

**TOWN OF WESTFORD, MASSACHUSETTS**

**REQUEST FOR BIDS**

**FOR**

**MICRO-SURFACING AND SURFACE  
TREATMENT**

**Contract 2016-HWY-005**



**Advertisement Date:  
March 23, 2016**

**HIGHWAY DEPARTMENT  
28 NORTH STREET  
WESTFORD, MASSACHUSETTS 01886  
978-692-5520**



## TOWN OF WESTFORD Highway Department

RICHARD J. BARRETT, JR.  
HIGHWAY SUPERINTENDENT

### **2016 HIGHWAY DEPARTMENT MATERIALS/SERVICES**

#### **2016-HWY-005 BID ITEM**

#### **MICRO-SURFACING AND SURFACE TREATMENT**

#### **INVITATION TO BID**

Town of Westford through the Town Manager's Office, hereinafter called the "Awarding Authority," or "Town" is requesting sealed bids for: Micro-Surfacing and Surface Treatment work to be performed as necessary under the direction of the Awarding Authority personnel at selected sites throughout the Town of Westford.

Bids will be received by the Town Manager's Office, Town Hall Building, 55 Main Street, Westford, Massachusetts 01886, on or before **Wednesday, April 6, 2016 at 11:00 AM**, at which time they will be publicly opened and read aloud.

Each bid shall be submitted in a SEALED ENVELOPE MARKED "**TOWN OF WESTFORD HIGHWAY DEPARTMENT 2016-HWY-005 BID ITEM - MICRO-SURFACING AND SURFACE TREATMENT**". Bidder must use specifications. The sealed bid must include all completed forms provided in the enclosed Bid Form in order to be considered a responsive bid. These forms include: Unit Price Bid Sheet, Statement of Tax Compliance/Non-Collusion, Certificate of Vote, Contractor Certification, OSHA Compliance and References. Awarded bidder will be required to sign the Town's standard contract (sample contract attached as Appendix A).

All bids must be accompanied by a Bid deposit in the amount of 5% of the total bid. This may be cash, certified check or bid bond, payable to the Town of Westford.

Bid specifications may be obtained at the Town Manager's Office, Town Hall Building, 55 Main Street, Westford, MA 01886 or electronically at: [www.westfordma.gov/bidlist](http://www.westfordma.gov/bidlist).

#### **GENERAL PROVISIONS**

All proposals are subject to Commonwealth of Massachusetts Department of Labor and Industry Rates, EEOC Regulations, OSHA regulations, and MGL Chapter 30B, Chapter 30 39M, and Chapter 149, Section 44A, where applicable. State Prevailing Wage Rates are attached in Appendix B. MBE and WBE contractors are encouraged to bid.

Quantities shown on bid sheets are approximate only and will be used for comparison of bids and to set amount of bid deposit. All bids shall be held firm from the award date for one full calendar year and may be extended for one or two additional years at the option of the Town of Westford.

At a minimum, all work shall be performed in compliance with MassDOT Standard Specifications for Highways and Bridges latest edition.

The Awarding Authority is exempt from sales and federal excise taxes to the extent permitted under law, proponents should not include such taxes in figuring or in reference to any bid.

### INSURANCE

The following types of insurance shall be provided by the successful bidder, hereinafter referred to as the Contractor:

- A. General Liability of at least \$1,000,000 Bodily Injury and Property Damage Liability, Combined Single Limit with a \$3,000,000 Annual Aggregate Limit. The Town should be named as an "Additional Insured".
- B. Products and Completed Operations should be maintained for up to 3 years after the completion of the project.
- C. Automobile Liability (applicable for any contractor who has an automobile operating exposure) of at least \$1,000,000 Bodily Injury and Property Damage per accident. The Town should be named as an "Additional Insured".
- D. Workers' Compensation Insurance as required by law.
- E. Property Coverage for materials and supplies being transported by the contractor, as the Town's Property Contract provides coverage for personal property within 1000 feet of the premises.
- F. Umbrella Liability of at least \$2,000,000/ occurrence, \$2,000,000/aggregate. The Town should be named as an Additional Insured.

The Contractor shall indemnify and save harmless the Town, all of its officers, agents and employees from all suits, actions or claims of any character.

All policies shall be so written that the Owner is co-insured with the Contractor for the full amounts stated above. Also, policies shall be so written that the Owner will be notified in writing of cancellation or restrictive amendments at least thirty (30) days prior to the effective date of such cancellation or amendments.

### PAYMENT BOND

A payment bond equal to 50% of the contract or equivalent will be required from the successful bidder.

### PRE-QUALIFICATION

The Contractor must be pre-qualified and on MassDOT list of approved contractors. All work under this contract must conform to M.G.L c.30. sec.39S OSHA Compliance.

## REFERENCES

The Contractor must submit with his bid proposal a list of three (3) municipal jobs, which he has successfully completed, giving the name and the address of these projects so they can be investigated prior to the award of the contract.

## RULE FOR AWARD

It is the intention of the Awarding Authority to award each individual bid item included in the Bid Sheets separately. A contract shall only be awarded to the responsive and responsible Contractor with the lowest unit bid price for the corresponding individual bid item solicited. The Awarding Authority reserves the right to waive any informality and in addition to reject any and all bids if deemed to be in the best interest of the Town to do so. Also, the Awarding Authority reserves the right to reject any Bid if it determines that such Bid does not represent the bid of a person competent to perform the Work as specified.

**BID FORM**  
**2016-HWY-005 BID ITEM – MICRO-SURFACING AND SURFACE TREATMENT**

**Includes the following:**

**Unit Price Bid Sheets**  
**Statement of Tax Compliance/Non-Collusion**  
**Certificate of Vote**  
**Contractor Certification**  
**OSHA Compliance**  
**References**

**BID FORM**  
**2016-HWY-005 BID ITEM – MICRO-SURFACING AND SURFACE TREATMENT**  
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**Method of Award**

To ensure contractor accountability, the Town of Westford intends to award all items to a single contractor. Accordingly, contractors must bid on all items of work, and the low bidder will be the contractor whose total bid price is the lowest. The bid quantities are not guarantee, and their primary purpose is for the determination of the low bidder.

**UNIT PRICE BID SHEET**

<u>Item</u>	<u>Bid Quantity</u>	<u>Bidder's Unit Price</u>	<u>Bid Total</u>
<b>Crack Sealing</b>			
Polymer & Crumb Rubber Modified with Fibers	5,000 gallons	\$ _____/gal.	\$ _____
<b>Conventional Microsurfacing (Type II)</b>			
Single Surface Course (1 Lift)	20,000 square yards	\$ _____/s.y.	\$ _____
Leveling & Surface Course (2 Lifts)	20,000 square yards	\$ _____/s.y.	\$ _____
Rutfilling	5,000 tons	\$ _____/ton	\$ _____
<b>HiMA (Type II)</b>			
Single Surface Course (1 Lift)	15,000 square yards	\$ _____/s.y.	\$ _____
Leveling & Surface Course (2 Lifts)	15,000 square yards	\$ _____/s.y.	\$ _____
Rutfilling	100 tons	\$ _____/ton	\$ _____
<b>Sweeping with Vacuum Broom Truck</b>	16 Hours	\$ _____/hr.	\$ _____
<b>Tack Coat</b>	2,000 gallons	\$ _____/gal.	\$ _____
<b>Pneumatic Roller with Operator</b>	3 days	\$ _____/day	\$ _____
<b>Cape Seal</b>			
Chip Seal & HiMA Micro	20,000 square yards	\$ _____/s.y.	\$ _____
Chip Seal & Conventional Micro	20,000 square yards	\$ _____/s.y.	\$ _____

<b>Polymer Modified Rejuvenating Fog Seal</b>	20,000 square yards	\$ _____/s.y.	\$ _____
<b>Hot Mix Leveling Course</b>	500 tons	\$ _____/ton	\$ _____
<b>Pavement Milling</b>	5,000 square yards	\$ _____/s.y.	\$ _____
<b>Adjust Catch Basin/Manhole Structures</b>	20 each	\$ _____/each	\$ _____
<b>Adjust Water Gates Box</b>	20 each	\$ _____/each	\$ _____

**GRAND TOTAL BID** \$ \_\_\_\_\_

**\*\*NO MINIMUM AMOUNT OF WORK IS GUARANTEED\*\***

**Estimated Quantities for Bid Purposes Only**

**BID FORM**  
**2016-HWY-005 BID ITEM - MICRO-SURFACING AND SURFACE TREATMENT**  
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\* Price Adjustment

This bid contains a Price Adjustment for bituminous concrete mixtures. The base price for liquid asphalt cement on this bid is \$ 385.00 per ton (as of March 15, 2016).

The contract price of hot mix asphalt mixture will be paid under the respective item in the contract. The Price Adjustment, upwards and downwards, will be made as work is performed, using the most recent monthly posted price as determined by the MassDOT. If a price is not posted as scheduled, the previously posted price will remain in effect until the next scheduled posting occurs.

The Price Adjustment will be a separate payment item. It will be determined by multiplying the number of tons of hot mix asphalt mixtures placed during each monthly period times the liquid asphalt content percentage times the variance in price between Base Price and Period Price of liquid asphalt. See Special Provisions – Liquid Asphalt Price Adjustment for further detail.

Bidder acknowledges receipt of the following addenda:

No. \_\_\_\_\_

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

No. \_\_\_\_\_

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

All bids shall be held firm from the award date for one full calendar year and may be extended for one or two additional years at the option of the Town of Westford.

All entries shall be made clearly in ink or typewritten.

The unit prices shall include all labor, materials, installation, overhead, profit, insurance, etc., to cover the complete type of work/service called for.

The Contractor understands that all bids for this project are subject to the applicable bidding laws of the Commonwealth of Massachusetts.

The Contractor understands that the OWNER reserves the right to reject any or all bids and to waive any informality in the bidding.

The Contractor agrees that this Bid shall be good and may not be withdrawn for a period of 30 days, Saturdays, Sundays and legal holidays excluded, after the opening of Bids.

**BID FORM**  
**2016-HWY-005 BID ITEM – MICRO-SURFACING AND SURFACE TREATMENT**  
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The undersigned hereby certifies that he/she is familiar with all conditions surrounding the proposed work and hereby proposes to furnish all labor materials, supplies and installation, and to perform the work in accordance with the documents, and at the unit prices stated. The undersigned also certifies that he will comply fully with all applicable laws and regulations.

**COMPANY NAME** \_\_\_\_\_

**ADDRESS** \_\_\_\_\_

**PHONE #** \_\_\_\_\_ **EMERGENCY #** \_\_\_\_\_ **FAX #** \_\_\_\_\_

**AUTHORIZED SIGNATURE** \_\_\_\_\_

**PRINT NAME AND TITLE** \_\_\_\_\_

**DATE** \_\_\_\_\_

**FEDERAL TAX ID#** \_\_\_\_\_

**BID FORM**  
**2016-HWY-005 BID ITEM – MICRO-SURFACING AND SURFACE TREATMENT**  
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**STATEMENT OF TAX COMPLIANCE/NON-COLLUSION**

As required under Chapter 233 and 701 of the Massachusetts Acts and Resolves of 1993, all bidders certify to the following, by signing this page in the space indicated below:

1. The undersigned certifies under the penalties of perjury that his bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this paragraph, the word person shall mean any natural business or legal entity.
  
2. Pursuant to M.G.L. C62C S49A, I certify under the penalties of perjury that I, to the best of my knowledge and belief, have filed all state tax returns and paid all state taxes required under law.

Social Security Number or Federal Tax Identification Number of

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

Date: \_\_\_\_\_

Name of Company: \_\_\_\_\_

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

\_\_\_\_\_

\_\_\_\_\_

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

Title: \_\_\_\_\_

**BID FORM**  
**2016-HWY-005 BID ITEM – MICRO-SURFACING AND SURFACE TREATMENT**  
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**CERTIFICATE OF VOTE**

I, \_\_\_\_\_, Clerk of \_\_\_\_\_, hereby certify that at a meeting of the Board of Directors of said Corporation duly held on \_\_\_\_\_, 20\_\_\_\_, at which a quorum was present (date must be earlier than contract)

and voting throughout, the following vote was duly passed and is now in full force and effect:

“VOTED: That \_\_\_\_\_  
(Name of Officer Authorized to Sign for Corporation)

be and hereby is authorized, directed an empowered for, in the name and on behalf of this Corporation to sign, seal with corporate seal, execute, acknowledge and deliver all contracts, bonds, and other obligations of this Corporation, the execution of any such contract, bond or obligation by such \_\_\_\_\_  
(Name of Officer)

to be valid and binding upon this Corporation for all purposes, and that a certificate of the Clerk of this Corporation setting forth this vote shall be delivered to the Town of Westford; and that this vote shall remain in full force and effect unless and until the same has been altered, amended or revoked by a subsequent vote of such directors and certificate of such later vote attested by the Clerk of this Corporation is delivered to the Town of Westford.”

I further certify that \_\_\_\_\_, is the duly  
(Name of Officer)  
elected \_\_\_\_\_ of said Corporation.  
(Title)

Signed: \_\_\_\_\_  
(Clerk-Secretary)

Place of Business: \_\_\_\_\_

Date of Contract: \_\_\_\_\_

In the event that the Clerk or Secretary is the same person as the Officer authorized to sign the contract or other instrument for the Corporation this certificate must be countersigned by another officer of the Corporation.

**BID FORM**  
**2016-HWY-005 BID ITEM – MICRO-SURFACING AND SURFACE TREATMENT**  
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**INSTRUCTIONS:**

Executive Order 481 applies to all state agencies in the Executive Branch, including all executive offices, boards, commissions, agencies, departments, divisions, councils, bureaus, and offices, now existing and hereafter established. As it is the policy of the Executive Branch to prohibit the use of undocumented workers in connection with the performance of state contracts, all contracts entered into after February 23, 2007 require that contractors, as a condition of receiving Commonwealth funds under any Executive Branch contract, make the following certification:

**CONTRACTOR CERTIFICATION:**

As evidenced by the signature of the Contractor's Authorized Signatory below, the Contractor certifies under the pains and penalties of perjury that the Contractor shall not knowingly use undocumented workers in connection with the performance of all Executive Branch contracts; that pursuant to federal requirements, the Contractor shall verify the immigration status of all workers assigned to such contracts without engaging in unlawful discrimination; and that the Contractor shall not knowingly or recklessly alter, falsify, or accept altered or falsified documents from any such worker(s). The Contractor understands and agrees that breach of any of these terms during the period of each contract may be regarded as a material breach, subjecting the Contractor to sanctions, including but not limited to monetary penalties, withholding of payments, contract suspension or termination.

