008
Traffic and Parking	Traffic Lights	7765871008
Street, Parking, and Misc Lighting	Street Lights	7783423000
Traffic and Parking	Traffic Lights	7783523005
Traffic and Parking	Traffic Lights	7783525018
Traffic and Parking	Traffic Lights	7783526006
Traffic and Parking	Traffic Lights	7787997001
Traffic and Parking	Traffic Lights	7801864001
Traffic and Parking	Traffic Lights	7803550019
Traffic and Parking	Traffic Lights	7803953001
Park and Forestry	Veterans Memorial Stadium	7818706005
Street, Parking, and Misc Lighting	Metered	8353469000
Traffic and Parking	Traffic Lights	8757847008
Street, Parking, and Misc Lighting	Street Lights	8757895004
Street, Parking, and Misc Lighting	Street Lights	8758455004
Traffic and Parking	Traffic Lights	8920366005
Traffic and Parking	Traffic Lights	8922956007
Traffic and Parking	Traffic Lights	8923060000
Traffic and Parking	Traffic Lights	8923156010
Street, Parking, and Misc Lighting	Street Lights	8923309002
Traffic and Parking	Traffic Lights	8955699008
Traffic and Parking	Traffic Lights	8956889006
Street, Parking, and Misc Lighting	Metered	8957274036
Street, Parking, and Misc Lighting	Street Lights	8957364017
Traffic and Parking	Traffic Lights	9012827001
Traffic and Parking	Traffic Lights	9012828008
Traffic and Parking	Traffic Lights	9012829005
Traffic and Parking	Traffic Lights	9012830008
Traffic and Parking	Traffic Lights	9012831005
Traffic and Parking	Traffic Lights	9012832002
Traffic and Parking	Traffic Lights	9012907004
Traffic and Parking	Traffic Lights	9012908001
Traffic and Parking	Traffic Lights	9012909008
Traffic and Parking	Traffic Lights	9012916012
Street, Parking, and Misc Lighting	Street Lights	9030635001
Street, Parking, and Misc Lighting	Street Lights	9030636017
Street, Parking, and Misc Lighting	Street Lights	9030650017

Traffic and Parking	Traffic Lights		9030734009
Traffic and Parking	Traffic Lights		9030736012
Traffic and Parking	Traffic Lights		9034678011
Street, Parking, and Misc Lighting	Metered		9039400031
Park and Forestry	Faxon Field / Russell Park		9065899013

Appendix 2: RFQ Form of Response

Proposal Title Page

Respondent: _____

Address: _____

City, State, Zip: _____

Phone: _____ Fax: _____ E-mail: _____

Federal tax id# (SSN for individuals): _____

Organizational structure: Corporation: _____ Partnership: _____ Joint venture: _____

Individual/Proprietorship: _____ Other: _____

Ownership: Public stock: _____ Privately Owned: _____ Non-profit: _____

Year Established: _____ Other Entity Names (if any): _____

Minority and women business enterprise information, (check as appropriate)

Minority owned: _____ Women owned: _____ Owned by person with disability:

Small Business: _____ SOMWBA Certified: _____

I have read, understand, and agree to comply with the terms and conditions for providing Energy Management Services to the Awarding Authority as stated in the Awarding Authority's Request for Proposals. Furthermore, I hereby certify, under 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

If applicable, please complete the following:

I acknowledge receipt of Addendum No(s) _____, dated _____.

Signature Date

Responses must be submitted in the format outlined. The Awarding Authority will review each Response prior to the selection process for completeness and adherence to format. A Response will be considered complete if all requested sections and information are included in the proper order. The Awarding Authority may reject from further consideration any Response that does not follow the format or is deemed non-responsive.

1. General

Statements of Qualifications shall include a table of contents properly indicating the section and page numbers of the information included. In the electronic version of the Statements of Qualifications, as much as possible the text portions should be created by electronic conversion to PDF format rather than scanning a printed document. This allows the reviewers to search by keywords within the electronic version.

2. Contractor Qualifications Data

2.1. Minimum Required Items

1. Completed Response Title Page
2. Signed documents (provided at end of this document)
 - a. Certificate of Non-debarment
 - b. Certificate of Non-Collusion
 - c. Certificate of Tax Compliance (MGL. c. 62C §49A)
 - d. Affirmative Action Plan
 - e. Conflict of Interest Certification (MGL. c. 268A)
 - f. Certificate of Compliance with MGL c. 151B
3. Response completeness and adherence to format. Substantial conformity with the specifications and other conditions set forth in the request for qualifications.
4. References of other streetlight retrofit contracts performed by the qualified providers, as requested in Sections 4 of this Appendix.
5. Department of Capital Asset Management (DCAM) Certificate of Eligibility (DCAM Form CQ7) and Update Statement (DCAM Form CQ3). (In; *ENERGY MANAGEMENT SERVICES*)

NOTE: The Respondent only needs to include a completed DCAMM Update Statement and Addenda with its one (1) original Statement of Qualifications (i.e. the DCAMM Update Statement is not required to be included with the hard copies or for the electronic copy). The DCAMM Update Statement and Addenda **should be submitted in a separate sealed envelope**. Pursuant to MG.L. c 149 § 44D, the DCAMM Update Statement and its Addenda are not public record. As a result, the DCAMM Update Statement and its Addenda will not be made available for public inspection, including during the public opening.

6. Proposed products, as requested in Section 6.1 of this Appendix.
7. Methodology of determining energy savings, as requested in Section 7 of this Appendix.
8. Time specified in the qualifications for the performance of the contract, as requested in Section 6.3 of this Appendix.
9. General reputation and performance capabilities of the qualified providers, as requested in Section 3 of this Appendix.

2.2. Other Required Items

1. Contractor shall provide the City of Quincy with payment and performance bonds, so called, to cover the full term and value of the contract and issued by a regulated financial institution with a Best Rating of not less than A, or a comparable rating from a recognized financial rating firm, as follows:

- a. Performance and payment bonds shall secure 100% of the contract price (these bonds apply only to work to be performed, and do not cover any guaranteed savings), and
 - b. Efficiency bond, so called shall be secured for 100% of the annual guaranteed savings and may be renewed annually.
2. Describe any changes in ownership status over the past ten (10) years.
 3. Ultimate parent company, if applicable.
 4. Federal Tax Identification Number for Respondent
 5. Please submit a detailed financial report prepared in accordance with generally accepted accounting principles (GAAP) reflecting the current (as of the most recent financial statement date) financial condition of the Respondent. Such report must include a balance sheet; income statement and statement of cash flows, along with applicable footnotes, dated concurrently for at least each of the last preceding three years ending on the most recent fiscal quarter such statements were prepared. Public entities or subsidiaries should attach SEC Form 10-K along with, as applicable, detailed unaudited statements for the Submitting Entity. Non-public entities may attach either unaudited financial statements or copies of tax forms and schedules that are filed with the Internal Revenue Service where applicable.

Note: The Respondent only needs to include Financial Statements with its one (1) original Statement of Qualifications (i.e. the Financial Statements are not required to be included with the hard copies or for the electronic copy). The Financial Statements **should be submitted in a separate sealed envelope**. Pursuant to M.G.L. c 149A §8, the Financial Statements are not public record. As a result, the Financial Statements will not be made available for public inspection, including during the public opening.

6. Performance Guarantee. Describe the form of guarantee that the Respondent will be providing in respect of the Project, and its associated cost. If a corporate guarantee backstop by a parent company or credit enhancement by a financial institution is anticipated, please provide a letter from the parent company or financial institution, indicating that such credit enhancement is available, the terms of such credit enhancement and the credit rating of the guarantor.
7. Lawsuits and Disputes. Discuss whether your firm has ever been involved in a lawsuit or dispute regarding a performance contract. If so, please provide all such incidents and describe the circumstances and outcomes of such lawsuit or litigation. Further, please discuss whether your firm has been barred from providing performance contracting or other services in any states.
8. Does Respondent accept the use of the model Investment Grade Audit Agreement and Energy Management Service contracts? These may be modified to suite the specific needs of the project.
9. Respondent shall use a Massachusetts Certified Professional Engineer?

3. Performance Capabilities & Company Experience

Please answer each question below for the Respondent's firm. If the Respondent has already identified any sub-contractor(s) to team with for the project, please also answer the questions for the sub-contractor(s). Please clearly distinguish between responses about the Respondent or any sub-contractor(s). Please clearly illustrate how reputation and performance capabilities will translate to success on streetlight/outdoor lighting EMS projects.