\_\_\_\_\_ Date: \_\_\_\_\_  
Contractor Authorizing Signature

\_\_\_\_\_   
Print Name

Title: \_\_\_\_\_ Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_ Email: \_\_\_\_\_

The Contractor is required to sign this Certification only once and may provide a copy of the signed Certification for any contract executed with an Executive Branch Department. A copy of this signed Certification must be attached to the "record copy" of all contracts with this Contractor that are filed with the contracting Department.

**BID FORM**  
**2016-HWY-005 BID ITEM – MICRO-SURFACING AND SURFACE TREATMENT**  
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OSHA Compliance

The undersigned certifies under pains and penalties of perjury that all work pertaining to this bid is in compliance with M.G.L. c.30. sec. 39S as further described below;

Section 39S. (a) As used in this section the word “person” shall mean any natural person, joint venture, partnership corporation or other business or legal entity. Any person submitting a bid for, or signing a contract to work on, the construction, reconstruction, alteration, remodeling or repair of any public work by the Commonwealth, or political subdivision thereof, or by any county, city, town, district, or housing authority, and estimated by the awarding authority to cost more than \$10,000, and any person submitting a bid for, or signing a contract to work on, the construction, reconstruction, installation, demolition, maintenance or repair of any building by a public agency, estimated to cost more than \$10,000, shall certify on the bid, or contract, under penalties of perjury, as follows:

(1) that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (2) that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and (3) that all employees to be employed in the work subject to this bid have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration.

(b) Any employee found on a worksite subject to this section without documentation of successful completion of a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration shall be subject to immediate removal.

(c) The attorney general, or his designee, shall have the power to enforce this section including the power to institute and prosecute proceedings in the superior court to restrain the award of contracts and the performance of contracts in all cases where, after investigation of the facts, he has made a finding that the award or performance has resulted in violation, directly or indirectly, of subsection (b), and he shall not be required to pay to the clerk of the court an entry fee in connection with the institution of the proceeding.

\_\_\_\_\_  
(Signature of individual responsible)

\_\_\_\_\_  
(Name of Business)

**BID FORM**  
**2016-HWY-005 BID ITEM – MICRO-SURFACING AND SURFACE TREATMENT**  
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**REFERENCES**

<b>Contact Name</b>	<b>Contact Address</b>	<b>Contact Telephone #</b>	<b>Municipal Project (w/ Date Completed)</b>

**SPECIFICATIONS**

**2016-HWY-005 BID ITEM – MICRO-SURFACING AND SURFACE TREATMENT**

# COMPREHENSIVE PAVEMENT PRESERVATION BID SPECIFICATIONS

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**Item 1.**  
**RANDOM CRACK SEALING – POLYMER & CRUMB RUBBER MODIFIED (PCRM) ASPHALT  
COMPOUND WITH REINFORCING FIBERS**

**1. Description**

The work covered by this section of the specification consists of furnishing all plant, labor, equipment and materials necessary to perform all operations in connection with the cleaning and sealing of construction and random cracks in bituminous concrete pavements, including vegetation removal and sterilization of cracks, where necessary.

**2. Material**

Crack sealant shall be a modified asphalt-fiber compound designed specifically for improving the strength and performance of the parent asphalt sealant.

- a) **The asphalt binder** shall consist of a blend of neat asphalt binder, chemically modified crumb rubber (CMCR), and a polymer package, all of which meet the following specifications:
- The binder will meet PG 64-28E requirements after modification including:
    - PG grade requirements of AASHTO M320
    - Requirements of AASHTO TP70/MP19
  - Modification, at a minimum, shall consist of 7% crumb rubber, and the maximum particle size for the recycled tire rubber shall be 80 mesh (#80 sieve)
  - The asphalt supplier shall provide testing for both the neat and modified asphalt binders
  - See below for typical modified test results for 64-28E with crumb rubber:

DSR ORIGINAL

- kPa >1.00 @ 64° C. Fail temp = 76+° C

DSR RTFO

- kPa >2.20 @ 64° C. Fail temp = 76+° C

MSCR

- JNR (MSCR unit of measure): 3.2 E <0.5% @ 64° C
- R3200 (Average % Recovery): >70%

DSR PAV

- kPa <6000 @ 64° C

BBR

- Stiffness <300 @ -18° C. M-Value >0.300 @ -18° C

- b) **The fiber reinforcing materials** shall be short-length polyester fibers having the following properties:

Length*	0.25 in. ± 0.02 in.
Elongation at Break (ASTM D2256-90)	35% ± 3%
Melting Point (ASTM D3418-82)	>475°F (246°C)
Crimps/Inch (ASTM D3937-90)	None
Cross Section	Round
Denier (ASTM D1577-90)	4.5 Nominal dpf
Tensile Strength (ASTM D2256-90)	>70,000 psi
Diameter	0.0008 in. **
Specific Gravity (ASTM D792-91)	1.32 to 1.40

\* At temperatures ranging from ambient to maximum finished product mix temperature

\*\* Subject to Normal Variations

- c) **Modifying Compound:** The modified asphalt-fiber compound shall be mixed at a rate of 8% fiber weight to weight of asphalt cement. This compound having the same chemical base provides compatibility and exhibits excellent bond strengths. The fiber functions to re-distribute high stress and strain concentrations that are imposed on the sealant by thermal sources, traffic loading, etc.

### 3. Equipment

Equipment used in the performance of the work required by this section of the specification shall be subject to approval by the Owner, and maintained in a satisfactory working condition at all times.

- a) **Air Compressor:** Air compressors shall be capable of furnishing not less than 100 cubic feet of air per minute at not less than 90 lbs. per square inch pressure at the nozzle. The compressor shall be equipped with traps that will maintain the compressed air free of oil and water.
- b) **Broom or Sweeper:** Manually operated, gas powered air-broom or self-propelled sweeper designed especially for use in cleaning highway and airfield pavements shall be used to remove debris, dirt and dust from the cracks.
- c) **Melter:** The unit used to melt or maintain the crack sealant compound at the recommended application temperature shall be the indirect fired type. It shall be equipped with a remote heat exchanger and hot oil circulation pump capable of maintaining a consistent temperature of the heat transfer oil. The heat transfer oil shall be circulated to all sides and the bottom of the vat containing the crack sealant compound making a continuous loop back to the heat exchanger and having a flash point of not less than 600°F. The melter shall be equipped with a satisfactory means of agitating the crack sealant at all times. This may be accomplished by continuous stirring with mechanically operated paddles and/or by a circulating gear pump attached to the melter. The melter must be equipped with a thermostatic control calibrated between 200°F and 550°F, and must be capable of pumping an 8% fiber content blend.

#### 4. Preparation of Cracks

- a) **Debris and Vegetation Removal:** All cracks shall be blown clean and sterilized by use of a propane air torch generating 2,000°F and 3,000' feet/second velocity to eliminate all vegetation, dirt, moisture and seeds. All debris removed from the cracks shall be removed
- b) **General:** No crack sealant material shall be applied in wet cracks or where frost, snow or ice is present; or when the ambient temperature is below 25°F.

#### 5. Preparation and Placement of Sealant

- a) The asphalt-fiber compound shall be thoroughly mixed for a minimum of one hour before application can begin. To ensure a uniform fiber distribution in the sealant, and also to limit fluctuations in the application temperature of the blended material, the Contractor must have a full melter kettle of sealant mixed, heated to the proper application temperature, and ready for testing at the start of each work day. Once that batch of sealant is emptied from the melter kettle, crack sealing operations will cease for the remainder of the day. No new materials will be allowed to be added to the melter kettle during the work day under any circumstances. Minimum application temperature shall be 320°F.
- b) Sealant shall be delivered to the pavement cracks through a high pressure hose line and applicator shoe. Diameter of the applicator shoe is not to exceed 3.5" inches. Once the pavement cracks are sealed, the width of the sealant on the pavement (overbanding) shall be no greater than 3" inches. When traffic requires immediate use of the roadway, a boiler slag aggregate shall be broadcast over the cracks to prevent the sealant from being picked up at no additional cost to the Owner.

#### 6. Workmanship

All workmanship shall be of the highest quality, and any excess of spilled sealant shall be removed from the pavement by approved methods and discarded. Any workmanship determined to be below the high standards of the particular craft involved will not be accepted, and will be corrected and/or replaced as required by the Owner.

#### 7. Performance

- a) It is the intention of the Owner not to award a contract for this work under this or any other proposal if the contractor cannot furnish satisfactory evidence that he has the ability and experience to perform this class of work, and that he has sufficient capital and equipment to enable him to prosecute the work successfully and to complete it within the time named in the contract. The Owner reserves the right to reject this or any other proposal, or to award the contract as is deemed to be in the best interest of said Owner.
- b) Properly formulated and mixed asphalt fiber compound overbanding shall not be greater than three inches (3") in width. Penalties will be imposed upon the Contractor for overbanding beyond three inches (3").
- c) The Contractor must submit the following with his bid proposal:

- A list of six (6) jobs which he has successfully completed with the polymer and crumb rubber modified asphalt compound with reinforcing fibers specified herein, giving the name and address of these projects so they can be investigated prior to the award of the contract.
  - The trade name of the crack sealant the contractor intends to use.
  - The manufacturer of the crack sealant the contractor intends to use.
- d) The Owner will require the Contractor to successfully perform a 200' foot test strip in the field prior to commencing work under the contract.
- e) Manufacturer's certificate of material compliance will be furnished to the Owner certifying conformance to the above material specifications, including the following:
- Performance Grade of Unmodified Asphalt: **PG 64-28S** (standard)
  - AASHTO M-320, Table 1
  - 7% chemically-modified crumb rubber (CMCR)
    - Composed of 100% 80-mesh recycled tire rubber
  - 3-4% specially formulated polymer package
  - Performance Grade of Modified Asphalt: **PG 64-28E** (able to withstand "extremely heavy" traffic loads)
  - AASHTO M-320, Table 1
    - "E" Jnr 3.2 kPa @ 64°C: <0.5%
    - R3200 (Average % Recovery) @ 3.200 kPa: >70%
  - 8% polyester reinforcing fibers

## 8. **Traffic Control**

The cost of flaggers and any police details, if required, will be paid or reimbursed by the Owner. The Owner will coordinate detail assignments which will be billed to the Contractor directly based on the hourly cost. The Contractor will not be reimbursed for police detail expenses incurred due to failure to cancel or cancelling without the required notice.

## 9. **Measurement and Payment**

The quantity to be measured for payment will be the number of gallons of crack sealing actually applied, and this quantity shall be determined and verified daily. The accepted quantity of crack sealing will be paid for at the contract unit price per gallon of the type specified in the proposal, which shall be full compensation for furnishing, transporting, handling and placing the material specified and furnishing of all labor, tools, equipment and incidentals for the satisfactory completion

of this item.

#### **10. Asphalt Pricing and Price Adjustments**

- a) **Asphalt Price Adjustments:** Contractor's bid prices shall be based upon the current State DOT asphalt cement index posted exactly two (2) weeks prior to the due date for receipt of bids ("Bid Index"). If the posted State DOT asphalt cement index in place when the work is performed differs by more than 5% from the Bid Index, then contractor's invoices shall include price adjustments for the asphaltic materials (Micro-Surfacing, crack sealing, chip seal phase of cape seals, and tack coat), and such adjustments shall be proportionate to the mix design asphalt content (%) of each of these materials.
  
- b) **Future Year Price Adjustments:** The Owner reserves itself the option to extend the use, terms, conditions and prices of this bid for an additional three (3) years after the first year in which the contract is awarded. Such extension will be subject to the Owner reviewing and approving the Contractor's annual request for a price adjustment based on and limited to the prior year's actual rate of inflation. If such price adjustment cannot be mutually agreed upon between the Owner and Contractor, Owner may choose to re-bid the work in lieu of extending this contract.

**Item 2.**  
**MICRO-SURFACING**  
(CONVENTIONAL AND HiMA)

**1. Description**

Micro-Surfacing is a tough and durable thin overlay material which can restore the original service properties to worn but structurally sound pavements. Its properties are based on a blend of select crushed aggregate and a sophisticated chemical formulation of asphalt cement, cationic emulsifiers, additives, and polymers. This specification covers all materials, equipment, construction and application procedures for rut filling and/or surfacing of existing paved surfaces. The Micro-Surfacing shall be a mixture of cationic, polymer-modified asphalt emulsion, mineral aggregate, mineral and field control additives, and water, properly proportioned, mixed and spread on the paved surface in accordance with this specification and as directed by the Engineer.

Where required by the Engineer, additional Micro-Surfacing mixture additives shall be utilized for the purpose of improving performance and durability. These mixture additives shall include heavy polymer dosages in the emulsion (6% SBS polymer and referred to as “HiMA”, or “Highly Modified Asphalt”), as determined by the Engineer, and all additives shall be homogenously blended with the other Micro-Surfacing components.

**2. Materials**

a) **Emulsified Asphalt:** The emulsified asphalt shall be a quick-set, polymer-modified cationic type CSS-1H emulsion, and shall conform to the requirements specified in AASHTO M208 and ASTM 2397. It shall pass all applicable storage and settlement tests. The polymer shall be milled into the emulsion, or in the case of the HiMA (6% SBS) emulsion, may be blended into the unmodified base asphalt. The cement mixing test shall be waived for this emulsion.

**I. Conventional Micro-Surfacing Residue Properties**

Distillation of residue will be at a temperature of 350° F for 20 minutes. Softening Point (ASTM D36 or AASHTO T53) of the residue shall be not less than 140° F.

**II. HiMA (6% SBS) Micro-Surfacing Residue Properties**

For HiMA mixtures, emulsion testing by distillation method (ASTM D5 or AASHTO T49) shall yield a Softening Point (ASTM D36 or AASHTO T53) not less than 170° F.

**b) Aggregate**

**I. General**

The mineral aggregate used shall be of the type and grade specified for Micro-Surfacing. The aggregate shall be manufactured crushed stone such as granite, slag, limestone, chat, or other high quality aggregate or combination thereof.