1. Describe the experience and performance capabilities of the firm regarding streetlight and outdoor

lighting retrofits and explain how these characteristics translate to optimizing results for the Awarding Authority. Responses should address the firm's:

- a. Experience managing or performing all aspects of the project (i.e. audit through verification);
 - b. Experience delivering services this "turn-key" style;
 - c. Experience with large projects (i.e. 5,000+ streetlights); and
 - d. Experience and/or demonstrated understanding of National Grid requirements and incentives/rebates.
 - e. Number of years engaged in providing lighting performance contracting services.
 - f. Ability to respond to client needs in a timely manner
 - g. Ability to provide necessary support services through entire length of performance contract.
- Describe any other factors which would strengthen the credibility of the Respondent's financial capacity to undertake the construction and guarantees proposed in this Response. "Other factors" could include corporate strategies which establish and fund reserves for contingent liabilities accruing from a growing portfolio of performance contracts, escrows, energy hedging, letters of credit or other financial tools. "We have never had to fund a shortfall" is inadequate to strengthen the Respondent's financial credibility.
2. Provide the number of projects and aggregate dollar value of projects (for streetlight services identified in #1) implemented by firm each year for the past five (5) years, including the value of the guarantees related to such projects and any shortfall in savings related to such projects.
 3. Provide the number and brief description of any on-going or contracted streetlight projects
 4. Provide the number of full-time personnel employed by the firm that provide the street or outdoor lighting services identified in #1. Please segment the data, as appropriate, into categories of service.

4. Project References

1. Fully describe the five (5) most recent completed streetlight retrofit projects that Respondent has implemented. The Awarding Authority's preference is for comprehensive streetlight retrofit projects (i.e. performance of audit, design and installation) to reduce streetlight energy use that involve municipalities similar in type, size or scope to the Awarding Authority; that have the same electric distribution utilities as the Awarding Authority's; and that have been managed by individuals who Respondent anticipates will be assigned to the Awarding Authority's projects. Before the description, please summarize the services Respondent performed or managed in connection with each. A table similar to the following would be preferred:

Table 1. Services Performed												
Project name/ type of property	Start- End Dates	Location	Services Performed*								Performance Guarantee	Other
			Audit	Design	Product Procurement	Product Installation	Training	Maintenance	Monitoring			

* Please indicate the services performed with the annotations:
 R = Respondent's staff performed service
 S = Respondent managed a sub-contractor who's staff performed service
 B = Respondent and Sub-contractor both performed (e.g. sub-contractor performed field audit data collection and Respondent analyzed data and wrote Audit Report)
 Leave blank if not Respondent did not perform or manage the service.

In addition to any narrative, each project description must include:

- a. Identify which individuals that worked on the project will likely be assigned to the Awarding Authority's project.
 - b. Provide detailed project information for all five (5) including: customer name, project dates, number of streetlights retrofitted, total project cost at proposal stage, final project cost, final annual energy savings, final annual energy cost savings, final utility incentives secured and any annual savings shortfalls. Respondent must also indicate whether the project was completed on schedule and on budget, and if not, explain the reasons for such delay or budget noncompliance.
 - c. Identify the style (e.g. cobra-head, decorative) and type of luminaires (e.g. LED, HPS) and the models of luminaires, photocells, controls, fuses, etc. implemented for each of the five (5) reference projects. State whether the project required measurement and verification, and if so, identify which protocol was implemented (FEMP Option A, B, C, D).
2. For five (5) of the projects, provide a reference. Please include the names, addresses, email addresses and telephone numbers for reference. It is understood that the Awarding Authority may contact any or all of the above references regarding the project and personnel performance as part of the RFQ submittal review process. (Responders may expand on the chart above).

5. Project Personnel

1. Identify the project team members, including the proposed role for each individual, and please provide an organizational chart. Discuss the project experience and level of technical expertise of the staff, including any accreditations or pre-qualifications held by the firm's streetlight auditing, design, maintenance, and installation employees.
3. Provide resumes for each project team member.

6. Project Approach

6.1. Investment Grade Audit

1. For items #1-6 identified in Section 6.1 of the RFQ (Audit Agreement Scope of Work), describe Respondent's approach to delivering the services that will best meet the Awarding Authority's requirements and goals. As a reminder, Awarding Authority's goals are provided in Section 4 of the RFQ (General Information). For each item, make sure to include:
 - a. How the Awarding Authority will be involved, including the level and depth of the information and resources that will be required of the Awarding Authority.
 - b. Specific outputs that will be produced

For the item Audit Report with Recommendations, address:

- a. How Respondent's experience and expertise will help Awarding Authority determine the appropriate luminaire, photocell for the project and whether to install wireless lighting controls
- b. Energy and cost calculation methodology:
 1. The methodology Respondent normally uses to compute the baseline(s) of energy use, as well as the performance of improvements, and savings
 2. Describe the procedure to assign dollar values to the savings. Include energy savings as well as maintenance or capital savings.
 3. The method(s) used to adjust the energy and O&M baseline due to such factors as weather, facility use changes, and operating behavioral changes, if any. Describe factors that would necessitate adjustment.
 4. Does Respondent use multiple baselines for different ECMs? If so, please discuss approach.

5. The frequency of baseline adjustments over the course of the EMSA, if any. For and adjustments, define the drivers that influence such adjustments and how frequently such data is collected.

For the item Guaranteed Savings, Respondent will describe the methodology in Section 7. For this section, Respondent needs to only address the following:

- a. The approach to relying on energy and non-energy related operational savings in the savings calculation supported by the guarantee.
 - b. Any application of applying a risk factor to ECM-specific annual energy savings. Does Respondent's firm guarantee an annual level of savings less than the projected savings? Discuss how this risk factor is determined, whether it is ECM specific and if O&M activities contracted to the RESPONDENT (rather than performed by the Awarding Authority) has any impact on such risk factor.
2. Based on Respondent's preliminary assessment of the information provided in the RFQ, identify the top luminaire and photocell products that Respondent would recommend for **consideration** for installation as part of this project. Provide a copy of the cut-sheets for the products.
 3. Provide an example of a comprehensive IGA developed by Respondent for a project where the specific project team proposed for the Awarding Authority was involved and completed similar work as contemplated for this project. Provide a sample copy of the IGA as an attachment. This IGA must include energy and economic methodologies and engineering approaches.

6.2. Construction and Commissioning

1. For each item #1-6 identified in Section 7.1 of the RFQ (EMS Scope of Work) describes the Respondent's approach that will best meet the Awarding Authority's requirements. Where appropriate, discuss Respondent's project management protocols to ensure schedule adherence and timely installation, incentive application, and utility rate changes. Also, discuss how Respondent will oversee all work performed by subcontractors.

For the item Procurement, discuss Respondent's method of procuring product, and how this method ensures the Awarding Authority receives the product without undue delay (which would sacrifice savings) and at the most competitive price.

For the item Installation Planning, discuss the method for working with any relevant departments of the Awarding Authorities (e.g. Department of Public Works, police, facility management etc.) to coordinate construction activities. Discuss in detail Respondent's protocols to avoid conflicts with any relevant departments of the Awarding Authorities and Respondent's conflict resolution process. Also detail the Respondent's approach to minimizing the use of police details and to minimizing the impact on daily traffic patterns.

For the item Installation, discuss:

- a. Respondent's reporting and client liaison protocols to be employed throughout the process.
- b. Describe the type, method, formatting, and frequency of reporting during the project.
- c. Respondent's approach to providing a warranty on parts and labor (this is distinct from the manufacturer's warranty on product). What does the Respondent's warranty include and how long does it last? Discuss Respondent's approach to the timing of commissioning and training with respect to the commencement of the warranty.

For the item Commissioning & Closeout, discuss Respondent's approach to commissioning streetlights, including accomplishing rate change and receipt of utility incentives.

6.3. Project Schedule

Provide a detailed schedule and timeline starting from signed IGA Agreement through project

commissioning and closeout. Please include relevant milestones and please assume a notice to proceed date for the IGA as determined by the City of Quincy.

6.4. Service and Maintenance and/or Owner Training

This section deals with item #8 identified in Section 7.1 of the RFQ (EMS Scope of Work) for maintenance. In your responses to the following, include a description of Respondent's experience with ensuring that equipment warranties and maintenance records are maintained and the requirements of the performance guarantee for savings is met.

1. Provide detailed information on any proposed training programs for Awarding Authority maintenance personnel for lights that can be reached without a bucket truck.
2. Describe Respondent's experience with and capability to provide ongoing service and maintenance, including the pricing approaches available (e.g. fixed price per month, price per call out, etc.).
3. Provide the numbers of accessible truck based service and maintenance professionals and describe their level of training and experience.

7. Methodology of Determining and Guaranteeing Energy Savings

This section deals with item #8 identified in Section 7.1 of the RFQ (EMS Scope of Work) for methodology of measuring and guaranteeing energy savings. 225 CMR 19.00 requires that methods for monitoring, measurement, and verification of guaranteed energy and water savings shall conform to the most recent Performance Measurement & Verification Protocol (IPMVP) and standards established by the Federal Energy Management Program of the U.S. Department of Energy.