## II. Aggregate Physical Requirements

Grading- The aggregate including natural fines when tested by AASHTO methods T11 or T27 or ASTM C117 or C136, should meet the referenced gradation requirements.

Deleterious Substances- To limit the permissible amount of clay-like fines in an aggregate, a sand equivalency value of 65 or higher is required when tested by ASTM 2419.

Soundness- The aggregate shall have a weighted loss of not more than 15% when the sodium sulfate test is used, or 20% when the magnesium sulfate test is used.

Hardness- The aggregate wear, from resistance to abrasion, shall be a maximum of 35% when using AASHTO T96 or ASTM C131 test methods.

- c) **Water:** The water shall be potable and shall be free of harmful soluble salts.
- d) **Modifier:** Special quick-setting emulsifier agents shall be milled into the asphalt emulsion. The emulsified asphalt shall be so formulated that when the paving mixture is applied at a thickness of one inch with the relative humidity at not more than 50% and an ambient air temperature of at least 75° F, the material will cure sufficiently so that rolling traffic can be allowed in one hour with no damage to the surface, as verified by the Engineer.
- e) **Additives:** A mineral additive shall be introduced to the aggregate and may be any recognized brand of non-air entrained Portland cement or hydrated lime that is free of lumps, or other approved mineral additive. It may be accepted upon visual inspection. The amount of mineral additive needed shall be determined by the laboratory mix design and will be considered as part of the material gradation requirement.

A liquid field control additive may be introduced and blended with water to provide effective control of the required quick-set properties. This additive shall be made available by the chemical supplier or emulsion manufacturer, and certified to be compatible with the mixture.

### 3. Engineering

- a) **General:** Before work commences, the Contractor shall submit a signed and certified mix design covering the specific material(s) to be used on the project. This design shall be performed by a qualified, independent laboratory. Once the materials are approved, no substitution will be permitted unless first tested and approved by the laboratory preparing the mix design.
- b) **Mix Design:** The independent laboratory shall develop the job mix design and present certified test results for the Contractor's approval. Compatibility of the aggregate and emulsion shall be verified by the mix design. The job mix formula shall meet standard ISSA A143 Micro-Surfacing mix design requirements. All component material used in the mix design shall be representative of the material proposed by the Contractor for use on the project.

- c) **Specifications:** The Engineer shall approve the design mix and all Micro-Surfacing materials and methods prior to use. The component materials shall be within the following limits.

Residual Asphalt	5% to 9% by dry weight of aggregate
Mineral Additive	0.5% to 3% by dry weight of aggregate
Polymer Modifier and Field Control Additives	As required to provide specified properties
Water	As required to produce consistency

**Aggregate - Recommended Gradations:**

<u>Screen Size</u>	<u>Type II % Passing</u>	<u>Type III % Passing</u>
3/8"	100	100
#4	90-100	70-90
#8	65-90	45-70
#16	45-70	28-50
#30	30-50	19-34
#50	18-30	12-25
#100	10-21	7-18
#200	5-15	5-15

**Suggested Application Rates:**

**Type II - Primary and Residential Streets and Airport Runways:**

single course = 18-20 lbs./s.y.  
 Cape Seal wear course = 25-28 lbs./s.y.  
 double course = 28-32 lbs./s.y.  
 rutfilling = as required

**Type III - Interstate Routes:**

double course = 30-36 lbs./s.y.  
 wheel ruts = as required

Note: all application rates above are dry aggregate weights exclusive of emulsion and all other additives.

#### 4. Equipment

- a) **General:** All equipment, tools, and machines used in the performance of this work shall be maintained in satisfactory working condition at all times to ensure a high quality product.
- b) **Mixing Equipment:** The material shall be mixed by a self-propelled Micro-Surfacing mixing machine which shall be a continuous flow, continuous run mixing unit able to accurately deliver and proportion the aggregate, emulsified asphalt, mineral and field control additives, and water to a revolving multi-blade twin shafted mixer, and discharge the mixed product on a continuous flow basis. The Contractor shall own and have available two (2) continuous flow, continuous run mixing machines to ensure highest quality, and to mitigate the effect of equipment breakdowns. The machines shall have sufficient storage capacity for aggregate, emulsified asphalt, mineral and field control additives, and water to maintain an adequate supply to the proportioning controls. The machines shall be equipped with self-loading devices which provide for the loading of materials while continuing to lay Micro-Surfacing, thereby minimizing construction joints.
- c) **Proportioning Devices:** Individual volume or weight controls for proportioning each material to be added to the mix, i.e., aggregate, emulsified asphalt, mineral and field control additives, and water shall be provided and properly marked. These proportioning devices are usually revolution counters or similar devices, and are used in material calibration and determining the materials output at any time.
- d) **Emulsion Pump:** The emulsion pump shall be a heated, positive displacement type pump.
- e) **Spreading Equipment:** The surfacing mixture shall be spread uniformly by means of a mechanical type spreader box attached to the mixer, equipped with paddles to agitate and spread the materials throughout the box. The spreader box width shall be capable of adjustment while paving in order to accommodate the changing width of some roadways without excessive overlaps. A front seal shall be provided to ensure no loss of the mixture at the road contact point. The rear seal and secondary strike-off shall act as the final strike-off, and both shall be adjustable. The mixture shall be spread to fill cracks and minor surface irregularities, and leave a uniform skid resistant application of material on the surface. The spreader box and rear strike-off shall be so designed and operated that a uniform consistency is achieved to produce a free flow of material to the rear strike-off. The longitudinal joint where two passes join shall be neat in appearance, uniform and lapped. All excess material shall be removed from the jobsite prior to opening the road. The spreader box shall have suitable means provided to side-shift the box to compensate for variations in pavement width and longitudinal alignment. A rut box shall be available to pre-fill wheel ruts when necessary prior to overlay to eliminate puddles or runoff interruption. The rut box shall be no less than 4' wide and no more than 6' wide.
- f) **Auxiliary Equipment:** Suitable surface cleaning equipment, traffic control equipment, hand tools and any support equipment shall be provided as necessary to perform the work.
- g) **Screening Plant:** All aggregate shall be rescreened immediately prior to being loaded onto Micro-Surfacing equipment. The screening plant shall be equipped with a 3/8" screen to remove all oversized aggregate, and shall be capable of discharging screened aggregate directly onto the support equipment. Any material discharged onto the ground must be rescreened prior to use.

## 5. Machine Calibration

Each mixing unit to be used in the performance of the work shall be calibrated in the presence of the Engineer prior to construction, or previous calibration documentation covering the exact materials to be used may be acceptable provided they were made during the same calendar year. The documentation shall include the individual calibration of each material at various settings, which can be related to the machine metering devices.

## 6. Weather Limitations

The material shall be spread only when the road surface and atmospheric temperatures are at least 45° F and rising, the weather is not rainy, and there is no forecast of temperatures below 32°F within 48 hours from the time of placement of the mixture.

## 7. Surface Preparation

- a) **General:** The area to be resurfaced shall be thoroughly cleaned of vegetation, loose aggregate and soil, particularly soil that is bound to the surface. Manholes, valve boxes and other service entrances will be protected from the surfacing material with polyethylene sheeting. All services will be uncovered upon completion of work.
- b) **Cracks in Surface:** If required by the Engineer, pre-treat the cracks in the surface with a fiberized crack sealer prior to the application of the Micro-Surfacing. Crack sealer shall be a polymer and crumb rubber modified asphalt cement including not less than 3% polymers, 7% recycled tire crumb rubber (80 mesh), and 8% polyester fibers (PCRM + fibers). The modified asphalt cement incorporated in the PCRM + fibers material must meet PG 64-28E MSCR testing requirements. If crack sealing pre-treatment is required by the Engineer a separate pay item will be included in the bid proposal form.
- c) **Tack Coat:** The Contractor may be required to apply a tack coat on any heavily oxidized pavements, and on high traffic roadways as directed by the Engineer. The tack coat shall consist of one part emulsified asphalt (CSS-1H) and three parts water, and be applied with a distributor at a rate of 0.05-0.10 gallons per square yard. If tack coat is required by the Engineer, a separate pay item will be included in the bid proposal form.

## 8. Stockpile

Precautions shall be taken to ensure that aggregate stockpiles do not become contaminated. The mineral aggregate shall be re-screened prior to being directly loaded onto Micro-Surfacing equipment. Owner shall provide suitable stockpile and staging area to Contractor.

## 9. Application

- a) **General:** The surface should be pre-wetted by fogging ahead of the spreader box when required by surface and ambient conditions. The rate of application of the fog spray shall be adjusted during the day to suit temperatures, surface texture, humidity, and dryness of the pavement surface.

The Micro-Surfacing mixture shall be of the desired consistency upon leaving the mixer and no additional materials should be added. A sufficient amount of material shall be carried in all parts

of the spreader at all times so that a complete coverage is obtained. Overloading of the spreader shall be avoided. No lumping, balling, or unmixed aggregate shall be permitted.

No streaks, such as those caused by oversized aggregate, will be left in the finished surface. If excessive amounts of oversized aggregates appear in the mix, the job will be stopped until the Contractor proves to the Engineer that the situation has been corrected.

- b) **Joints:** No excessive buildup, uncovered areas or unsightly appearances shall be permitted on longitudinal or transverse joints. The Contractor shall provide suitable width spreading equipment to produce a minimum number of longitudinal joints throughout the project. When possible, longitudinal joints shall be placed on lane lines. Half passes and odd width passes will be used only in minimum amounts. If half passes are used, they shall not be the last pass of any paved areas.
- c) **Mix Stability:** The Micro-Surfacing mixture shall possess sufficient stability so that premature breaking of the material in the spreader box does not occur. The mixture shall be homogeneous during and following mixing and spreading. It shall be free of excess water or emulsion, and free of segregation of the emulsion and aggregate fines from the coarser aggregate.
- d) **Hand Work:** Areas which cannot be reached with the mixing machine shall be surfaced using hand squeegees to provide complete and uniform coverage. The area to be hand-worked shall be lightly dampened prior to mix placement. Care shall be exercised to leave no unsightly appearance from handwork.

The same type finish as applied by the spreader box shall be required. Handwork shall be completed immediately after the Micro-Surfacing mixture is discharged from the spreader box.

- e) **Lines:** Care shall be taken to ensure straight lines along curbs and shoulders. No runoff on these areas will be permitted. Lines at intersections will be kept straight to provide a neat workmanship appearance.
- f) **Rolling:** If required by the Engineer, specified areas shall be rolled by a self-propelled, 5 to 10 ton pneumatic roller with a tire pressure of 50 PSI and equipped with a water spray system. If rolling is required by the Engineer, a separate pay item will be included in the bid proposal form.

## **10. Quality Control**

- a) **Materials:** The Contractor will permit the Engineer to take samples of the aggregate and asphalt emulsion to be used in the project at the Engineer's discretion. Gradation and sand equivalency tests may be run on the aggregate, and residual asphalt content test run on the emulsion. Test results will be compared to specifications. Tests will be run by a qualified laboratory at the expense of the Owner. The Owner must notify the Contractor immediately if any test fails to meet the specifications.
- b) **Micro-Surfacing Mixture:** Samples of the mixture should be taken daily and may be taken directly from the mixing unit(s). Consistency and residual asphalt content tests may be made on the samples and compared to the specifications. Tests will be run by a qualified laboratory at the expense of the Owner. The Owner must notify the Contractor immediately if any test fails to

meet specifications.

The Engineer may use the recorder and measuring facilities of the unit to determine application rates, asphalt emulsion content, mineral and field control additives, and water.

- c) **Non-Compliance:** If any two successive tests fail on the stockpile material, the job shall be stopped. It is the responsibility of the Contractor, at his own expense, to prove to the Engineer that the conditions have been corrected. If any two successive tests on the mix from the same machine fail, the use of the machine shall be suspended. It will be the responsibility of the Contractor, at his own expense, to prove to the Engineer that the problems have been corrected and that the machine is working properly.

## **11. Performance**

It is the intention of the Owner not to award a contract for Micro-Surfacing work under this or any other proposal if the contractor cannot furnish satisfactory evidence that he has the ability and experience to perform this class of work, and that he has sufficient capital and equipment to enable him to prosecute the work successfully, and to complete it within the time named in the contract. The Owner also reserves the right to reject this or any other proposal, or to award the contract as is deemed to be in the best interest of said Owner.

- a) **Proof of Experience:** To illustrate its experience and capabilities to perform Micro-Surfacing work, contractor shall provide with his bid a list of similar projects completed within the last 3 years. Such list shall include the project names and locations, Owner or agency contact names and telephone numbers, and the total area of work completed for each project. The total area of work for all projects on this list shall not be less than 1 million square yards. In addition to experience with conventional Micro-Surfacing, the contractor must also be able to demonstrate experience applying the highly modified asphalt (HiMA 6% SBS polymer) variation of Micro-Surfacing, and such experience shall be noted on the above required list of similar recent projects including the contact information for each project.
- b) **State DOT Prequalification:** To further ensure the contractor's capabilities, the contractor shall provide with his bid evidence of his current prequalification status by the State DOT for the categories of work contained herein.

## **12. Performance Warranty**

The Contractor must furnish the following warranty after completion of the work and prior to final payment:

The Contractor hereby warrants that all workmanship and all materials furnished under this contract comply fully with requirements of these Micro-Surfacing Specifications. If at any time within two years after the date of the final inspection, any unfaithful or defective work should appear which, in the opinion of the Owner, is due to inferior materials or workmanship, the Contractor warrants to do whatever is necessary to remedy the defects immediately without cost to the Owner. The Owner will notify the Contractor in writing of the defects and the repairs to be made, and the Contractor will begin repairs within a mutually agreed time frame.

### **13. Notification**

All homeowners and businesses affected by the construction shall be notified a minimum of one day in advance of the surfacing by the Owner.

### **14. Traffic Control**

Suitable methods shall be used by the Contractor to protect the micro-surface from traffic until the new surface will support traffic without damage. All traffic control methods used shall be in accordance with the Engineer's specifications and shall be employed in a safe manner.

The cost of flaggers and any police details, if required, will be paid or reimbursed by the Owner. The Owner will coordinate detail assignments which will be billed to the contractor directly based on the hourly cost. The Contractor will not be reimbursed for police detail expenses incurred due to failure to cancel or cancelling without the required notice.

### **15. Method of Award**

To ensure contractor accountability, the Owner intends to award all items to a single contractor. Accordingly, contractors must bid on all items of work, and the low bidder will be the contractor whose total bid price is the lowest. The bid quantities are not guaranteed, and their primary purpose is for the determination of the low bidder.