1. Describe in detail the firm's methodology to determine energy savings and explain how this approach will minimize risk and maximize return for (Awarding Authority) over the course of up to 20 years. Include in the description, the firm's approach to verifying energy savings and addressing changes based on past experience and changes in use of municipal buildings and facilities over time.
2. Discuss Respondent's general approach to identifying the appropriate M&V protocol on an ECM specific basis. Please provide a listing by ECM category of the anticipated FEMP protocol for each ECM.
3. Describe how excess savings is documented, and how Respondent treats excess annual savings. Do excess annual savings accrue to the benefit of the Awarding Authority? (Annual savings must stand alone in the year they are realized and cannot be carried over or credited to another year.)
4. How does Respondent treat savings realized during construction? Are those savings included in the guarantee and credited to the project or are those savings treated as excess savings to the Awarding Authority?
5. Describe Respondent's standard measurement and verification procedures, including reporting frequency, reconciliation methods, and timing. Address how this will facilitate the Awarding Authority's required submittal of the required [EMS Annual Report](#) to the Department of Energy Resources for each year during the duration of the contract.
6. Provide a sample measurement and verification report from one of the five reference projects together with an explanation of how Respondent demonstrated, with respect to such report, whether the guaranteed savings level was met and if not, the mechanics of how the customer would be compensated. Redacted copies protecting confidential information will be accepted.

8. Pricing Structure

1. Describe Respondent's approach and preference to project pricing including: (a) Open Book/Open Book with contracted mark-ups, (b) Open Book/Closed Book/Guaranteed Maximum Price and (c) Closed Book/Guaranteed Maximum Price. Please note that the Awarding Authority will determine its final preferred approach.
2. For each of the pricing scenarios above, please discuss the Change Order process Respondent employs, including specifically how the pricing is developed and presented, and the risk controls the Awarding Authority should expect.
3. Under a Guaranteed Maximum Price contract, what level (percentage) does your firm include as a contingency to contractually eliminate any Change Orders?
4. Under an EMSA, will Respondent;
 - a. Accept a ten-percentage holdback Retainage on all progress payments until final completion?
 - b. Be willing to post liquidated damages for delays and performance shortfalls.
5. The Awarding Authority desires pricing for the IGA Agreement as a cost per fixture. The Awarding Authority will assume this price includes all services described in Section 6 unless Respondent indicates otherwise. Explain if and how the price changes based on the number of fixtures included in the audit.
6. Provide a fixed price breakup fee for the IGA if the IGA is completed in accordance with the IGA Agreement and the Awarding Authority does not proceed with an EMSA. Please provide a fixed price breakup fee as a cost per fixture.
7. Respondents must complete the chart in Table 2 for contracted mark ups only for the first column, Lighting & Controls. Insert a mark-up as a percentage (%) for each applicable mark-up. If other categories are to be considered, please add rows and provide such additional information. Also, if the cost of a category is already covered by the per fixture IGA cost, do not include a mark-up. Please also note that mark-ups not included by the Respondent in this response will not be considered in the development of the IGA Report, project development and the EMSA negotiations. RESPONDENTS are encouraged to provide additional detail on mark-up categories as needed.
8. Describe any financing options that could be provided by the firm directly or through a third party. The Awarding Authority, however, reserves the right to secure financing from whichever source(s) the Awarding Authority determines is in its best interest.
9. Describe all potential funding sources that could be applied to any or all potential energy management services, including the firm's experience(s) in securing such funding, and describe any new sources of funding that may have recently become available but that the respondent has not yet had experience with. Such funding sources may include, but are not limited to, utility rebates, demand response payments, grants, sale of renewable energy or carbon credits, or sale of efficiency benefits on the ISO New England Forward Capacity Market.

Table 2: Mark ups

Project Soft Cost Mark Ups	Lighting & Controls
Investment Grade Energy Audit	_____
Per Fixture(s)	_____
Engineering, Design and Spec	_____
Project Management	_____
On-Site Construction Management	_____
Commissioning	_____
Training	_____
Payment & Performance Bonds	_____
Hazardous Waste (if applicable)	_____
Warranty	_____
 Total	 _____
 Overhead	 _____

Cost per Fixture(s) \$ _____

***Add-Alternates; Smart Controls**

Option #	Item	Proposed Materials (Include Manufacturer, Model #)	Unit	Unit Price
1	Overhead Lights			
2	Overhead Lights			
1	Decorative Lights			
2	Decorative Lights			

Appendix 3: Evaluation Form

Respondent Name: _____

Date: _____

Evaluator: _____

To determine the most advantageous response, the Awarding Authority will evaluate each section and subsection individually for completeness.

Section 1: Minimum Evaluation Criteria

If a response receives a negative "(No)" rating to any requirement in Section 1, it will be deemed non-responsive and given no further consideration.

	NO	YES
1. Title page	_____	_____
Signed Documents:		
2. Certificate of Non-Debarment	_____	_____
3. Certificate of Non-Collusion	_____	_____
4. Certificate of Tax Compliance	_____	_____
5. Indemnity Certificate	_____	_____
6. Affirmative Action Plan	_____	_____
7. Conflict of Interest Certification	_____	_____
8. Certificate of Compliance	_____	_____
9. Adhered to format and is complete	_____	_____
10. References of other EMS projects	_____	_____
11. DCAM Contractor Certification & Update Statement	_____	_____
12. Proposed Products	_____	_____
13. Methodology of energy savings	_____	_____
14. Schedule	_____	_____
15. General Performance Capabilities & Experience	_____	_____
16. Evidence of bond capability	_____	_____
17. Changes in ownership	_____	_____
18. Parent Company	_____	_____
19. Federal Tax Identification Number	_____	_____
20. Financial Statements	_____	_____
21. Form of performance guarantee	_____	_____
22. Lawsuits and/or disputes	_____	_____
23. Acceptance of model audit agreement and EMS contract	_____	_____
24. Massachusetts licensed professional engineer	_____	_____

Section 2: Skill and Experience

1=Unacceptable 2=Disadvantageous 3=Advantageous 4=Highly Advantageous

1. Project team has extensive record of highly successful performance contracting experience with facilities similar in type, size and scope._____
2. Capacity to staff the project team with the requisite skills and expertise throughout the term of the contract.
3. Familiarity with using specific measurement and verification protocols (FEMP Option A, B, C, D) to track the performance of EMCs that demonstrates a reasonable balances between risk and cost that is most advantageous to the client.
4. History of working smoothly with client staff to collect data necessary for successful completion of the project with the least interruption to staff's other responsibilities.
5. Extensive experience in performing Investment Grade Audits (IGAs) including establishing energy and water use baselines and baseline adjustments, identifying opportunities, estimating performance of improvements, and proposing reasonable M & V strategies.
6. Shows commitment to completing projects on time and to expected level of performance.
7. History of establishing good working relationships with clients throughout the whole project including the audit, construction and M & V phases.
8. Protocols used for working with subcontractors resulted in smooth, timely and full completion of past projects at fair and equitable levels of cost and risk to the client.
9. Level of experience and understanding of M&V, including annual savings reconciliation and payment of shortfalls that has demonstrably minimized risk and maximized return for past clients.
10. History of developing a balance of contracted services versus training of client staff for ongoing service and maintenance work that minimized clients costs, maximized the use of resources already available to the client, and produced quality service and maintenance programs over the term of the contract.
11. History of identifying creative opportunities to employ energy and water efficiency, renewable energy, and combined heat and power and/or district heating solutions to the client's advantage.
12. History of working with clients to identify pricing structures that minimizes risk and maximizes return for the client.
13. History of understanding client's goals and developing effective strategies to achieve them.
14. Demonstrates good commissioning practices.

Section 3: Comparative Evaluation Criteria

RATING	WEIGH
<p>Company Capability & Experience</p> <ul style="list-style-type: none"> Respondent has financial soundness to <ul style="list-style-type: none"> o Honor installation warranty o Provide verification of savings for entire length of contract o Provide maintenance services Respondent demonstrates ability to respond rapidly to client Respondent demonstrates strong knowledge of streetlight technology, standards, requirements, etc. Respondent has project experience <ul style="list-style-type: none"> o Managing or performing all aspects of the project (i.e. audit through verification) o Providing all these services in this turn key style o With large projects (5,000+ lights) in urban areas for a municipality o Experience or demonstrated understanding of utility requirements and incentives. 	30%
<p>Project References</p> <p>For the five (5) most recent complete project references. Each should:</p> <ul style="list-style-type: none"> o Show that schedule, cost, and savings estimates were met o Demonstrate high degree of responsiveness to client needs o References speak highly of all aspects of the project (audit through install) and the key delivery personnel 	20%
<p>Personnel Experience</p> <p>Employees that will staff this project have:</p> <ul style="list-style-type: none"> o Experience performing or managing all aspects of the project (i.e. audit through verification) o Experience on the projects listed as references o Connections with the appropriate utility reps o Experience managing a project in this region o Appropriate training/certifications 	10%
<p>Project Approach</p> <ul style="list-style-type: none"> o Describes a coherent, convincing plan to meet or exceed requirements of scope of work for audit through installation o Includes a schedule, with discussion of how they can realistically meet that o Describes the city's involvement in all phases and describes and efficient use of their time and resources (e.g. efficient plan for meetings, use of police details or avoiding them) o Offers a high quality maintenance program for streetlights and training for facilities staff with retrofitted lights 	15%
<p>Measurement and Verification</p> <ul style="list-style-type: none"> o Commitment to provide verification of guaranteed savings each year of the contract AND provide necessary data for community to file annual DOER report o Advocates a verification plan with appropriate balance of cost and accuracy o Shows experience with the recommended verification plan 	5%
<p>Cost and Pricing</p> <ul style="list-style-type: none"> o Investment Grade Audit o Low cost per fixture o Energy Management Services Agreement o Low mark-ups o Ability to demonstrate success in providing financing to previous clients 	20%

Appendix 4: Memorandum of Understanding

MEMORANDUM OF UNDERSTANDING FOR ENERGY MANAGEMENT SERVICES SOLICITED BY THE CITY OF QUINCY

This Memorandum of Understanding (MOU) is entered into between the City of Quincy, (the Awarding Authority) 1305 Hancock Street, Quincy, MA 02169, and Contractor (Contractor) located at [ADDRESS].