### **16. Measurement and Payment**

The quantity to be measured for payment will be the number of square yards of Micro-Surfacing actually completed, and this quantity shall be determined and verified daily. The accepted quantity of Micro-Surfacing will be paid for at the contract unit price per square yard of the type specified in the proposal, which shall be full compensation for furnishing, transporting, handling and placing the material specified and furnishing of all labor, tools, equipment and incidentals for the satisfactory completion of this item. Rut filling will be paid by the ton, and tack coat and crack sealing (if required) will be paid for by the gallon of material applied as determined and approved daily by the Engineer.

### **17. Asphalt Pricing and Price Adjustments**

- a) **Asphalt Price Adjustments:** Contractor's bid prices shall be based upon the current State DOT asphalt cement index posted exactly two (2) weeks prior to the due date for receipt of bids ("Bid Index"). If the posted State DOT asphalt cement index in place when the work is performed differs by more than 5% from the Bid Index, then Contractor's invoices shall include price adjustments for the asphaltic materials (Micro-Surfacing, crack sealing, chip seal phase of cape seals, and tack coat), and such adjustments shall be proportionate to the mix design asphalt content (%) of each of these materials.
- b) **Future Year Price Adjustments:** The Owner reserves itself the option to extend the use, terms, conditions and prices of this bid for an additional three (3) years after the first year in which the contract is awarded. Such extension will be subject to the Owner reviewing and approving the Contractor's annual request for a price adjustment based on and limited to the prior year's actual rate of inflation. If such price adjustment cannot be mutually agreed upon between the Owner and Contractor, Owner may choose to re-bid the work in lieu of extending this contract.

**Item 3  
CAPE SEAL**

A Cape Seal is a surface treatment in which a chip seal interlayer course is followed by a Micro-Surfacing wearing course. The Micro-Surfacing course shall be applied no sooner than 7 calendar days after the chip seal application. The Micro-Surfacing course shall be applied during the same construction season as the chip seal interlayer course.

**Chip Seal Interlayer Course (Paragraphs 1-5)**

**1. Description**

The Contractor shall furnish all labor, equipment, material, supplies, traffic control, and other incidentals necessary to provide the applications of liquid asphalt emulsion and aggregate coating on roadways.

**2. Materials**

- a) **Liquid Asphalt:** Liquid asphalt grades shall be: CRS-2 or RS-2 conforming to AASHTO specifications M208 or M140. The liquid asphalt shall be compatible with the aggregate to be utilized for the chip seal interlayer course.
  
- b) **Stone:** Stone shall be crushed quarry stone, free from dust, soft stone or other contaminants with a minimum of 70% of the stones having a fractured face. All stone shall satisfy a 35% maximum for the L.A. Abrasion Test and a 35% maximum for the Flakiness Index Test. Stone shall be treated prior to application with liquid asphalt material at the rate of 0.2% to 0.5% residual asphalt to ensure uniform treatment of all stones. Proper pre-treatment shall be obtained by a twin-shafted pugmill with a digital readout belt scale.

REQUIRED STONE GRADATION  
9.5 mm (3/8") STONE

SIEVE SIZE	% PASSING
12.5 mm (1/2")	100
9.5 mm (3/8")	85 – 100
6.3 mm (1/4")	10 – 60
4.75 mm (#4)	0 – 25
2.36 mm (#8)	0 – 5

**3. Application**

The quantity of asphalt material to be used shall be in the range of 0.35 to 0.50 gallons per square yard. Cover aggregate shall be spread in the range of 20 to 30 pounds per square yard. The Contractor will use lab tests and current chip seal design standards to design specific material quantities to meet existing field conditions. The chip seal design shall be submitted to the Owner for approval prior to starting the work. Variations in material quantities will be made without adjustment to contract unit price.

#### 4. Equipment

- a) **Asphalt Distributor:** The asphalt distributor shall contain suitable mechanical circulating and heating mechanisms to provide a uniform approved temperature of the entire mass of material. The distributor shall be equipped with a radar type sensor used to measure ground speed, and feed a Digital Volumetric Accumulator capable of measuring gallons applied and distance traveled. It shall be capable of applying asphalt material in accurately measured quantities at any rate between 0.1 to 2.0 gallons per square yard of roadway surface, at any length of spray bar up to 12' feet. The distributor shall be capable of maintaining a uniform rate of distribution of asphalt material regardless of change in grade, width or direction of the road. It shall be equipped with an electronic control for setting asphalt pump discharge rate and on/off switching of spray for nozzles in one (1') foot increments which shall be located in the truck cab. The spray nozzles and pressure system shall provide a sufficient and uniform fan-shaped spray of asphalt material throughout the entire length of the spray bar at all times while operating. The spray shall completely cover the roadway surface receiving the treatment.
- b) **Aggregate Spreader:** The aggregate spreader shall be hydrostatically driven and self-propelled. It may be equipped with a hydraulically controlled variable adjustable head that is capable of spreading stone in widths from 4.5' to 12' feet. The spreader shall be mounted on pneumatic tires, and shall apply the stone on the road surface in a manner that ensures that the tires do not contact the road surface until after the stone has been applied. The unit shall be equipped with an electronic radar type sensor used to measure ground speed and will automatically adjust the stone application rate depending on width of application and the speed of chip spreader. It shall have the ability to apply stone uniformly on any grade from 0 - 6%. The spreader shall be equipped with an integral hopper with a minimum capacity of 5 tons of stone which shall be filled by trucks in a manner which ensures that the truck tires never come in contact with the asphalt-treated road surfaces until the stone has been properly applied. To maintain constant stone application, a self-locking truck hitch will permit towing of aggregate trucks without stopping the chip spreader. It will be capable of maintaining positive engagement over irregular terrain.
- c) **Rollers:** At least two rubber tired rollers shall be used on each treated surface immediately after the stone has been applied. Each roller shall have a compacting width of not less than 5' feet. Each roller shall have a gross weight of not less than 8 tons and contact pressure adjustable from 200 to 300 psi.
- d) **Trucks:** Rear discharge conveyor-fed trucks in sufficient number and size must be used to deliver stone to the spreader.

#### 5. Construction Methods

- a) **Surface Preparation:** Surface preparation, which may include patching and adjusting of drainage and utility structures, may be completed under other items on this contract prior to the chip seal treatment. Any other surface preparation required that is not covered under an item on this contract will be the responsibility of the Owner. Immediately prior to surface treatment, the roadways shall be swept of any loose debris by use of a mechanical sweeper. Sweeping in advance of the chip seal application may be done by the Owner or by the Contractor and paid

hourly under this contract. Owner is responsible for the disposal of swept material, unless otherwise specified in the contract.” The Contractor shall protect any manhole covers, drop inlets, catch basins, curbs, and any other structures that will be affected by the surface treatment application.

- b) **Weather Limitations:** Work will not be done unless the road surface is free of standing water. No work shall be done during rain or foggy periods. No work shall be done if the ambient temperature is below 50°F.
- c) **Spreading Asphalt and Stone:** Prior to application of asphalt material on any street, sufficient quantities of materials to cover the entire street at the specified rates shall be on the site and ready for application. The Owner shall be responsible for providing the Contractor with an aggregate storage area near the job site. The asphalt material shall not be applied more than 300’ feet in advance of the self-propelled aggregate spreader. At no time shall any asphalt material be on any road surface for more than fifteen seconds before it is covered with stone.
- d) **Rolling:** Initial rolling shall be done immediately following the application of treated stone. Rollers shall be operated at a speed that will not displace aggregate.
- e) **Final Sweeping:** Surplus aggregate shall be swept off of the road surfaces by the chip seal contractor in advance of Micro-Surfacing after stone seal has properly cured. In no case shall initial sweeping occur more than 10 days after the chip seal application. Care will be taken not to dislodge embedded aggregate or damage the surface. Owner is responsible for the disposal of swept material, unless otherwise specified in the contract.”

## 6. Micro-Surfacing Course

Micro-Surfacing as specified in Item 2. shall be applied over the chip seal interlayer course in the same season but no sooner than 7 days after the chip seal application. After Micro-Surfacing has been applied the cape seal will be complete.

## 7. Traffic Control

Suitable methods shall be used by the Contractor to protect the micro-surface from traffic until the new surface will support traffic without damage. All traffic control methods used shall be in accordance with the Engineer’s specifications and shall be employed in a safe manner.

The cost of flaggers and any police details, if required, will be paid or reimbursed by the Owner. The Owner will coordinate detail assignments which will be billed to the contractor directly based on the hourly cost. The Contractor will not be reimbursed for police detail expenses incurred due to failure to cancel or cancelling without the required notice.

## 8. Method of Award

To ensure contractor accountability, the Owner intends to award all items to a single contractor. Accordingly, contractors must bid on all items of work, and the low bidder will be the contractor whose total bid price is the lowest. The bid quantities are not guaranteed, and their primary purpose is for the determination of the low bidder.

## **9. Measurement and Payment**

The quantity to be measured for payment will be the number of square yards of Cape Seal actually completed, and this quantity shall be determined and verified daily. The accepted quantity of Cape Seal will be paid for at the contract unit price per square yard of the type specified in the proposal, which shall be full compensation for furnishing, transporting, handling and placing the material specified and furnishing of all labor, tools, equipment and incidentals for the satisfactory completion of this item.

## **10. Asphalt Pricing and Price Adjustments**

- a) **Asphalt Price Adjustments:** Contractor's bid prices shall be based upon the current State DOT asphalt cement index posted exactly two (2) weeks prior to the due date for receipt of bids ("Bid Index"). If the posted State DOT asphalt cement index in place when the work is performed differs by more than 5% from the Bid Index, then Contractor's invoices shall include price adjustments for the asphaltic materials (Micro-Surfacing, crack sealing, chip seal phase of cape seals, and tack coat), and such adjustments shall be proportionate to the mix design asphalt content (%) of each of these materials.
  
- b) **Future Year Price Adjustments:** The Owner reserves itself the option to extend the use, terms, conditions and prices of this bid for an additional three (3) years after the first year in which the contract is awarded. Such extension will be subject to the Owner reviewing and approving the Contractor's annual request for a price adjustment based on and limited to the prior year's actual rate of inflation. If such price adjustment cannot be mutually agreed upon between the Owner and Contractor, Owner may choose to re-bid the work in lieu of extending this contract.

**Item 4**  
**POLYMER MODIFIED REJUVENATING FOG SEAL**

**1. Description**

This work shall consist of furnishing all materials, equipment, labor and preparation necessary for the application of a light coating of asphalt emulsion containing a rejuvenating agent to an existing or newly constructed asphalt pavement for the primary purpose of slowing the oxidation, raveling and other damage caused to unprotected asphalt pavements.

**2. Materials**

- a) **Emulsion:** Rejuvenating asphalt emulsion, **CMS-1PF**, shall contain a polymer and conform to the following specifications. The emulsion shall be certified as meeting this specification from the manufacturer, and shall not be diluted prior to application.

Property	Test Procedure (AASHTO)	Specification (min)	Specification (max)
<b>Emulsion Properties</b>			
Viscosity, Saybolt-Furol, @ 77°F, SFS	T59	10	100
Storage, 24 hour, %	T59		1
Oil Distillate, %	T59		0.5
Sieve Test, %	T59		0.1
Residue by Distillation <sup>(1)</sup> @350°F, % Residue by Distillation, % by weight	T59	30	
<b>Residue Properties From Distillation</b>			
Penetration @ 4C, 200g weight, 60 sec Residue by Distillation, % by weight	T49	30	
<b>Residue Properties From Low Temp Evaporation</b>			
Dynamic Shear, G*/sin @ 64oC, kPa	PP72-11, Procedure B T315	Report Only	
<b>Polymer Properties</b>			
Swelling in rejuvenating agent, % max weight increase: 48 hrs	ASTM D471 <sup>(2)</sup>		40%
Tensile Strength (psi)	ASTM D412a <sup>(3)</sup>	800	
Glass Transition Temperature (Tg) – Midpoint by DSC (°C)	ASTM D7426 <sup>(4)</sup>	0	
Latex Density at 23°C (g/cm3)	ASTM D6937 <sup>(5)</sup>	1.00	1.05
Latex pH	ASTM E70 <sup>(6)</sup>	6.0	8.0
<b>Test on Rejuvenating Agent</b>			
Flash Point, COC, °F	T48	380	
Viscosity, 140°F, CST	201	50	175
Saturate, % by wt	ASTM D2007		30
Asphaltenes	ASTM D2007		1.0
<b>Test on Residue</b>			
Weight Change, %			6.5
Viscosity Ratio			3

(1) Exception to AASHTO T59: Bring the temperature on the lower thermometer slowly to 350°F plus or minus 10°F. Maintain this temperature for 20 minutes. Complete the total distillation in 60 plus or minus 5 minutes.

(2) Polymer Testing, Resistance to Swelling: Using a syringe, place 0.8 gm of latex into a 18 mm diameter DSR mold. Allow the sample to dry at ambient lab conditions (air conditioned) on the bench for 72 hours. Sample should be easily removable from the mold. Take the "button" out of the

mold and place the sample into a forced air oven at 40°C (104°F) for 48 hours (on release paper). If at the end of the ambient dry, the sample sticks to the mold, place it into the oven and check it after 1-2 hours. After 48 hours, cool and weigh the sample to the nearest 0.0001 gram and record the weight. Put ½ inch of Rejuvenating Agent into a 3 oz penetration tin. Place the “button” on the Rejuvenating Agent, and add another ½ inch Of Rejuvenating Agent, so that the “button” is covered. Put the cap on the penetration tin and place it into the 40°C oven for 48 hours. Remove the “button” from the Rejuvenating Agent, blot surface of the “button” to remove excess Rejuvenating Agent, cool the “button” to room temperature and weigh it. Calculate weight gain of the “button”, express as a %.

(3) To prepare the polymer film, dilute the waterborne polymer to 40% Total Solids Content and pour 57 g into a Teflon or silicone release mold of dimensions 7" X 7" X ¼". Allow to dry at 23°C (73 °F) and 50% RH (controlled conditions) for 7 - 10 days total time, during which time the film should be flipped around once, preferable after 3 or 4 days. The film should be transparent in the end. To drive out any residual water, place the film in an oven at 50°C for 30 min. Dried film thickness should be 25 mil +/- 5 mils. Discard films <20mil. Cut out dumbbell-shaped test specimens of dimension 75 mm total length, 25 mm mid-section (L) and 4 mm width of mid-section. Grip in Instron machine with gap size 1 inch, use 8 inch/min cross-head speed.

(4) Use between 3 - 30 mg dry polymer. Instrument used is TA Q2000 Differential Scanning Calorimeter (DSC). Heating rate is 20°C/min.

(5) Replace “Emulsified Asphalt” with “Latex” in text of test method. The testing temperature used should be 25 +/-

3°C. The calculation in Section 7 should be as follows:

$$D = (W_f - W_t) * 0.1$$

$$S.G. = D/8.337$$

Where:  $W_f$  = Weight of filled cup (g),  $W_t$  = Weight of empty cup (g)

(6) A pH meter with automatic temperature measurement should be used in the evaluation with a calomel cell assembly or combination electrode. Calibration should be made using the procedure with the pH meter, according to ASTM method, prior to testing the pH of the latex. In Section 9, the procedure for measuring pH of the latex should be as follows:

- Place the electrode and probe into the dispersion that is to be measured and swirl the sample cup or beaker gently. (You may also use the probe in a stirring motion.)
- Wait for the reading to stabilize (usually less than a minute) and read/record this value. Note the temperature if not utilizing an ATC probe.
- Take the Electrode and ATC probes from the sample and rinse thoroughly with deionized water. Pat dry and place back into appropriate solution recommended by electrode manufacturer for storage.

## I. Material Certifications and Testing

The emulsion manufacturer, through the Contractor, shall submit to the Owner certified test results that the emulsion meets the specification. The polymer manufacturer and the rejuvenating agent manufacturer, through emulsion supplier and the Contractor, shall submit to the Owner certified test results on the polymer and the recycling agent that meets the required specifications. The Owner will not accept test results dated more than 90 days from the date of bid opening.

Certifications and test results on the emulsion must be submitted to the Owner and approved by the Owner 5 days prior to supplying material.

Prior to and during the project the Owner may require samples of the finished emulsion, rejuvenating agent and the polymer used in the emulsion to be submitted to the Owner designated laboratory for testing. All testing shall be at the Owner’s expense.

- b) **Aggregate:** The aggregate material shall be a dry, clean, dust and dirt-free, sound, durable, angular shaped manufactured specialty sand, such as that used as an abrasive (i.e., trade name “Black Beauty”), with a Mohs hardness of 6 to 8. The Contractor shall submit manufacturer’s

technical data and a manufacturer’s certification indicating that the specialty sand meets the requirements of the specification to the Engineer prior to start of construction. The sand must be approved for use by the Engineer and shall meet the following gradation limits.

<b>Aggregate Material Gradation</b>	<b>Percentage Retained Sieves</b>
No. 8 (2.38 mm)	0
No. 16 (1.19 mm)	0-10
No. 20 (0.84 mm)	0-25
No. 30 (0.60 mm)	15-50
No. 40 (0.42 mm)	20-45
No. 50 (0.30 mm)	5-35
No. 70 (0.21 mm)	0-5
No. 200 (0.07 mm)	0-2

### 3. Equipment

- a) **Pressure distributor:** The emulsion shall be applied with a computer rate-controlled asphalt distributor. The equipment shall be in good working order and contain no contaminants or diluents in the tank. Spreader bar tips must be clean, free of burrs, and of a size to maintain an even distribution of the emulsion. Any type of tip or pressure source is suitable that will maintain predetermined flow rates and constant pressure during the application process with application speeds under eight (8) miles per hour or seven hundred (700’) feet per minute. Before use the equipment must be tested under pressure for leaks to ensure it is in good working order.

The distributor truck shall be equipped with a 12’ foot minimum, spreader bar with individual nozzle control. The distributor truck shall be capable of specific application rates in the range of 0.05 to 0.25 gallons per square yard. These rates shall be computer-controlled rather than mechanical. The distributor truck shall have an easily accessible thermometer that constantly monitors the temperature of the emulsion, and have an operable mechanical tank gauge that can be used to cross-check the computer accuracy.

A distributor truck shall be provided, if necessary, equipped to effectively heat and mix the material to the required temperature prior to application. Heating and mixing shall be done in accordance with the manufacturer’s recommendations. Care shall be taken not to overheat or over-mix the material.

The distributor shall be equipped to hand-spray the emulsion in areas identified either on the plans or by the Engineer, or not accessible to the distributor truck itself.

- b) **Aggregate spreader:** The asphalt distributor truck shall be equipped with an aggregate spreader mounted to the distributor truck that can apply sand to the emulsion in a single pass operation without driving through the wet emulsion. The aggregate spreader shall be equipped with a variable control system capable of uniformly distributing the sand at the specified rate at varying application widths and speeds. The sander shall have a minimum hopper capacity of at least 3,000 pounds of sand. Push-type hand sanders will be allowed for use around lights, signs and other obstructions.

#### 4. Weather Limitations

Place the fog seal when both the pavement and atmospheric temperature is 50°F and rising. Do not place fog seal if any of the following conditions exist:

- Impending weather conditions do not allow for proper curing, or if temperatures are forecasted below 32°F within 24 hours from the time of work.
- The existing pavement temperature is 140°F or above.
- The pavement surface is wet or rain is forecasted within 24 hours of placement.

#### 5. Surface Preparation

The Contractor shall clean the pavement surface prior to placement with a power broom or road sweeper. Clean any muddy or dirty areas by flushing with water. Allow surface to dry completely prior to applying asphalt emulsion.

#### 6. Application of Asphalt Emulsion & Aggregate

The Contractor shall follow the construction methods as described. Target application rates for the emulsion shall be in the range of 0.06 to 0.15 gallons per square yard as established by the Engineer after spraying a test strip or strips with varying application rates in order to determine the optimum rate to achieve coating without runoff or delayed curing times. Target application rate for the aggregate shall be 0.5 pounds per square yard, also as established by the Engineer after spraying the test strip(s). Apply the asphalt emulsion at the target rate(s) established during the test strip. Maintain the asphalt emulsion temperature from 120° to 160°F during construction, including the start of each day. Reheat the asphalt emulsion at a rate of no more than 25° F per hour whenever the asphalt emulsion is allowed to cool below 110°F. If the target application rates are not the optimum application rates to achieve proper coating of the existing or newly constructed pavement surface, or if the break time is too long or too short, immediately notify the Engineer. Adjust and document the new application rate by stationing. Do not allow the asphalt emulsion to streak on the road surface. If the Engineer determines that streaking is occurring, cease operations until the Engineer is satisfied that streaking has been eliminated. Apply the asphalt emulsion to all exposed areas of asphalt surface as directed by the Engineer.

During the application of the fog seal, ensure there are no deficiencies in the fog seal, resulting from poor workmanship, flushing, tracking from equipment, surface patterns, and sweeping. Inspect workmanship for untreated areas, minimum overlap on longitudinal joints, and minimum overlap on construction joints.

Verify the following for daily acceptance:

- Fog seal edges are neat and uniform along the roadway lane, shoulder and curb lines.
- Fog seal has no surface patterns such as lean or heavy lines.
- Fog seal has no bleeding/flushing areas.
- Fog seal uniformly covers all portions of the asphalt surface
- Blotter sand is broadcast uniformly and at the proper rate.

**7. Traffic Control**

Unless otherwise specified in the contract documents, maintain one-way traffic on two lane highways in accordance with Standard Drawing and as directed by the Engineer. Maintain traffic on multi-lane highways as specified by the contract documents. Lower volume roadways may be closed at the discretion of the Engineer. Traffic control shall be considered incidental to the performance of this item except for police details and flagger costs. The cost of flaggers and any police details, if required, will be paid or reimbursed by the Owner. The Owner will coordinate detail assignments which will be billed to the Contractor directly based on the hourly cost. The Contractor will not be reimbursed for police detail expenses incurred due to failure to cancel or cancelling without the required notice.

**8. Method of Award**

To ensure contractor accountability, the Owner intends to award all items to a single contractor. Accordingly, contractors must bid on all items of work, and the low bidder will be the contractor whose total bid price is the lowest. The bid quantities are not guaranteed, and their primary purpose is for the determination of the low bidder.

**9. Measurement and Payment**

- a) The quantity to be measured for payment will be the number of square yards of Fog Seal completed.
- b) No additional compensation shall be made for additional work required to apply asphalt emulsion to areas outside the normal operating width of the distributor.

**10. Future Year Price Adjustments:** The Owner reserves itself the option to extend the use, terms, conditions and prices of this bid for an additional three (3) years after the first year in which the contract is awarded. Such extension will be subject to the Owner reviewing and approving the Contractor's annual request for a price adjustment based on and limited to the prior year's actual rate of inflation. If such price adjustment cannot be mutually agreed upon between the Owner and Contractor, Owner may choose to re-bid the work in lieu of extending this contract.

**Item 5**  
**HOT MIX ASPHALT LEVELING COURSE**

**1. Description**

Work under this item consists of furnishing and installing hot mix asphalt as a leveling course. The required depth of hot mix asphalt will vary by location. The Engineer will advise the Contractor with the desired depth prior to beginning work and shall make adjustments as deemed necessary.

Work under this item shall conform to the Commonwealth of Massachusetts Standard Specifications for Highways and Bridges for item 460.1 “Hot Mix Asphalt – Dense Binder Course”, as amended by this specification, or as directed by the Engineer. The leveling course shall be constructed to the depth, typical section, or elevation required by the Engineer and shall be rolled and finished.

Price adjustments for Hot Mix Asphalt will be made in conformance with document 00811 published by MassDOT. Each contractor invoice will include a line for asphalt adjustment on the previous invoice. No adjustment will be made on invoice one. Invoice two will include adjustment for invoice one etc. The Contractor will provide backup documentation and calculations for adjustments with the draft invoice. The base bid price for liquid asphalt on this contract will be as published by MassDOT for the day of the bid opening.

If directed by the Engineer, tack coat will be used at the rate of .05 to .10 GAL/SY, verified by metering on all surfaces prior to placement.

**2. Traffic Control**

Unless otherwise specified in the Contract Documents, maintain one-way traffic on two lane highways in accordance with Standard Drawing and as directed by the Engineer. Maintain traffic on multi-lane highways as specified by the Contract Documents. Lower volume roadways may be closed at the discretion of the Engineer. Traffic control shall be considered incidental to the performance of this item except for police details and flagger costs which shall be reimbursed or paid by the Owner.

The cost of flaggers and any police details, if required, will be paid or reimbursed by the Owner. The Owner will coordinate detail assignments which will be billed to the Contractor directly based on the hourly cost. The Contractor will not be reimbursed for police detail expenses incurred due to failure to cancel or cancelling without the required notice.

**3. Method of Award**

To ensure contractor accountability, the Owner intends to award all items to a single contractor. Accordingly, contractors must bid on all items of work, and the low bidder will be the contractor whose total bid price is the lowest. The bid quantities are not guaranteed, and their primary purpose is for the determination of the low bidder.

**4. Measurement and Payment**

Hot mix asphalt shall be measured by the ton and shall be the actual and verified tonnage complete in place and approved. The quantity shall be determined only by weight slips that have been properly countersigned by the Engineer at the time of delivery.

The tonnage of hot mix asphalt will be paid for at the contract unit price per ton of specified hot mix asphalt, complete in place. If tack coat is required by the Engineer, a separate pay item will be

included in the bid proposal form.

**5. Asphalt Pricing and Price Adjustments**

- a) Asphalt Price Adjustments:** Contractor's bid prices shall be based upon the current State DOT asphalt cement index posted exactly two (2) weeks prior to the due date for receipt of bids ("Bid Index"). If the posted State DOT asphalt cement index in place when the work is performed differs by more than 5% from the Bid Index, then Contractor's invoices shall include price adjustments for the asphaltic materials (Micro-Surfacing, crack sealing, chip seal phase of cape seals, and tack coat), and such adjustments shall be proportionate to the mix design asphalt content (%) of each of these materials.
- b) Future Year Price Adjustments:** The Owner reserves itself the option to extend the use, terms, conditions and prices of this bid for an additional three (3) years after the first year in which the contract is awarded. Such extension will be subject to the Owner reviewing and approving the Contractor's annual request for a price adjustment based on and limited to the prior year's actual rate of inflation. If such price adjustment cannot be mutually agreed upon between the Owner and Contractor, Owner may choose to re-bid the work in lieu of extending this contract.

**Item 6**  
**PAVEMENT MILLING**

**1. Description**

Work under this item shall conform to the requirements of the Mass DOT Standard Specifications and the latest Supplemental Specifications for Section 120, as directed by the Engineer, and the following:

- The work shall consist of removing, by cold-planer, asphalt pavement in designated areas.
- The length and width of the excavation will be done as determined by the Engineer.
- The milled material shall become the property of the Contractor to be disposed of or recycled by him.

At cold planing locations, the transition between existing and proposed pavement shall be constructed to maintain the grade of the roadway prior to cold planing in order to produce a smooth transition without dips or bumps.

In no case will a deduction in area be made for minor un-milled areas due to catch basin or manhole castings, gate boxes or transverse joints.

**2. Traffic Control**

The cost of flaggers and any police details, if required, will be paid or reimbursed by the Owner. The Owner will coordinate detail assignments which will be billed to the Contractor directly based on the hourly cost. The Contractor will not be reimbursed for police detail expenses incurred due to failure to cancel or cancelling without the required notice.

**3. Method of Award**

To ensure contractor accountability, the Owner intends to award all items to a single contractor. Accordingly, contractors must bid on all items of work, and the low bidder will be the contractor whose total bid price is the lowest. The bid quantities are not guaranteed, and their primary purpose is for the determination of the low bidder.

**4. Measurement and Payment**

The unit price bid per square yard for each item shall include the cost of furnishing all labor and equipment necessary to complete the milling including the removal of pavement by other means, the removal and disposal of milled material and raised or slotted pavement markers, and cleaning the resultant surface after milling.

**5. Future Year Price Adjustments:**

- a) The Owner reserves itself the option to extend the use, terms, conditions and prices of this bid for an additional three (3) years after the first year in which the contract is awarded. Such extension will be subject to the Owner reviewing and approving the Contractor's annual request for a price adjustment based on and limited to the prior year's actual rate of inflation. If such price adjustment cannot be mutually agreed upon between the Owner and Contractor, Owner may choose to re-bid the work in lieu of extending this contract.