WHEREAS, The City of Quincy issued a Request for Qualifications dated April 7, 2016 for Streetlight Energy Management Services, under Massachusetts General Laws, Chapter 25A, Section 11I such RFQ attached hereto as Exhibit A and incorporated herein;

WHEREAS, Contractor submitted a Statement of Qualifications (RFP) dated April 7, 2016 in response to the RFQ and made formal written responses to questions from the City of Quincy about its offering and capabilities, all of which are attached to this MOU as Exhibit B and incorporated herein, are binding upon Contractor in its provision of services solicited through the RFQ and subject to the terms laid out in this MOU;

WHEREAS, The City of Quincy has formed a Selection Committee to select the most highly qualified Respondent for the program participants to enter into an agreement with any and all Participants listed in the RFQ, without prejudice and consistent with the RFQ, pursuant to M.G.L. Ch. 25A, §11I;

WHEREAS, such Selection Committee reviewed the Statements of Qualifications received and selected Contractor as the top ranked Respondent, subject to Contractor's willingness to execute this MOU with the City of Quincy;

WHEREAS, Contractor agrees to offer services as described in Exhibits A and B, according to the provisions herein contained;

Now, THEREFORE, in consideration of the mutual promises and covenants herein contained the City of Quincy and Contractor agree as follows:

1. Contractor may proceed to enter into negotiations with Participant to provide such Participant with Streetlight Energy Management Services, provided that any agreement between the Contractor and Participant stipulates that the Contractor, or any of Contractor's Participant-approved subcontractor(s), shall pay the current prevailing wages for such Participant's community. Current prevailing wage rates for each Participant are attached hereto as Exhibit C and incorporated herein. These prevailing wages shall remain in effect for the entire project with each Participant, except in the case of multi-year Energy Management Service contracts. In the event of a multi-year contract, the Contractor must notify the City of Quincy no later than three (3) weeks before the anniversary of the contract, and the City of Quincy will then request updated prevailing wage rates from the Massachusetts Department of Labor Standards.
2. Contractor will execute a Streetlight Energy Management Services Agreement with Participant, in form and substance satisfactory to Contractor and such Participant, that describe the process and terms whereby Participant will receive Streetlight Energy

Management Services from Contractor. These Agreements shall conform to minimum terms as described in Exhibits A & B.

3. Streetlight Energy Management Services offered by Contractor shall be consistent with the services described in Exhibits A and B, and are understood by the Participants to include, but not be limited to, identifying, assessing, planning, designing, financing, installing, owning, operating and maintaining energy-efficiency streetlight conversions. As described in Exhibits A and B, Contractor will provide services through installation within 60 days of execution of each individual Streetlight Energy Management Services Agreement.
4. Obligations and Requirements under M.G.L c. 25A: Contractor agrees to uphold all obligations and achieve all requirements under M.G.L. Ch. 25A, including performing an Investment Grade Audit prior to or as part of a Streetlight Energy Management Services Agreement and assisting the Participant with all required reporting to the Department of Energy Resources.
5. Communication: Contractor agrees to provide the City of Quincy with written updates on the status of work with each Participant on a monthly basis. The content of such updates is described in Exhibit E.
6. Neither the City of Quincy nor the Contractor may assign or transfer their respective interests in this Agreement, in part or in whole, without the prior written consent of the other.
7. Termination of Agreement: Notwithstanding any language to the contrary within this MOU, the City of Quincy may terminate this agreement in accordance with the provisions of this paragraph if there is a material adverse change in Contractor's financial condition that prevents Contractor from meeting its obligations under the MOU (a "Material Adverse Change") or for failure to meet its obligations or perform according to the provisions of this MOU. In the event the City of Quincy elects to exercise such termination right, then, promptly upon becoming aware of such Material Adverse Change or Contractor's failure to meet a milestone outlined in this MOU, the City of Quincy shall provide at least 60 days' written notice of termination to Contractor, provided that the MOU shall be not terminated if, prior to the expiration of such notice period, Contractor has cured the Material Adverse Change, or has undertaken and is diligently pursuing the cure of such Material Adverse Change or to attain such milestone.
8. Governing Law: This MOU shall be governed by, construed, and enforced in accordance with the laws of the Commonwealth of Massachusetts. Both Parties agree to submit to the jurisdiction of the state and federal courts in the Commonwealth of Massachusetts to resolve any disputes or disagreements that may arise under any provision of this MOU.
9. Complete Agreement: This MOU, and the Attachments and incorporated herein, constitute a total agreement of the Parties and supersede all prior agreements and understandings between the Parties, and may not be changed unless agreed upon in writing by both Parties.
10. Severability: In the event any provision of this MOU is found by a court of appropriate jurisdiction to be unlawful or invalid, the remainder of the MOU shall remain and continue in full force and effect.

IN WITNESS WHEREOF, the parties have executed this MOU as of the date last written below. For

the Contractor: _____ date _____

Appendix 5:

Model Investment Grade Audit Agreement

Please include a sample of an Investment Grade Audit Agreement you have entered into in the past.

Appendix 6:

Model Energy Management Services Agreement

Please include a sample of an Energy Management Service Agreement you have entered into in the past.

INSURANCE AND BOND REQUIREMENTS



The Contractor shall provide and maintain throughout the term of the Contract and any extension or renewal thereof the following insurance with companies that are authorized and licensed in the Commonwealth of Massachusetts to issue policies for the coverages and limits so required:

- a) Workers' Compensation Insurance as required by the laws of the Commonwealth of Massachusetts and employer's liability insurance in the amount of \$500,000/\$500,000/\$500,000.
- b) Commercial General Liability Insurance, \$1,000,000 each occurrence and \$2,000,000 aggregate limit. Commercial General Liability insurance shall include personal injury liability, products/completed operations liability and blanket contractual liability.
- c) Automobile Liability Insurance, covering all leased, owned, non-owned, and hired vehicles - Combined single limit of \$1,000,000.
- d) Excess Liability Insurance, Umbrella Form - \$1,000,000 each occurrence and \$2,000,000 aggregate, which shall be following form, providing coverage over commercial general liability insurance, automobile liability insurance, and employer's liability under workers' compensation insurance.

The City of Quincy shall be named as an additional insured on each such policy of Commercial General Liability Insurance, Excess Liability Insurance, Umbrella Form, and Automobile Liability Insurance.

All certificates and policies shall contain the following provision: "Notwithstanding any other provision herein, should any of the above policies be cancelled or materially amended before the expiration date thereof, the issuing company will mail thirty (30) days prior written notice thereof to the named certificate holder and to the Customer, before such cancellation or amendment shall take place."

Certificates evidencing such insurance shall be furnished to the Customer at the execution of this Contract. Such certificates shall not just name the types of policy provided, but shall specifically refer to this Contract and shall state that such insurance is as required by this Contract. The Contractor shall make no claims against the Customer or its officers for any injury to any of its officers or employees or for damage to its equipment arising out of work contemplated by the Contract.

The Contractor shall also be required to provide to the Customer with its proof of insurance coverage endorsements or riders to the policies of commercial general liability insurance, automobile liability insurance, and excess liability insurance, umbrella form, which indicate that the Customer is named as an additional insured on each such policy.

No insurance shall be obtained from an insurer which: (1) is not licensed to sell insurance in the Commonwealth of Massachusetts; (2) is not authorized to provide insurance as an excess or surplus lines insurer, and does not have a current Best's rating of A or better; or (3) is a risk retention group lawfully providing insurance to its members in Massachusetts.

Failure to provide and continue in force such insurance as aforesaid shall be deemed a material breach of this Contract and shall operate as an immediate termination thereof.

Contractor Authorized Signature Verification Form



Corporations

1. **Authorization.** Attach a copy of a board of director's corporate resolution that each signatory is authorized to execute contracts and other documents and legally bind the corporation, **AND**
2. **Notarization.** Attach a notarized copy of each signatory's signature.