**Item 7**  
**CATCH BASIN AND/OR MANHOLES ADJUSTED**

**1. Description**

Work under this item shall conform to the requirements of the Mass DOT Standard Specifications and the latest Supplemental Specifications for Section 220 (Adjustment, Rebuilding and Remodeling of drainage Structures).

**2. Materials**

Concrete collars will be constructed using 4,000 PSI, 1-1/2", cement concrete masonry, at no additional cost. A minimum of four (4") inches of hot mix asphalt shall be placed and compacted to the underlying grade of the proposed wearing surface and will be considered incidental to the above Item's unit price. All concrete collars will be completely coated with (RS-1) Asphaltic Emulsion before placement of hot mix asphalt. The brick to be used shall meet the requirements of MassDOT Materials Specification M4.05.2 (Clay Brick).

**3. Engineering**

In all roadways, the castings shall be adjusted to the final grade and measured by each catch basin or manhole adjusted and approved by the Engineer. Damaged or obsolete castings shall be replaced with new castings as directed by the Engineer. Frames, Grates and Covers will be furnished by the Owner. The Contractor shall properly dispose of the old castings. No additional compensation will be made for disposal for old castings.

If in the opinion of the Engineer a drainage structure requires replacement or reconstruction, the structure or part of structure shall be rebuilt in conformance with Mass DOT specifications and measured and paid for by multiples of "Catch Basin and/or Manhole Adjusted". Each 2' feet of reconstructed structure will be paid for as an adjustment. For example if the top 4' feet of a manhole is reconstructed this will be paid for as two (2) adjustments. The Contractor shall properly dispose of the old drainage structure. No additional compensation will be made for disposal of the old structure material.

**4. Traffic Control**

The cost of flaggers and any police details, if required, will be paid or reimbursed by the Owner. The Owner will coordinate detail assignments which will be billed to the Contractor directly based on the hourly cost. The Contractor will not be reimbursed for police detail expenses incurred due to failure to cancel or cancelling without the required notice.

**5. Method of Award**

To ensure contractor accountability, the Owner intends to award all items to a single contractor. Accordingly, contractors must bid on all items of work, and the low bidder will be the contractor whose total bid price is the lowest. The bid quantities are not guaranteed, and their primary purpose is for the determination of the low bidder.

**6. Measurement and Payment**

Compensation for all labor, materials (including cement concrete, hot mix asphalt, and asphaltic emulsion), equipment and incidentals to construct the collars shall be included in the contract unit price of this item. The quantity to be measured for payment will be the number of catch basins and manhole adjusted, to be paid for at the unit price per each.

## 7. Asphalt Pricing and Price Adjustments

- a) **Asphalt Price Adjustments:** Contractor's bid prices shall be based upon the current State DOT asphalt cement index posted exactly two (2) weeks prior to the due date for receipt of bids ("Bid Index"). If the posted State DOT asphalt cement index in place when the work is performed differs by more than 5% from the Bid Index, then Contractor's invoices shall include price adjustments for the asphaltic materials (micro-surfacing, crack sealing, chip seal phase of cape seals, and tack coat), and such adjustments shall be proportionate to the mix design asphalt content (%) of each of these materials.
- b) **Future Year Price Adjustments:** The Owner reserves itself the option to extend the use, terms, conditions and prices of this bid for an additional three (3) years after the first year in which the contract is awarded. Such extension will be subject to the Owner reviewing and approving the Contractor's annual request for a price adjustment based on and limited to the prior year's actual rate of inflation. If such price adjustment cannot be mutually agreed upon between the Owner and Contractor, Owner may choose to re-bid the work in lieu of extending this contract.

**Item 8**  
**WATER GATES ADJUSTED**

**1. Description**

Valve boxes shall be installed vertically, centered over the operating nut, and the elevation of the top shall be adjusted to final grade. Boxes shall be continuously and adequately supported during backfilling to maintain vertical alignment. Bricks shall be placed at the base of the flange to properly support the box. Backfill around valve boxes and anywhere excavation is made in the street shall be compacted in 12" lifts.

The boxes and tops shall be furnished by the Owner. Old castings shall be disposed of by the Contractor. The Contractor shall properly dispose of the old castings. No additional compensation will be made for disposal for old castings.

**2. Traffic Control**

The cost of flaggers and any police details, if required, will be paid or reimbursed by the Owner. The Owner will coordinate detail assignments which will be billed to the Contractor directly based on the hourly cost. The Contractor will not be reimbursed for police detail expenses incurred due to failure to cancel or cancelling without the required notice.

**3. Method of Award**

To ensure contractor accountability, the Owner intends to award all items to a single contractor. Accordingly, contractors must bid on all items of work, and the low bidder will be the contractor whose total bid price is the lowest. The bid quantities are not guaranteed, and their primary purpose is for the determination of the low bidder.

**4. Measurement and Payment**

The unit price payment for this item will be for all work described above, for each water gate adjusted.

**5. Future Year Price Adjustments:**

The Owner reserves itself the option to extend the use, terms, conditions and prices of this bid for an additional three (3) years after the first year in which the contract is awarded. Such extension will be subject to the Owner reviewing and approving the Contractor's annual request for a price adjustment based on and limited to the prior year's actual rate of inflation. If such price adjustment cannot be mutually agreed upon between the Owner and Contractor, Owner may choose to re-bid the work in lieu of extending this contract.

**APPENDIX A**

**TOWN OF WESTFORD  
SAMPLE STANDARD CONTRACT**

**SAMPLE  
STANDARD GENERAL CONTRACT  
FOR GOODS**

Agreement effective the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ by and between the Town of Westford, 55 Main Street, Westford, MA 01886, a duly existing municipal corporation in the Commonwealth of Massachusetts, through its duly elected Board of Selectmen or its Town Manager as signed below, with no personal liability to themselves hereinafter referred to as the "Town" and (name & address) \_\_\_\_\_

\_\_\_\_\_ hereinafter referred to as the "Contractor".

**RECITALS**

WHEREAS the Contractor will furnish the Town with goods and;

WHEREAS the Town desires to obtain such from Contractor in a timely manner and;

WHEREAS it was one of the conditions of the award of this contract that a formal agreement should be executed, by the Contractor and Town, evidencing the terms of the award.

NOW THEREFORE in consideration of the mutual covenants contained the parties agree as follows:

ARTICLE I: Contractor shall furnish Town with: \_\_\_\_\_  
\_\_\_\_\_

subject to and in compliance with all conditions, covenants, stipulations, terms and provisions contained in the specifications, instructions to bidders and related documents, which if attached hereto are shown as lettered Exhibit(s) \_\_\_\_\_ and which are incorporated herein by reference, for the sum equal to the aggregate purchase price of that described above to be furnished by Contractor at the prices and rates specified in the proposal, which if also attached hereto is shown as Exhibit \_\_\_\_\_ and which is incorporated herein by reference.

ARTICLE II: Contractor shall commence the performance of this contract within \_\_\_\_\_ days of receiving written notice to proceed and shall have completed the work on or before \_\_\_\_\_ days after notice was received.

ARTICLE III: Contractor covenants and agrees to faithfully perform all of its obligations under this agreement and the incorporated documents hereto. Said performance shall be in a professional and workmanlike manner and in accordance with the standard of care and conduct that is generally acceptable in the business or profession.

ARTICLE IV: In addition to any other warranties or guarantees in any documents incorporated herein by reference, Contractor warrants that what is being provided, described above in Article I, as the subject matter of this contract, is fit for the use or purpose intended. Contractor further certifies the suitability, professionalism and capability of all individuals employed to furnish any services specified in Article I above.

ARTICLE V: The contractor shall purchase and maintain such insurance as will protect it and the Town from claims which arise out of or result from the Contractor's operations under the contract, whether such operations be by itself or by any subcontractor or anyone directly or indirectly employed by any of them. The insurance required shall be with a company authorized to do business in the Commonwealth of Massachusetts and satisfactory to the Town, and shall be written for limits of the liability satisfactory to the Town, and shall include insurance in the following amounts:

LIABILITY - Limits to be Determined  
UMBRELLA - Limits to be Determined  
WORKER'S COMPENSATION - per statutory requirements  
AUTO LIABILITY - Limits to be Determined

Certificates of Insurance acceptable to the Town, naming the Town as an additional insurer, shall be submitted to the Town simultaneously with the execution of the Contract.

ARTICLE VI: The Town has waived the cost of the building permits if required for this project. All permits must still be obtained by the appropriate Contractors as normally required.

ARTICLE VII: This project is Tax Exempt. The tax exemption number will be furnished to the General Contractor by the Owner after award of the contract.

ARTICLE VIII: Termination/Right to Stop Work. The Town may terminate this contract if (a) any material misrepresentation is made by the contractor; (b) any failure by the Contractor to perform any of its obligations under this contract, including but not limited to, the following: (i) failure to commence performance of this contract at time specified due to a reason or circumstance within the Contractor's reasonable control; (ii) failure to perform this contract with sufficient personnel and equipment or with sufficient material to ensure the completion of this contract within the specified time due to a reason or circumstance within the Contractor's reasonable control; (iii) failure to perform this contract in a manner reasonably satisfactory to the Town; (iv) failure to promptly re-perform, within reasonable time, the services that were rejected by the Town as erroneous or unsatisfactory; (v) discontinuance of the services for reasons not beyond the Contractor's reasonable control; (vi) failure to comply with a material term of this contract; and, (vii) any other acts specifically and expressly stated in this contract as constituting a basis for termination of this contract.

The Town may order the Contractor in writing to suspend, delay, or interrupt all or any part of the work for such a period of time as it may determine to be appropriate for the convenience of the Town. The Town may terminate this Contract at any time, with or without cause, upon thirty (30) days written notice to the other party, sent by certified mail, to the usual place of business of the other party.

ARTICLE IX: Damages - From any sums due to the Contractor for performance of this contract, the Town may keep for its own the whole or any part of the amount for expenses, losses and damages incurred by the Town as a consequence of the need to hire a third party to perform the work required by this contract, including the cost of labor and equipment as a result of any event of default, failure, omission or mistake of the Contractor in performing the work as provided in this Contract.

It is further agreed by the Contractor that, in the event the Town is sued in a court of law or equity, or demand is made upon the Town for payment of any damages arising out of any errors or omissions on behalf of the Contractor, or the Contractor's performance or non-performance of this Contract, then the Contractor, without reservation, shall indemnify and hold harmless the Town against any and all claims arising out of the Contractor's performance or non-performance of the Agreement.

ARTICLE X: Confidentiality: The Contractor shall treat as confidential any personal or confidential information obtained from the Town during the negotiation of, or pursuant to, this Agreement and shall not divulge such information to any person (except to such Contractor's own employees or consultants who need to know the same) without the Town's prior written consent provided that this clause shall not extend to information which is already public or becomes so at a future date (otherwise than as a result of a breach of this clause) . The Contractor shall ensure that its employees and consultants are aware of and comply with this clause.

ARTICLE XI: Governing Ordinances and Laws - This contract is made subject to all the laws of the Commonwealth and the By-laws of the Town and if any such clause thereof does not conform to such Laws or Bylaws, such clause shall be void (the remainder of this Contract shall not be affected) and such Laws or By-laws shall be operative in lieu thereof.

ARTICLE XII: Equal Opportunity: The Contractor, in the performance of all work under this contract, will not discriminate on the grounds of race, color, sex, age, religious creed, disability, national origin or ancestry, sexual orientation, marital status, family status, military status, or source of income in the employment practices or in the selection or retention of subcontractors, and in the procurement of materials and rental of equipment. The Town may cancel, terminate or suspend the contract in whole or in part for any violation of this Article.

ARTICLE XIII. Assignability: The Contractor shall not assign, sell, subcontract or transfer any interest in this contract without prior written consent of the Town.

ARTICLE XIV. Notice: Any notice to be given by either party to the other shall be deemed duly given if mailed, via certified mail, return receipt requested, as follows:

In the case of the Town to:

Jodi Ross, Town Manager, 55 Main Street, Westford, MA 01886

In the case of the Contractor to:

ARTICLE XV. Amendments: This contract represents the entire agreement between the parties and the terms of this contract may not be altered or amended except by writing by the parties with the same formalities as this agreement.

ARTICLE XVI. Severability: If any provision of this Agreement or any portion of such provision shall be held invalid or illegal, then the remainder of this Agreement or the remainder of such provision shall not be affected thereby.

ARTICLE XVII. Interpretation of Specifications and Contract Requirements: A decision of interpretation of the specifications, approval of equipment, material or any other approval, or progress of the work by the Contractor, shall be made promptly and, in any event, no later than thirty days after the written submission for decision by the Town, but if such decision requires extended investigation and study, the Town shall, within thirty days after the receipt of the submission, give the party making the submission written notice of the reasons why the decision cannot be made within the thirty day period and the date by which the decision will be made.

ARTICLE XVIII. Indemnification: The Contractor hereby assumes the entire responsibility and liability for any and all injuries to, or death of, all persons, including the Contractor's employees, and for any and all damage to property caused by, resulting from, or arising out of, any act, omission or neglect on the part of the Contractor or anyone directly or indirectly employed by the Contractor.

ARTICLE XIX: The Town agrees to faithfully pay the Contractor, when due and payable, and under the terms of all such incorporated documents and instruments to this agreement, all such contracted sums.

ARTICLE XX: COMPLIANCE – M.G.L. Chapter 62C, §49A

Prior to the issuance of the Contract, \_\_\_\_\_ shall attest under the penalties of perjury that it is in compliance with all the laws of the Commonwealth of Massachusetts relating to taxes. This statement is required in accordance with Massachusetts General Law c.62C, Section 49A.

Pursuant to M.G.L. c.62C, § 49A, I certify under the penalties of perjury that I, to the best of my best knowledge and belief, have filed all state tax returns and paid all state taxes, reported all employees and contractors, and withheld and remitted child support, as required by law.

(NAME OF COMPANY)

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

By \_\_\_\_\_  
Corporation Officer or Authorized



IN WITNESS WHEREOF, the parties hereto have set their hand and seals to this Agreement on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Availability of Funds:

Town of Westford by its  
Board of Selectmen or Town Administrator  
Date if Board vote (if any) \_\_\_\_\_

\_\_\_\_\_  
Town Accountant

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Contractor:**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Print

\_\_\_\_\_  
Title

\_\_\_\_\_  
Corporate Seal

**APPENDIX B**

**STATE PREVAILING WAGE RATES**



**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:** Town of Westford Highway Department  
**Contract Number:** **City/Town:** WESTFORD  
**Description of Work:** Various construction and improvement works to the Town roadway infrastructure.  
**Job Location:** Town 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
<b>Construction</b>						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2015	\$31.65	\$10.41	\$10.08	\$0.00	\$52.14
	06/01/2016	\$32.15	\$10.41	\$10.08	\$0.00	\$52.64
	08/01/2016	\$32.15	\$10.91	\$10.08	\$0.00	\$53.14
	12/01/2016	\$32.15	\$10.91	\$10.89	\$0.00	\$53.95
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2015	\$31.72	\$10.41	\$10.08	\$0.00	\$52.21
	06/01/2016	\$32.22	\$10.41	\$10.08	\$0.00	\$52.71
	08/01/2016	\$32.22	\$10.91	\$10.08	\$0.00	\$53.21
	12/01/2016	\$32.22	\$10.91	\$10.89	\$0.00	\$54.02
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2015	\$31.84	\$10.41	\$10.08	\$0.00	\$52.33
	06/01/2016	\$32.34	\$10.41	\$10.08	\$0.00	\$52.83
	08/01/2016	\$32.34	\$10.91	\$10.08	\$0.00	\$53.33
	12/01/2016	\$32.34	\$10.91	\$10.89	\$0.00	\$54.14
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 2</i>	12/01/2015	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	06/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50
	12/01/2016	\$33.15	\$7.45	\$12.65	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT &amp; FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2015	\$34.38	\$10.40	\$5.95	\$0.00	\$50.73
ASPHALT RAKER <i>LABORERS - ZONE 2</i>	12/01/2015	\$31.40	\$7.45	\$12.65	\$0.00	\$51.50
	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
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 2</i>	12/01/2015	\$31.40	\$7.45	\$12.65	\$0.00	\$51.50
	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i>	12/01/2015	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	06/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50
	12/01/2016	\$33.15	\$7.45	\$12.65	\$0.00	\$53.25
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)	09/01/2015	\$47.76	\$10.18	\$17.97	\$0.00	\$75.91
BRICKLAYERS LOCAL 3 (LOWELL)	03/01/2016	\$47.76	\$10.18	\$18.54	\$0.00	\$76.48
	09/01/2016	\$48.66	\$10.18	\$18.62	\$0.00	\$77.46
	03/01/2017	\$49.23	\$10.18	\$18.62	\$0.00	\$78.03

**Classification**

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

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

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

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.88	\$10.18	\$17.97	\$0.00	\$52.03
2	60	\$28.66	\$10.18	\$17.97	\$0.00	\$56.81
3	70	\$33.43	\$10.18	\$17.97	\$0.00	\$61.58
4	80	\$38.21	\$10.18	\$17.97	\$0.00	\$66.36
5	90	\$42.98	\$10.18	\$17.97	\$0.00	\$71.13

**Effective Date - 03/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.88	\$10.18	\$18.54	\$0.00	\$52.60
2	60	\$28.66	\$10.18	\$18.54	\$0.00	\$57.38
3	70	\$33.43	\$10.18	\$18.54	\$0.00	\$62.15
4	80	\$38.21	\$10.18	\$18.54	\$0.00	\$66.93
5	90	\$42.98	\$10.18	\$18.54	\$0.00	\$71.70

**Notes:**

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

<b>BULLDOZER/GRADER/SCRAPER</b> <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"						
<b>CAISSON &amp; UNDERPINNING BOTTOM MAN</b> <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"						
<b>CAISSON &amp; UNDERPINNING LABORER</b> <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"						
<b>CAISSON &amp; UNDERPINNING TOP MAN</b> <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"						
<b>CARBIDE CORE DRILL OPERATOR</b> <i>LABORERS - ZONE 2</i>	12/01/2015	\$31.40	\$7.45	\$12.65	\$0.00	\$51.50
	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
<b>CARPENTER</b> <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 (LOWELL)	01/01/2016	\$43.51	\$10.90	\$18.71	\$1.30	\$74.42
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**Apprentice - CEMENT MASONRY/PLASTERING - Lowell**

**Effective Date - 01/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.76	\$10.90	\$12.21	\$0.00	\$44.87
2	60	\$26.11	\$10.90	\$13.71	\$1.30	\$52.02
3	65	\$28.28	\$10.90	\$14.71	\$1.30	\$55.19
4	70	\$30.46	\$10.90	\$15.71	\$1.30	\$58.37
5	75	\$32.63	\$10.90	\$16.71	\$1.30	\$61.54
6	80	\$34.81	\$10.90	\$17.71	\$1.30	\$64.72
7	90	\$39.16	\$10.90	\$18.71	\$1.30	\$70.07

**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 2	12/01/2015	\$31.40	\$7.45	\$12.65	\$0.00	\$51.50
	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

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 2</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 2</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 2</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 2</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 2</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 2</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

**Classification**

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

**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	\$11.84	\$0.00	\$45.62
4	45	\$20.78	\$13.00	\$11.84	\$0.00	\$45.62
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	\$13.39	\$0.00	\$54.09
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 2</i>	12/01/2015	\$31.40	\$7.45	\$12.65	\$0.00	\$51.50
	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

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 2</i>	12/01/2015	\$20.50	\$7.45	\$12.65	\$0.00	\$40.60
	06/01/2016	\$20.50	\$7.45	\$12.65	\$0.00	\$40.60
	12/01/2016	\$20.50	\$7.45	\$12.65	\$0.00	\$40.60
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 2</i>	12/01/2015	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	06/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50
	12/01/2016	\$33.15	\$7.45	\$12.65	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
INSULATOR (PIPES & TANKS) <i>HEAT &amp; 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 (LAWRENCE AREA)</i>	09/16/2015	\$37.99	\$7.80	\$20.85	\$0.00	\$66.64
	03/16/2016	\$38.99	\$7.80	\$20.85	\$0.00	\$67.64
	09/16/2016	\$39.64	\$7.80	\$20.85	\$0.00	\$68.29
	03/16/2017	\$40.24	\$7.80	\$20.85	\$0.00	\$68.89

**Apprentice - IRONWORKER - Local 7 Lawrence**

**Effective Date - 09/16/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$22.79	\$7.80	\$20.85	\$0.00	\$51.44
2	70	\$26.59	\$7.80	\$20.85	\$0.00	\$55.24
3	75	\$28.49	\$7.80	\$20.85	\$0.00	\$57.14
4	80	\$30.39	\$7.80	\$20.85	\$0.00	\$59.04
5	85	\$32.29	\$7.80	\$20.85	\$0.00	\$60.94
6	90	\$34.19	\$7.80	\$20.85	\$0.00	\$62.84

**Effective Date - 03/16/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.39	\$7.80	\$20.85	\$0.00	\$52.04
2	70	\$27.29	\$7.80	\$20.85	\$0.00	\$55.94
3	75	\$29.24	\$7.80	\$20.85	\$0.00	\$57.89
4	80	\$31.19	\$7.80	\$20.85	\$0.00	\$59.84
5	85	\$33.14	\$7.80	\$20.85	\$0.00	\$61.79
6	90	\$35.09	\$7.80	\$20.85	\$0.00	\$63.74

**Notes:**

Structural 1:6; Ornamental 1:4

**Apprentice to Journeyworker Ratio:**

JACKHAMMER & PAVING BREAKER OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2015	\$31.40	\$7.45	\$12.65	\$0.00	\$51.50
	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

LABORER <i>LABORERS - ZONE 2</i>	12/01/2015	\$31.15	\$7.45	\$12.65	\$0.00	\$51.25
	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50

**Classification**

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

**Apprentice - LABORER - Zone 2**

**Effective Date - 12/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.69	\$7.45	\$12.65	\$0.00	\$38.79
2	70	\$21.81	\$7.45	\$12.65	\$0.00	\$41.91
3	80	\$24.92	\$7.45	\$12.65	\$0.00	\$45.02
4	90	\$28.04	\$7.45	\$12.65	\$0.00	\$48.14

**Effective Date - 06/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.99	\$7.45	\$12.65	\$0.00	\$39.09
2	70	\$22.16	\$7.45	\$12.65	\$0.00	\$42.26
3	80	\$25.32	\$7.45	\$12.65	\$0.00	\$45.42
4	90	\$28.49	\$7.45	\$12.65	\$0.00	\$48.59

**Notes:**

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

LABORER: CARPENTER TENDER LABORERS - ZONE 2	12/01/2015	\$31.15	\$7.45	\$12.65	\$0.00	\$51.25
	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50

For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER LABORERS - ZONE 2	12/01/2015	\$31.15	\$7.45	\$12.65	\$0.00	\$51.25
	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50

For apprentice rates see "Apprentice- LABORER"

LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS - ZONE 2	12/01/2015	\$31.35	\$7.45	\$12.60	\$0.00	\$51.40
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For apprentice rates see "Apprentice- LABORER"

LABORER: MASON TENDER LABORERS - ZONE 2	12/01/2015	\$31.40	\$7.45	\$12.65	\$0.00	\$51.50
	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

LABORER: MULTI-TRADE TENDER LABORERS - ZONE 2	12/01/2015	\$31.15	\$7.45	\$12.65	\$0.00	\$51.25
	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50

For apprentice rates see "Apprentice- LABORER"

LABORER: TREE REMOVER LABORERS - ZONE 2	12/01/2015	\$31.15	\$7.45	\$12.65	\$0.00	\$51.25
	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50

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 2	12/01/2015	\$31.40	\$7.45	\$12.65	\$0.00	\$51.50
	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

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 &amp; 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 &amp; 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:**

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**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 2) <i>MILLWRIGHTS LOCAL 1121 - Zone 2</i>	04/01/2015	\$34.69	\$9.80	\$16.21	\$0.00	\$60.70
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**Apprentice - MILLWRIGHT - Local 1121 Zone 2**

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

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$19.08	\$9.80	\$4.48	\$0.00	\$33.36
2	65	\$22.55	\$9.80	\$13.36	\$0.00	\$45.71
3	75	\$26.02	\$9.80	\$14.18	\$0.00	\$50.00
4	85	\$29.49	\$9.80	\$14.99	\$0.00	\$54.28

**Notes:**

Steps are 2,000 hours

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

<b>MORTAR MIXER</b> <i>LABORERS - ZONE 2</i>	12/01/2015	\$31.40	\$7.45	\$12.65	\$0.00	\$51.50
	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

<b>OILER (OTHER THAN TRUCK CRANES,GRADALLS)</b> <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"

<b>OILER (TRUCK CRANES, GRADALLS)</b> <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"

<b>OTHER POWER DRIVEN EQUIPMENT - CLASS II</b> <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"

<b>PAINTER (BRIDGES/TANKS)</b> <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

**Classification**

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

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

**Effective Date - 01/01/2016**

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

**Effective Date - 07/01/2016**

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

**Notes:**  
Steps are 750 hrs.

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

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 2	12/01/2015	\$31.15	\$7.45	\$12.65	\$0.00	\$51.25
	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50

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

**Classification**

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

**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 B</i>	12/01/2012	\$30.28	\$9.07	\$8.00	\$0.00	\$47.35
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 2</i>	12/01/2015	\$31.40	\$7.45	\$12.65	\$0.00	\$51.50
	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
PLUMBERS & GASFITTERS <i>PLUMBERS &amp; 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 2</i>	12/01/2015	\$31.40	\$7.45	\$12.65	\$0.00	\$51.50
	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

POWDERMAN & BLASTER <i>LABORERS - ZONE 2</i>	12/01/2015	\$32.15	\$7.45	\$12.65	\$0.00	\$52.25
	06/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
	12/01/2016	\$33.40	\$7.45	\$12.65	\$0.00	\$53.50

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 DRIVER <i>TEAMSTERS LOCAL 49</i>	05/01/2010	\$22.88	\$6.97	\$3.94	\$0.00	\$33.79
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 **	05/01/2011	\$24.24	\$6.34	\$6.23	\$0.00	\$36.81

\*\* 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. *CARPENTERS -ZONE 2 (Residential Wood)*

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

**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 2</i>	12/01/2015	\$31.40	\$7.45	\$12.65	\$0.00	\$51.50
	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

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

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

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

**Effective Date - 02/01/2016**

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

**Notes: \*\* 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1  
Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.**

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

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

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

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

**Effective Date - 02/01/2016**

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

**Effective Date - 08/01/2016**

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

**Notes:**

Steps are 6 mos.

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

SIGN ERECTOR PAINTERS LOCAL 35 - ZONE 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**

<b>SPECIALIZED EARTH MOVING EQUIP &lt; 35 TONS</b> <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2015	\$31.94	\$10.41	\$10.08	\$0.00	\$52.43
	06/01/2016	\$32.44	\$10.41	\$10.08	\$0.00	\$52.93
	08/01/2016	\$32.44	\$10.91	\$10.08	\$0.00	\$53.43
	12/01/2016	\$32.44	\$10.91	\$10.89	\$0.00	\$54.24
<b>SPECIALIZED EARTH MOVING EQUIP &gt; 35 TONS</b> <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2015	\$32.23	\$10.41	\$10.08	\$0.00	\$52.72
	06/01/2016	\$32.73	\$10.41	\$10.08	\$0.00	\$53.22
	08/01/2016	\$32.73	\$10.91	\$10.08	\$0.00	\$53.72
	12/01/2016	\$32.73	\$10.91	\$10.89	\$0.00	\$54.53
<b>SPRINKLER FITTER</b> <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 B</i>	12/01/2015	\$32.52	\$10.41	\$10.08	\$0.00	\$53.01
	06/01/2016	\$33.02	\$10.41	\$10.08	\$0.00	\$53.51
	08/01/2016	\$33.02	\$10.91	\$10.08	\$0.00	\$54.01
	12/01/2016	\$33.02	\$10.91	\$10.89	\$0.00	\$54.82

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 B</i>	12/01/2015	\$31.94	\$10.41	\$10.08	\$0.00	\$52.43
	06/01/2016	\$32.44	\$10.41	\$10.08	\$0.00	\$52.93
	08/01/2016	\$32.44	\$10.91	\$10.08	\$0.00	\$53.43
	12/01/2016	\$32.44	\$10.91	\$10.89	\$0.00	\$54.24
WAGON DRILL OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2015	\$31.40	\$7.45	\$12.65	\$0.00	\$51.50
	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
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 &amp; 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"						
<b>Outside Electrical - East</b>						
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"						

<b>Classification</b>	<b>Effective Date</b>	<b>Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
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 <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2016	\$28.98	\$4.25	\$3.12	\$0.00	\$36.35
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TELEDATA LINEMAN/EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2016	\$27.31	\$4.25	\$3.07	\$0.00	\$34.63
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TELEDATA WIREMAN/INSTALLER/TECHNICIAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2016	\$27.31	\$4.25	\$3.07	\$0.00	\$34.63
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TREE TRIMMER <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/31/2016	\$18.51	\$3.55	\$0.00	\$0.00	\$22.06
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This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is not on the ground. This classification does not apply to wholesale tree removal.