Partnership, Joint Venture or other non-corporate Entities

1. **Authorization.** Attach documentation for each signatory of authorization to execute contracts and other documents and legally bind the partnership or other non-corporate entity, **AND**
2. **Notarization.** Attach a notarized copy of each signatory's signature.

Individual/Proprietorship

1. **Official Sample of Signature.** Attach a copy of a driver's license, social security card or other acceptable official form or identification containing the authorized signatory's signature, **AND**
2. **Notarization.** Attach a notarized copy of each signatory's signature.

THIS SECTION MAY BE USED FOR NOTARIZATION

SIGNATURE: (as it will appear on documents)

PRINTED NAME:

PRINTED TITLE:

DATE:

On this _____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document in my presence.

(official signature and seal of notary)



Certificate of Non-Collusion

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

(Name of Respondent)

(Address of Respondent)

(Telephone Number)

By: _____
(Signature)

(Printed Name)

(Printed Title)

(DATE)



Certificate of Tax Compliance

Pursuant to Massachusetts General Laws (MGL) c. 62C, § 49A, I certify under the penalties of perjury that the Respondent named below has complied with all laws of the Commonwealth of Massachusetts pertaining to the payment of taxes, to the reporting of employees and contractors, and to the withholding and remitting of child support.

(1) Individual Contract

(Contractor's Name and Signature)

Social Security Number

(2) Corporation, Association
or Partnership

(Contractor's Name)

Federal Tax ID Number, or
Social Security Number

(Authorized Signature)

(DATE)



Affirmative Action Plan Form

IN WITNESS WHEREOF, the undersigned certifies that, under the pains and penalties of perjury, pursuant to Executive Orders 227 and 246, as an employer it is committed to non-discrimination in employment and if awarded this contract shall also be committed to procure commodities, services and supplies from certified minority and women-owned business enterprises, businesses owned by individuals with disabilities and businesses owned and controlled by socially or economically disadvantaged individuals, both in the performance of contracts with the Commonwealth of Massachusetts and in the performance of its business generally.

(Name of Respondent)

(Address of Respondent)

(Telephone Number)

By: _____
(Signature)

(Printed Name)

(Printed Title)

(DATE)

Indemnity Agreement Certification



In consideration of the award of Contract No. _____

by the City of Quincy, hereinafter referred to as INDEMNITEE, to the CONTRACTOR/BIDDER:

hereinafter referred to as INDEMNITOR, and for other good and valuable consideration, said INDEMNITOR agrees to hold INDEMNITEE, City of Quincy, and its various department and employees harmless from any and all liability, loss or damage that INDEMNITEE may suffer as the result of claims, demands, costs, including attorney's fees, or judgement or other actions against it by reason of any and all work done by or on behalf of the INDEMNITOR in connection with the above-referenced contract.

(Indemnitor/Respondent)

(Address of Respondent)

(Telephone Number)

By: _____
(Signature)

(Printed Name)

(Printed Title)

(DATE)



Certificate of Compliance with MGL c. 151B

The Respondent hereby certifies that it is in compliance with and shall remain in compliance with Massachusetts General Laws (M.G.L.) Chapter 151B and shall not discriminate on any prohibited basis outlined therein. The Respondent also hereby certifies that it shall comply with any and all applicable State Office of Minority and Women Business Enterprise Assistance (SOMWBA) thresholds that have been established in conjunction with this Request for Proposals.

(Name of Respondent)

(Address of Respondent)

(Telephone Number)

By: _____
(Signature)

(Printed Name)

(Printed Title)

(DATE)



Certificate of Non-Debarment

The Proposer hereby certifies that it is presently not debarred, suspended, or otherwise prohibited from practice by any federal, state, or local agency, and that, should any proceeding arise in which it is debarred, suspended, or otherwise prohibited from practice by any federal, state, or local agency, the Proposer shall inform the City of Quincy within one (1) business day of such debarment, suspension, or prohibition from practice.

(Name of Respondent)

(Address of Respondent)

(Telephone Number)

By: _____
(Signature)

(Printed Name)

(Printed Title)

(DATE)

Informational and Reference Standards

1. American National Standards Institute (ANSI)
 - i. ANSI C63.4-2001. Standards for Methods of Measurement of Radio-Frequency Electromagnetic Interference Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9kHz to 40GHz
 - ii. ANSI C136.2-2004 (R2009), American National Standard for Roadway and Area Lighting Equipment—Luminaire Voltage Classification
 - iii. ANSI C136.3-2005, American National Standard for Roadway and Area Lighting Equipment—Luminaire Attachments
 - iv. ANSI C136.10-2006, American National Standard for Roadway Lighting Equipment - Locking-Type Photocontrol Devices and Mating Receptacle Physical and Electrical Interchangeability and Testing
 - v. ANSI C136.13-2004, Roadway and Area Lighting Equipment - Metal Brackets for Wood Poles
 - vi. ANSI C136.14-2004, American National Standard for Roadway and Area Lighting Equipment - Elliptically Shaped, Enclosed Side-Mounted Luminaires for Horizontal-Burning High-Intensity Discharge (HID) Lamps
 - vii. ANSI C136.16-2009, American National Standard for Roadway and Area Lighting Equipment—Enclosed Post Top-mounted Luminaires
 - viii. ANSI C136.21-2004, American National Standard for Roadway and Area Lighting Equipment—Vertical Tenons Used with Post Top-mounted Luminaires
 - ix. ANSI C136.25-2009, American National Standard for Roadway and Area Lighting Equipment – Ingress Protection (Resistance to Dust, Solid Objects and Moisture) for Luminaire Enclosures
 - x. ANSI C136.31-2001, American National Standard for Roadway Lighting Equipment – Luminaire Vibration
 - xi. ANSI C136.32-2006, American National Standard for Roadway and area lighting equipment - enclosed setback luminaires and directional floodlights for high-intensity discharge lamps
2. American Society for Testing and Materials International (ASTM)
 - i. ASTM B117-97 – Standard Practice for Operating Salt Spray (Fog) Apparatus
 - ii. ASTM G53 – Standard Practice for Operating Light and Water Exposure Apparatus (Fluorescent UV – Condensation Type) for Exposure of Nonmetallic Materials
3. Illuminating Engineering Society of North America (IESNA)
 - i. DG-4-03, Design Guide for Roadway Lighting Maintenance
 - ii. LM-63-1995. IESNA Established Test Procedure for Equivalence.
 - iii. LM-79-08, IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products
 - iv. LM-80-08, IESNA Approved Method for Measuring Lumen Maintenance of LED Light Sources
 - v. RP-8-00, ANSI / IESNA American National Standard Practice for Roadway Lighting
 - vi. RP-16-05 and addenda, "Nomenclature and Definitions for Illuminating Engineering"
 - vii. TM-3-95, A Discussion of Appendix E - "Classification of Luminaire Lighting Distribution," from ANSI/IESNA RP-8-83

Informational and Reference Standards

- viii. TM-15-07, "Luminaire Classification System for Outdoor Luminaires"
- ix. TM-15-07 Addendum A, "Backlight, Uplight, and Glare (BUG) Ratings"
- 4. National Electrical Manufacturers Association (NEMA)
 - i. ANSI/NEMA/ANSI C78.377-2008 – American National Standard for the Chromaticity of Solid State Lighting Products
- 5. National Fire Protection Association (NFPA)
 - i. NFPA 70 – National Electrical Code (NEC)
- 6. Underwriters Laboratories (UL)
 - i. UL 1012 Power Units Other Than Class 2
 - ii. UL 1310 Class 2 Power Units
 - iii. UL 1449, Surge Protective Devices
 - iv. UL 1598, Luminaires
 - v. UL 2108 Low Voltage Lighting Systems
 - vi. UL 8750 Light-Emitting Diode (LED) Light Sources for Use in Lighting Products
- 7. IP Rating
- 8. FCC 47 CFR (Consumer Emission Limit)