TREE TRIMMER GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/31/2016	\$16.32	\$3.55	\$0.00	\$0.00	\$19.87
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This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is on the ground. This classification does not apply to wholesale tree removal.

**Rental of Equipment - East**

(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2015	\$31.65	\$10.41	\$0.00	\$0.00	\$42.06
	06/01/2016	\$32.15	\$10.41	\$0.00	\$0.00	\$42.56
	08/01/2016	\$32.15	\$10.91	\$0.00	\$0.00	\$43.06
	12/01/2016	\$32.15	\$10.91	\$0.00	\$0.00	\$43.06

<b>Classification</b>	<b>Effective Date</b>	<b>Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2015	\$31.72	\$10.41	\$0.00	\$0.00	\$42.13
	06/01/2016	\$32.22	\$10.41	\$0.00	\$0.00	\$42.63
	08/01/2016	\$32.22	\$10.91	\$0.00	\$0.00	\$43.13
	12/01/2016	\$32.22	\$10.91	\$0.00	\$0.00	\$43.13
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2015	\$31.84	\$10.41	\$0.00	\$0.00	\$42.25
	06/01/2016	\$32.34	\$10.41	\$0.00	\$0.00	\$42.75
	08/01/2016	\$32.34	\$10.91	\$0.00	\$0.00	\$43.25
	12/01/2016	\$32.34	\$10.91	\$0.00	\$0.00	\$43.25
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$88.29	\$9.80	\$0.00	\$0.00	\$98.09
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.73	\$10.00	\$0.00	\$0.00	\$53.73
	06/01/2016	\$44.48	\$10.00	\$0.00	\$0.00	\$54.48
	12/01/2016	\$45.73	\$10.00	\$0.00	\$0.00	\$55.73
	06/01/2017	\$46.73	\$10.00	\$0.00	\$0.00	\$56.73
	12/01/2017	\$47.73	\$10.00	\$0.00	\$0.00	\$57.73
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.73	\$10.00	\$0.00	\$0.00	\$53.73
	06/01/2016	\$44.48	\$10.00	\$0.00	\$0.00	\$54.48
	12/01/2016	\$45.73	\$10.00	\$0.00	\$0.00	\$55.73
	06/01/2017	\$46.73	\$10.00	\$0.00	\$0.00	\$56.73
	12/01/2017	\$47.73	\$10.00	\$0.00	\$0.00	\$57.73
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BULLDOZER/GRADER/SCRAPER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.31	\$10.00	\$0.00	\$0.00	\$53.31
	06/01/2016	\$44.06	\$10.00	\$0.00	\$0.00	\$54.06
	12/01/2016	\$45.29	\$10.00	\$0.00	\$0.00	\$55.29
	06/01/2017	\$46.28	\$10.00	\$0.00	\$0.00	\$56.28
	12/01/2017	\$47.27	\$10.00	\$0.00	\$0.00	\$57.27
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$44.73	\$10.00	\$0.00	\$0.00	\$54.73
	06/01/2016	\$45.48	\$10.00	\$0.00	\$0.00	\$55.48
	12/01/2016	\$46.73	\$10.00	\$0.00	\$0.00	\$56.73
	06/01/2017	\$47.73	\$10.00	\$0.00	\$0.00	\$57.73
	12/01/2017	\$48.73	\$10.00	\$0.00	\$0.00	\$58.73
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$30.13	\$10.00	\$0.00	\$0.00	\$40.13
	06/01/2016	\$30.65	\$10.00	\$0.00	\$0.00	\$40.65
	12/01/2016	\$31.52	\$10.00	\$0.00	\$0.00	\$41.52
	06/01/2017	\$32.21	\$10.00	\$0.00	\$0.00	\$42.21
	12/01/2017	\$32.90	\$10.00	\$0.00	\$0.00	\$42.90
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$58.86	\$9.80	\$0.00	\$0.00	\$68.66
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$0.00	\$0.00	\$51.84
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$63.06	\$9.80	\$0.00	\$0.00	\$72.86

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$88.23	\$9.80	\$0.00	\$0.00	\$98.03
FLAGGER & SIGNALER <i>LABORERS - ZONE 2</i>	12/01/2015	\$20.50	\$7.45	\$0.00	\$0.00	\$27.95
	06/01/2016	\$20.50	\$7.45	\$0.00	\$0.00	\$27.95
	12/01/2016	\$20.50	\$7.45	\$0.00	\$0.00	\$27.95
For apprentice rates see "Apprentice- LABORER"						
FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.73	\$10.00	\$0.00	\$0.00	\$53.73
	06/01/2016	\$44.48	\$10.00	\$0.00	\$0.00	\$54.48
	12/01/2016	\$45.73	\$10.00	\$0.00	\$0.00	\$55.73
	06/01/2017	\$46.73	\$10.00	\$0.00	\$0.00	\$56.73
	12/01/2017	\$47.73	\$10.00	\$0.00	\$0.00	\$57.73
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$30.13	\$10.00	\$0.00	\$0.00	\$40.13
	06/01/2016	\$30.65	\$10.00	\$0.00	\$0.00	\$40.65
	12/01/2016	\$31.52	\$10.00	\$0.00	\$0.00	\$41.52
	06/01/2017	\$32.21	\$10.00	\$0.00	\$0.00	\$42.21
	12/01/2017	\$32.90	\$10.00	\$0.00	\$0.00	\$42.90
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
HOISTING ENGINEER/CRANES/GRADALLS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.73	\$10.00	\$0.00	\$0.00	\$53.73
	06/01/2016	\$44.48	\$10.00	\$0.00	\$0.00	\$54.48
	12/01/2016	\$45.73	\$10.00	\$0.00	\$0.00	\$55.73
	06/01/2017	\$46.73	\$10.00	\$0.00	\$0.00	\$56.73
	12/01/2017	\$47.73	\$10.00	\$0.00	\$0.00	\$57.73

**Classification**

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

**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	\$0.00	\$0.00	\$36.24
3	65	\$28.42	\$10.00	\$0.00	\$0.00	\$38.42
4	70	\$30.61	\$10.00	\$0.00	\$0.00	\$40.61
5	75	\$32.80	\$10.00	\$0.00	\$0.00	\$42.80
6	80	\$34.98	\$10.00	\$0.00	\$0.00	\$44.98
7	85	\$37.17	\$10.00	\$0.00	\$0.00	\$47.17
8	90	\$39.36	\$10.00	\$0.00	\$0.00	\$49.36

**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	\$0.00	\$0.00	\$36.69
3	65	\$28.91	\$10.00	\$0.00	\$0.00	\$38.91
4	70	\$31.14	\$10.00	\$0.00	\$0.00	\$41.14
5	75	\$33.36	\$10.00	\$0.00	\$0.00	\$43.36
6	80	\$35.58	\$10.00	\$0.00	\$0.00	\$45.58
7	85	\$37.81	\$10.00	\$0.00	\$0.00	\$47.81
8	90	\$40.03	\$10.00	\$0.00	\$0.00	\$50.03

**Notes:**

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

LABORER	12/01/2015	\$31.15	\$7.45	\$0.00	\$0.00	\$38.60
LABORERS - ZONE 2	06/01/2016	\$31.65	\$7.45	\$0.00	\$0.00	\$39.10
	12/01/2016	\$32.40	\$7.45	\$0.00	\$0.00	\$39.85

**Classification**

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

**Apprentice - LABORER - Zone 2**

**Effective Date - 12/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.69	\$7.45	\$0.00	\$0.00	\$26.14
2	70	\$21.81	\$7.45	\$0.00	\$0.00	\$29.26
3	80	\$24.92	\$7.45	\$0.00	\$0.00	\$32.37
4	90	\$28.04	\$7.45	\$0.00	\$0.00	\$35.49

**Effective Date - 06/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.99	\$7.45	\$0.00	\$0.00	\$26.44
2	70	\$22.16	\$7.45	\$0.00	\$0.00	\$29.61
3	80	\$25.32	\$7.45	\$0.00	\$0.00	\$32.77
4	90	\$28.49	\$7.45	\$0.00	\$0.00	\$35.94

**Notes:**

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

OILER (OTHER THAN TRUCK CRANES,GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$22.27	\$10.00	\$0.00	\$0.00	\$32.27
	06/01/2016	\$22.66	\$10.00	\$0.00	\$0.00	\$32.66
	12/01/2016	\$23.31	\$10.00	\$0.00	\$0.00	\$33.31
	06/01/2017	\$23.82	\$10.00	\$0.00	\$0.00	\$33.82
	12/01/2017	\$24.34	\$10.00	\$0.00	\$0.00	\$34.34

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$26.08	\$10.00	\$0.00	\$0.00	\$36.08
	06/01/2016	\$26.54	\$10.00	\$0.00	\$0.00	\$36.54
	12/01/2016	\$27.29	\$10.00	\$0.00	\$0.00	\$37.29
	06/01/2017	\$27.89	\$10.00	\$0.00	\$0.00	\$37.89
	12/01/2017	\$28.50	\$10.00	\$0.00	\$0.00	\$38.50

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	\$0.00	\$0.00	\$53.31
	06/01/2016	\$44.06	\$10.00	\$0.00	\$0.00	\$54.06
	12/01/2016	\$45.29	\$10.00	\$0.00	\$0.00	\$55.29
	06/01/2017	\$46.28	\$10.00	\$0.00	\$0.00	\$56.28
	12/01/2017	\$47.27	\$10.00	\$0.00	\$0.00	\$57.27

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PANEL & PICKUP TRUCKS DRIVER <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2012	\$30.28	\$9.07	\$0.00	\$0.00	\$39.35
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POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.73	\$10.00	\$0.00	\$0.00	\$53.73
	06/01/2016	\$44.48	\$10.00	\$0.00	\$0.00	\$54.48
	12/01/2016	\$45.73	\$10.00	\$0.00	\$0.00	\$55.73
	06/01/2017	\$46.73	\$10.00	\$0.00	\$0.00	\$56.73
	12/01/2017	\$47.73	\$10.00	\$0.00	\$0.00	\$57.73

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.73	\$10.00	\$0.00	\$0.00	\$53.73
	06/01/2016	\$44.48	\$10.00	\$0.00	\$0.00	\$54.48
	12/01/2016	\$45.73	\$10.00	\$0.00	\$0.00	\$55.73
	06/01/2017	\$46.73	\$10.00	\$0.00	\$0.00	\$56.73
	12/01/2017	\$47.73	\$10.00	\$0.00	\$0.00	\$57.73
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$30.13	\$10.00	\$0.00	\$0.00	\$40.13
	06/01/2016	\$30.65	\$10.00	\$0.00	\$0.00	\$40.65
	12/01/2016	\$31.52	\$10.00	\$0.00	\$0.00	\$41.52
	06/01/2017	\$32.21	\$10.00	\$0.00	\$0.00	\$42.21
	12/01/2017	\$32.90	\$10.00	\$0.00	\$0.00	\$42.90
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.31	\$10.00	\$0.00	\$0.00	\$53.31
	06/01/2016	\$44.06	\$10.00	\$0.00	\$0.00	\$54.06
	12/01/2016	\$45.29	\$10.00	\$0.00	\$0.00	\$55.29
	06/01/2017	\$46.28	\$10.00	\$0.00	\$0.00	\$56.28
	12/01/2017	\$47.27	\$10.00	\$0.00	\$0.00	\$57.27
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
SPECIALIZED EARTH MOVING EQUIP < 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2015	\$31.94	\$10.41	\$0.00	\$0.00	\$42.35
	06/01/2016	\$32.44	\$10.41	\$0.00	\$0.00	\$42.85
	08/01/2016	\$32.44	\$10.91	\$0.00	\$0.00	\$43.35
	12/01/2016	\$32.44	\$10.91	\$0.00	\$0.00	\$43.35
SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2015	\$32.23	\$10.41	\$0.00	\$0.00	\$42.64
	06/01/2016	\$32.73	\$10.41	\$0.00	\$0.00	\$43.14
	08/01/2016	\$32.73	\$10.91	\$0.00	\$0.00	\$43.64
	12/01/2016	\$32.73	\$10.91	\$0.00	\$0.00	\$43.64
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.31	\$10.00	\$0.00	\$0.00	\$53.31
	06/01/2016	\$44.06	\$10.00	\$0.00	\$0.00	\$54.06
	12/01/2016	\$45.29	\$10.00	\$0.00	\$0.00	\$55.29
	06/01/2017	\$46.28	\$10.00	\$0.00	\$0.00	\$56.28
	12/01/2017	\$47.27	\$10.00	\$0.00	\$0.00	\$57.27
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2015	\$32.52	\$10.41	\$0.00	\$0.00	\$42.93
	06/01/2016	\$33.02	\$10.41	\$0.00	\$0.00	\$43.43
	08/01/2016	\$33.02	\$10.91	\$0.00	\$0.00	\$43.93
	12/01/2016	\$33.02	\$10.91	\$0.00	\$0.00	\$43.93
TREE TRIMMER <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	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 <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	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.						

<b>Classification</b>	<b>Effective Date</b>	<b>Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
VAC-HAUL/CATCH BASIN CLEANING <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2015	\$31.94	\$10.41	\$0.00	\$0.00	\$42.35
	06/01/2016	\$32.44	\$10.41	\$0.00	\$0.00	\$42.85
	08/01/2016	\$32.44	\$10.91	\$0.00	\$0.00	\$43.35
	12/01/2016	\$32.44	\$10.91	\$0.00	\$0.00	\$43.35

Additional Apprentice Information:

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

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

All steps are six months (1000 hours.)

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

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

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

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