Informational and Reference Standards

LED Luminaire Requirements	
Correlated Color Temperature (CCT)	CCT shall be 4,300 +/- 300 nominal CCT. Color shift during L70 period shall be less than 5%. Acceptable LM80 test results must be provided.
Color Rendering Index (CRI)	Luminaires shall have a minimum CRI of 70.
Off-state Power Consumption	The power draw of the luminaire (included PE or remote control devices) shall not exceed 0.50 (one half) watts when in the off state.
On-state Power Consumption	The LM79 test shall exceed 69 lumens per watt at ~700mA, 75 lumens per watt at ~525 mA, and 78 lumens per watt at ~350 mA.
Warranty	The warranty shall provide for the full replacement of the entire lamp (LED) system exclusive of lamp post due to any failure for a minimum of seven (7) years. Warranties shall include all labor up to \$50 per unit, materials and equipment necessary to address the deficiency, including field replacement.
Operating Environment	Luminaire shall be able to operate normally in temperatures from -20°C to 50°C, and have a documented history of successful trials in a climate similar to that of Boston, Massachusetts.
Cooling System	Shall consist of a heat sink with no fans, pumps, or liquids, and shall be tested for heat management with debris to ensure buildup does not degrade heat dissipation such that the light operates outside of its design life performance parameters.
Dimensions (Approx.)	For fixtures to be mounted on mast arms longer than 5 feet long, when any single dimension is more than 10 percent greater than the fixture being replaced, a Wind Load analysis, stamped by an appropriately registered Engineer, shall be provided to prove the existing pole can accommodate the Wind Loading of the proposed fixture.
Housing	Shall be primarily constructed of metal. Finish shall be gray in color, powder coated and rust resistant. Finish shall have a warranty of not less than 7 years. Fixture shall be self-cleaning. Driver must be mounted internally and be replaceable. Driver must be accessible without tools. All screws shall be stainless steel. Captive screws are needed on any components that require maintenance after installation. No housing parts shall be constructed of polycarbonate (not this does not include optical components but does include all other housing components). Driver and optical systems will be IP rated to not less than 66. Housing must have a rating of 54 (small drain holes on the bottom of the fixture are acceptable) or better and the mounting point must have an installed barrier to restrict entry of birds and bugs.
Dark Sky Compliance	Fixtures shall comply with International Dark Sky Association

Informational and Reference Standards

	guidelines, and have a BUG rating B1-U1-G1 per IES Addendum TM 15-07. Fixtures shall be fully shielded and installed in such a way that no light is emitted above a horizontal plane running through the lowest part of the fixture.
Certification	Entire fixture including internal components, and as a whole unit, shall be UL certified, CSA International certified, or equivalent.
Mounting Arm Connection	Cobrahead fixtures shall mount on 1 5/8 to 2 3/8 O.D. horizontal tenon with no more than four 9/16-in hex bolts and two piece clamp with vertical tilt adjustment range of +/- 5%. Effective Projected Area (EPA) of luminaire shall not exceed 1.6 and shall withstand 100 MPH wind gusts when mounted on a standard 6' steel mounting bracket arm without additional reinforcement.
PE Cell Receptacle	Luminaires shall have a 3-prong twist-lock photo-control receptacle in accordance with ANSI C136.10 such as the Fischer Dark to Light (DTL). The PE socket shall be able to rotate so that the PE window can be positioned to face the north direction. Photocells will be supplied with units.
House Shield	Shall provide option for house side light control, both field installable and manufacturer installed.
Experience	Manufacturer of fixture must have shipped a minimum of 5,000 units similar to the ones being sold within the past year and must provide shipping documents including where from and to and contact information. Company must have been in business for not less than ten years and have a financial strength and business history that in the sole opinion of the Awarding Authority indicates their ability to be in business and to honor the warranty through its full term. The City reserves the right to require a warranty bond be posted for the full value of the contract.
LED Module/Array Requirements	
Lumen Depreciation of LED Light Sources	LED module(s)/array(s) shall deliver at least 70% of initial lumens, when installed for a minimum of 70,000 hours. Submit lumen depreciation (operating life) data for each luminaire supported by the LED chip manufacturers' IESNA LM80 test data that directly correlates to luminaire level performance. Submit certified photometric reports per IESNA LM79 from an approved Department of Energy Independent testing laboratory to validate manufacturer's photometric performance claims for each luminaire.
Power Factor	Shall have a minimum Power Factor of 0.90
Input Voltage	Shall be standard for multi voltage input from 120 volts to 277 volts.
Max amperage at LED	Shall conform to the following: 1) Step increments on current to the driver: ~350 mA (with option of ~525 mA and ~700 mA)

Informational and Reference Standards

	<p>OR</p> <p>2) Driver adjustment for multi-current input operation: Standard factory for Equivalent Replacement of 70 W HPS and 100 W HPS shall be 350 mA, 525 mA, and 700 mA as delivered from the factory. Adjustment shall not exceed 1000 mA. L70 shall not be below 70,000 for the highest operating forward current.</p> <p>OR</p> <p>3) Fixtures using the smaller chip and operating at lower forward currents or alternate step currents will also be considered so long as the output requirements are met for equivalent light on the roadway.</p>
Transient Protection	Per IEEE C.62.41-1991, Class A operation. The line transient shall consist of seven strikes of a 100K HZ ring wave, 6 kV level, for both common mode and differential mode.
Operating Temperature	Power Supply shall operate between -20°C and 50°C.
Frequency	Output operating frequency must be ≥ 120 Hz (to avoid visible flicker) and input operating frequency of 60 Hz.
Interference	Power supplies shall meet FCC 47 CFR Part 15/18 (Consumer Emission Limits).
Noise	Power Supply shall have a Class A sound rating per ANSI Standard C63.4.
Terminal Block	Shall be capable of #12 to #6 AWG.
LED Roadway Application Requirements	
Minimum Light Output	<p>The 0.2 fc contour line, measured parallel to the luminaire arm on the street side of the fixture, shall fall within +/- 10 percent from the equivalent fixture selected for each location in the lighting plan.</p> <p>The 0.2 fc contour line, measured parallel to the luminaire arm on the house side of the fixture, shall fall no less than 20 percent nor more than 5 percent from the equivalent fixture selected for each location in the lighting plan.</p>
Luminaire Efficacy	Luminaire Light Output (includes fixture efficiency and thermal effects), Luminaire Input Power shall meet DOE Energy Star Criteria.
Minimum Luminaire Efficacy	72 lm/W at 350 mA and 62 lm/W at all operating temperatures and forward currents.

D. Referenced Standards

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



**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 Quincy Purchasing Department
Contract Number: _____ **City/Town:** QUINCY
Description of Work: LED replacement of street lights and other outdoor lighting
Job Location: City Wide

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

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

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

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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
BRICKLAYERS LOCAL 3 (QUINCY)	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 Quincy

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 <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"						
CAISSON & UNDERPINNING BOTTOM MAN <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2015	\$36.45	\$7.45	\$13.75	\$0.00	\$57.65
	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 <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"						
CAISSON & UNDERPINNING TOP MAN <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"						
CARBIDE CORE 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"						
CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i>	03/01/2015	\$35.75	\$9.80	\$16.48	\$0.00	\$62.03

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CARPENTER - Zone 2 Eastern MA

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.88	\$9.80	\$1.63	\$0.00	\$29.31
2	60	\$21.45	\$9.80	\$1.63	\$0.00	\$32.88
3	70	\$25.03	\$9.80	\$11.59	\$0.00	\$46.42
4	75	\$26.81	\$9.80	\$11.59	\$0.00	\$48.20
5	80	\$28.60	\$9.80	\$13.22	\$0.00	\$51.62
6	80	\$28.60	\$9.80	\$13.22	\$0.00	\$51.62
7	90	\$32.18	\$9.80	\$14.85	\$0.00	\$56.83
8	90	\$32.18	\$9.80	\$14.85	\$0.00	\$56.83

Notes:

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING BRICKLAYERS LOCAL 3 (QUINCY)	01/01/2016	\$46.44	\$10.90	\$18.71	\$1.30	\$77.35
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Apprentice - CEMENT MASONRY/PLASTERING - Eastern Mass (Quincy)

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 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"

CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES OPERATING ENGINEERS LOCAL 4	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"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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 2</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

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 <i>LABORERS - ZONE 1</i>	12/01/2015	\$35.50	\$7.45	\$13.55	\$0.00	\$56.50
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For apprentice rates see "Apprentice- LABORER"

DEMO: BACKHOE/LOADER/HAMMER OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2015	\$36.50	\$7.45	\$13.55	\$0.00	\$57.50
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For apprentice rates see "Apprentice- LABORER"

DEMO: BURNERS <i>LABORERS - ZONE 1</i>	12/01/2015	\$36.25	\$7.45	\$13.55	\$0.00	\$57.25
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For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 1</i>	12/01/2015	\$36.50	\$7.45	\$13.55	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2015	\$36.25	\$7.45	\$13.55	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 1</i>	12/01/2015	\$35.50	\$7.45	\$13.55	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						
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
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$63.06	\$9.80	\$19.23	\$0.00	\$92.09
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$88.23	\$9.80	\$19.23	\$0.00	\$117.26
DRAWBRIDGE OPERATOR (Construction) <i>ELECTRICIANS LOCAL 103</i>	09/01/2015	\$45.67	\$13.00	\$15.89	\$0.00	\$74.56
	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>	09/01/2015	\$45.67	\$13.00	\$15.89	\$0.00	\$74.56
	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56

Apprentice - ELECTRICIAN - Local 103

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.27	\$13.00	\$0.55	\$0.00	\$31.82
2	40	\$18.27	\$13.00	\$0.55	\$0.00	\$31.82
3	45	\$20.55	\$13.00	\$11.86	\$0.00	\$45.41
4	45	\$20.55	\$13.00	\$11.86	\$0.00	\$45.41
5	50	\$22.84	\$13.00	\$12.23	\$0.00	\$48.07
6	55	\$25.12	\$13.00	\$12.58	\$0.00	\$50.70
7	60	\$27.40	\$13.00	\$12.95	\$0.00	\$53.35
8	65	\$29.69	\$13.00	\$13.32	\$0.00	\$56.01
9	70	\$31.97	\$13.00	\$13.69	\$0.00	\$58.66
10	75	\$34.25	\$13.00	\$14.06	\$0.00	\$61.31

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	01/01/2016	\$54.53	\$14.43	\$14.96	\$0.00	\$83.92
ELEVATOR CONSTRUCTORS LOCAL 4	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	\$41.38	\$10.00	\$14.55	\$0.00	\$65.93
	11/01/2016	\$41.97	\$10.00	\$14.55	\$0.00	\$66.52
	05/01/2017	\$42.85	\$10.00	\$14.55	\$0.00	\$67.40
	11/01/2017	\$43.58	\$10.00	\$14.55	\$0.00	\$68.13
	05/01/2018	\$44.29	\$10.00	\$14.55	\$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	\$42.82	\$10.00	\$14.55	\$0.00	\$67.37
	11/01/2016	\$43.42	\$10.00	\$14.55	\$0.00	\$67.97
	05/01/2017	\$44.31	\$10.00	\$14.55	\$0.00	\$68.86
	11/01/2017	\$45.04	\$10.00	\$14.55	\$0.00	\$69.59
	05/01/2018	\$45.76	\$10.00	\$14.55	\$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	\$22.23	\$10.00	\$14.55	\$0.00	\$46.78
	11/01/2016	\$22.58	\$10.00	\$14.55	\$0.00	\$47.13
	05/01/2017	\$23.11	\$10.00	\$14.55	\$0.00	\$47.66
	11/01/2017	\$23.53	\$10.00	\$14.55	\$0.00	\$48.08
	05/01/2018	\$23.96	\$10.00	\$14.55	\$0.00	\$48.51
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	09/01/2015	\$45.67	\$13.00	\$15.89	\$0.00	\$74.56
	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 LOCAL 103</i>	09/01/2015	\$34.25	\$13.00	\$14.06	\$0.00	\$61.31
	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>	09/01/2015	\$41.59	\$9.80	\$17.53	\$0.00	\$68.92

Apprentice - FLOORCOVERER - Local 2168 Zone 1

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.80	\$9.80	\$1.79	\$0.00	\$32.39
2	55	\$22.87	\$9.80	\$1.79	\$0.00	\$34.46
3	60	\$24.95	\$9.80	\$12.16	\$0.00	\$46.91
4	65	\$27.03	\$9.80	\$12.16	\$0.00	\$48.99
5	70	\$29.11	\$9.80	\$13.95	\$0.00	\$52.86
6	75	\$31.19	\$9.80	\$13.95	\$0.00	\$54.94
7	80	\$33.27	\$9.80	\$15.74	\$0.00	\$58.81
8	85	\$35.35	\$9.80	\$15.74	\$0.00	\$60.89

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 2)</i>	01/01/2016	\$39.01	\$7.85	\$16.10	\$0.00	\$62.96
	07/01/2016	\$39.96	\$7.85	\$16.10	\$0.00	\$63.91
	01/01/2017	\$40.91	\$7.85	\$16.10	\$0.00	\$64.86

Apprentice - GLAZIER - Local 35 Zone 2

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.51	\$7.85	\$0.00	\$0.00	\$27.36
2	55	\$21.46	\$7.85	\$3.66	\$0.00	\$32.97
3	60	\$23.41	\$7.85	\$3.99	\$0.00	\$35.25
4	65	\$25.36	\$7.85	\$4.32	\$0.00	\$37.53
5	70	\$27.31	\$7.85	\$14.11	\$0.00	\$49.27
6	75	\$29.26	\$7.85	\$14.44	\$0.00	\$51.55
7	80	\$31.21	\$7.85	\$14.77	\$0.00	\$53.83
8	90	\$35.11	\$7.85	\$15.44	\$0.00	\$58.40

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.98	\$7.85	\$0.00	\$0.00	\$27.83
2	55	\$21.98	\$7.85	\$3.66	\$0.00	\$33.49
3	60	\$23.98	\$7.85	\$3.99	\$0.00	\$35.82
4	65	\$25.97	\$7.85	\$4.32	\$0.00	\$38.14
5	70	\$27.97	\$7.85	\$14.11	\$0.00	\$49.93
6	75	\$29.97	\$7.85	\$14.44	\$0.00	\$52.26
7	80	\$31.97	\$7.85	\$14.77	\$0.00	\$54.59
8	90	\$35.96	\$7.85	\$15.44	\$0.00	\$59.25

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>	09/01/2015	\$45.67	\$13.00	\$15.89	\$0.00	\$74.56
	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56

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>	09/01/2015	\$49.69	\$9.70	\$16.89	\$0.00	\$76.28
	03/01/2016	\$50.69	\$9.70	\$16.89	\$0.00	\$77.28
	09/01/2016	\$51.69	\$9.70	\$16.89	\$0.00	\$78.28
	03/01/2017	\$52.69	\$9.70	\$16.89	\$0.00	\$79.28
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537</i>	09/01/2015	\$49.69	\$9.70	\$16.89	\$0.00	\$76.28
	03/01/2016	\$50.69	\$9.70	\$16.89	\$0.00	\$77.28
	09/01/2016	\$51.69	\$9.70	\$16.89	\$0.00	\$78.28
	03/01/2017	\$52.69	\$9.70	\$16.89	\$0.00	\$79.28
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 1</i>	12/01/2015	\$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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (BOSTON AREA)</i>	09/16/2015	\$42.40	\$7.80	\$20.85	\$0.00	\$71.05
	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

Apprentice - IRONWORKER - Local 7 Boston

Effective Date - 09/16/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$25.44	\$7.80	\$20.85	\$0.00	\$54.09
2	70	\$29.68	\$7.80	\$20.85	\$0.00	\$58.33
3	75	\$31.80	\$7.80	\$20.85	\$0.00	\$60.45
4	80	\$33.92	\$7.80	\$20.85	\$0.00	\$62.57
5	85	\$36.04	\$7.80	\$20.85	\$0.00	\$64.69
6	90	\$38.16	\$7.80	\$20.85	\$0.00	\$66.81

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

Notes:

** Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:**

JACKHAMMER & PAVING BREAKER 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"

LABORER <i>LABORERS - ZONE 1</i>	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 <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"

OILER (OTHER THAN TRUCK CRANES,GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$22.27	\$10.00	\$14.90	\$0.00	\$47.17
	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) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$26.08	\$10.00	\$14.90	\$0.00	\$50.98
	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 <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"

PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE 2</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

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	\$40.41	\$7.85	\$16.10	\$0.00	\$64.36
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2	07/01/2016	\$41.36	\$7.85	\$16.10	\$0.00	\$65.31
	01/01/2017	\$42.31	\$7.85	\$16.10	\$0.00	\$66.26

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - New

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.21	\$7.85	\$0.00	\$0.00	\$28.06
2	55	\$22.23	\$7.85	\$3.66	\$0.00	\$33.74
3	60	\$24.25	\$7.85	\$3.99	\$0.00	\$36.09
4	65	\$26.27	\$7.85	\$4.32	\$0.00	\$38.44
5	70	\$28.29	\$7.85	\$14.11	\$0.00	\$50.25
6	75	\$30.31	\$7.85	\$14.44	\$0.00	\$52.60
7	80	\$32.33	\$7.85	\$14.77	\$0.00	\$54.95
8	90	\$36.37	\$7.85	\$15.44	\$0.00	\$59.66

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.68	\$7.85	\$0.00	\$0.00	\$28.53
2	55	\$22.75	\$7.85	\$3.66	\$0.00	\$34.26
3	60	\$24.82	\$7.85	\$3.99	\$0.00	\$36.66
4	65	\$26.88	\$7.85	\$4.32	\$0.00	\$39.05
5	70	\$28.95	\$7.85	\$14.11	\$0.00	\$50.91
6	75	\$31.02	\$7.85	\$14.44	\$0.00	\$53.31
7	80	\$33.09	\$7.85	\$14.77	\$0.00	\$55.71
8	90	\$37.22	\$7.85	\$15.44	\$0.00	\$60.51

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	01/01/2016	\$38.47	\$7.85	\$16.10	\$0.00	\$62.42
PAINTERS LOCAL 35 - ZONE 2	07/01/2016	\$39.42	\$7.85	\$16.10	\$0.00	\$63.37
	01/01/2017	\$40.37	\$7.85	\$16.10	\$0.00	\$64.32

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.24	\$7.85	\$0.00	\$0.00	\$27.09
2	55	\$21.16	\$7.85	\$3.66	\$0.00	\$32.67
3	60	\$23.08	\$7.85	\$3.99	\$0.00	\$34.92
4	65	\$25.01	\$7.85	\$4.32	\$0.00	\$37.18
5	70	\$26.93	\$7.85	\$14.11	\$0.00	\$48.89
6	75	\$28.85	\$7.85	\$14.44	\$0.00	\$51.14
7	80	\$30.78	\$7.85	\$14.77	\$0.00	\$53.40
8	90	\$34.62	\$7.85	\$15.44	\$0.00	\$57.91

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.71	\$7.85	\$0.00	\$0.00	\$27.56
2	55	\$21.68	\$7.85	\$3.66	\$0.00	\$33.19
3	60	\$23.65	\$7.85	\$3.99	\$0.00	\$35.49
4	65	\$25.62	\$7.85	\$4.32	\$0.00	\$37.79
5	70	\$27.59	\$7.85	\$14.11	\$0.00	\$49.55
6	75	\$29.57	\$7.85	\$14.44	\$0.00	\$51.86
7	80	\$31.54	\$7.85	\$14.77	\$0.00	\$54.16
8	90	\$35.48	\$7.85	\$15.44	\$0.00	\$58.77

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	\$39.01	\$7.85	\$16.10	\$0.00	\$62.96
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2	07/01/2016	\$39.96	\$7.85	\$16.10	\$0.00	\$63.91
	01/01/2017	\$40.91	\$7.85	\$16.10	\$0.00	\$64.86

Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.51	\$7.85	\$0.00	\$0.00	\$27.36
2	55	\$21.46	\$7.85	\$3.66	\$0.00	\$32.97
3	60	\$23.41	\$7.85	\$3.99	\$0.00	\$35.25
4	65	\$25.36	\$7.85	\$4.32	\$0.00	\$37.53
5	70	\$27.31	\$7.85	\$14.11	\$0.00	\$49.27
6	75	\$29.26	\$7.85	\$14.44	\$0.00	\$51.55
7	80	\$31.21	\$7.85	\$14.77	\$0.00	\$53.83
8	90	\$35.11	\$7.85	\$15.44	\$0.00	\$58.40

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.98	\$7.85	\$0.00	\$0.00	\$27.83
2	55	\$21.98	\$7.85	\$3.66	\$0.00	\$33.49
3	60	\$23.98	\$7.85	\$3.99	\$0.00	\$35.82
4	65	\$25.97	\$7.85	\$4.32	\$0.00	\$38.14
5	70	\$27.97	\$7.85	\$14.11	\$0.00	\$49.93
6	75	\$29.97	\$7.85	\$14.44	\$0.00	\$52.26
7	80	\$31.97	\$7.85	\$14.77	\$0.00	\$54.59
8	90	\$35.96	\$7.85	\$15.44	\$0.00	\$59.25

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2016	\$37.07	\$7.85	\$16.10	\$0.00	\$61.02
PAINTERS LOCAL 35 - ZONE 2	07/01/2016	\$38.02	\$7.85	\$16.10	\$0.00	\$61.97
	01/01/2017	\$38.97	\$7.85	\$16.10	\$0.00	\$62.92

Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.54	\$7.85	\$0.00	\$0.00	\$26.39
2	55	\$20.39	\$7.85	\$3.66	\$0.00	\$31.90
3	60	\$22.24	\$7.85	\$3.99	\$0.00	\$34.08
4	65	\$24.10	\$7.85	\$4.32	\$0.00	\$36.27
5	70	\$25.95	\$7.85	\$14.11	\$0.00	\$47.91
6	75	\$27.80	\$7.85	\$14.44	\$0.00	\$50.09
7	80	\$29.66	\$7.85	\$14.77	\$0.00	\$52.28
8	90	\$33.36	\$7.85	\$15.44	\$0.00	\$56.65

Effective Date - 07/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.01	\$7.85	\$0.00	\$0.00	\$26.86
2	55	\$20.91	\$7.85	\$3.66	\$0.00	\$32.42
3	60	\$22.81	\$7.85	\$3.99	\$0.00	\$34.65
4	65	\$24.71	\$7.85	\$4.32	\$0.00	\$36.88
5	70	\$26.61	\$7.85	\$14.11	\$0.00	\$48.57
6	75	\$28.52	\$7.85	\$14.44	\$0.00	\$50.81
7	80	\$30.42	\$7.85	\$14.77	\$0.00	\$53.04
8	90	\$34.22	\$7.85	\$15.44	\$0.00	\$57.51

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>	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

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

Apprentice - PIPEFITTER - Local 537

Effective Date - 09/01/2015

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

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$20.28	\$9.70	\$7.50	\$0.00	\$37.48
2	45	\$22.81	\$9.70	\$16.89	\$0.00	\$49.40
3	60	\$30.41	\$9.70	\$16.89	\$0.00	\$57.00
4	70	\$35.48	\$9.70	\$16.89	\$0.00	\$62.07
5	80	\$40.55	\$9.70	\$16.89	\$0.00	\$67.14

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:**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PIPELAYER <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"						
PLUMBERS & GASFITTERS <i>PLUMBERS & GASFITTERS LOCAL 12</i>	09/01/2015	\$50.46	\$10.82	\$15.14	\$0.00	\$76.42
	03/01/2016	\$51.61	\$10.82	\$15.14	\$0.00	\$77.57
	09/01/2016	\$52.66	\$10.82	\$15.14	\$0.00	\$78.62
	03/01/2017	\$53.66	\$10.82	\$15.14	\$0.00	\$79.62

Apprentice - PLUMBER/GASFITTER - Local 12

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$17.66	\$10.82	\$5.63	\$0.00	\$34.11
2	40	\$20.18	\$10.82	\$6.37	\$0.00	\$37.37
3	55	\$27.75	\$10.82	\$8.56	\$0.00	\$47.13
4	65	\$32.80	\$10.82	\$10.03	\$0.00	\$53.65
5	75	\$37.85	\$10.82	\$11.48	\$0.00	\$60.15

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$18.06	\$10.82	\$5.63	\$0.00	\$34.51
2	40	\$20.64	\$10.82	\$6.37	\$0.00	\$37.83
3	55	\$28.39	\$10.82	\$8.56	\$0.00	\$47.77
4	65	\$33.55	\$10.82	\$10.03	\$0.00	\$54.40
5	75	\$38.71	\$10.82	\$11.48	\$0.00	\$61.01

Notes:

** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr
Step4 with lic\$56.90 Step5 with lic\$63.40

Apprentice to Journeyworker Ratio:**

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

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

PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2015	\$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"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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"						
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 25b</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 25b</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.Roofers Waterproofing &Roofers 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 2	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 2

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>	01/01/2016	\$54.43	\$8.67	\$15.80	\$0.00	\$78.90
	03/01/2016	\$55.43	\$8.67	\$15.80	\$0.00	\$79.90
	10/01/2016	\$56.58	\$8.67	\$15.80	\$0.00	\$81.05
	03/01/2017	\$57.58	\$8.67	\$15.80	\$0.00	\$82.05

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 01/01/2016

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 - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$19.40	\$8.67	\$8.55	\$0.00	\$36.62
2	40	\$22.17	\$8.67	\$8.55	\$0.00	\$39.39
3	45	\$24.94	\$8.67	\$8.55	\$0.00	\$42.16
4	50	\$27.72	\$8.67	\$8.55	\$0.00	\$44.94
5	55	\$30.49	\$8.67	\$8.55	\$0.00	\$47.71
6	60	\$33.26	\$8.67	\$8.55	\$0.00	\$50.48
7	65	\$36.03	\$8.67	\$8.55	\$0.00	\$53.25
8	70	\$38.80	\$8.67	\$8.55	\$0.00	\$56.02
9	75	\$41.57	\$8.67	\$8.55	\$0.00	\$58.79
10	80	\$44.34	\$8.67	\$8.55	\$0.00	\$61.56

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>	09/01/2015	\$34.25	\$13.00	\$14.06	\$0.00	\$61.31
	03/01/2016	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$13.70	\$13.00	\$0.41	\$0.00	\$27.11
2	40	\$13.70	\$13.00	\$0.41	\$0.00	\$27.11
3	45	\$15.41	\$13.00	\$11.03	\$0.00	\$39.44
4	45	\$15.41	\$13.00	\$11.03	\$0.00	\$39.44
5	50	\$17.13	\$13.00	\$11.30	\$0.00	\$41.43
6	55	\$18.84	\$13.00	\$11.58	\$0.00	\$43.42
7	60	\$20.55	\$13.00	\$11.86	\$0.00	\$45.41
8	65	\$22.26	\$13.00	\$12.13	\$0.00	\$47.39
9	70	\$23.98	\$13.00	\$12.41	\$0.00	\$49.39
10	75	\$25.69	\$13.00	\$12.68	\$0.00	\$51.37

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

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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"						
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>	09/01/2015	\$50.46	\$10.82	\$15.14	\$0.00	\$76.42
	03/01/2016	\$51.61	\$10.82	\$15.14	\$0.00	\$77.57
	09/01/2016	\$52.66	\$10.82	\$15.14	\$0.00	\$78.62
	03/01/2017	\$53.66	\$10.82	\$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"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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.