LEGAL NOTICE TO CONTRACTORS

The Southeastern Regional Services Group (SERSG) invites bids for DPW Services to be performed during the one-year period February 1, 2022 to January 31, 2023. All services are being contracted for one year only. They are: Pavement Reclamation; Cold In-Place Recycling; Permanent Trench Patch Repairs; SuperPave Hot Mix Asphalt with Cold Planing; Chip Seal; Rubber Chip Seal; Micro Paving; Cape Sealing; Bonded Wearing Course; Crack Sealing; Polymer-Modified Crack Sealing/Hot Asphaltic Filler; Traffic Line Painting with Chlorinated Rubber, Thermoplastic or Epoxy; Guard Rail Installation; Structure Work; Sub-Drain Installation; Catch Basin Cleaning; Catch Basin Cleaning with Sump Measurement; Tub Grinding; Screening Services; Excavation Services; Snow & Materials Hauling & Disposal; Snow Shoveling on Flat Rooves, Sidewalk Construction with Curbs and Edging, Standard Tree Removal and/or Trimming, and High-Production Tree Removal and/or Trimming.

Contracts will result with the Towns of Abington, Bridgewater, Canton, Dighton, East Bridgewater, Easton, Foxborough, Hanson, Lakeville, Mansfield, Medfield, Middleborough, Milton, Norfolk, North Attleborough, Norton, Plainville, Raynham, Sharon, Stoughton, Swansea, West Bridgewater and Wrentham, and the City of Taunton

The Invitation for Bids (IFB) will be available beginning 12:00PM on October 21, 2021. Vendors may register at https://www.bidnetdirect.com/massachusetts/sersg to download an *Unofficial* IFB, which may can be used to bid on items numbered 21-27 only. Request an Official IFB by contacting sersg@sersg.org or 508-851-6441.

Official bid packages will be emailed only to vendors on the Massachusetts Department of Transportation list of prequalified contractors for each class of work. The estimated-value and class of work for Pre-Qualification purposes is included in the IFB. Requestors not on the Pre-Qualification list will receive an unofficial bid package, which will not be accepted for bids on items requiring PreQualification.

Bids will be accepted until **10:00AM Wednesday, November 17, 2021.** They will be opened at that time in Mansfield Town Hall conference room 3A/B and read aloud. All interested parties may attend. Bids may be held by SERSG for a period not to exceed sixty (60) days.

All bidding shall be in accordance with relevant sections of M.G.L. Chapters 30 and 149. **Prevailing wages must be paid by the Contractor.** Work performed under these contracts must comply with all current Massachusetts Law and Executive Orders including, but not limited to, non-discrimination and equal opportunity laws and regulations. A successful contractor shall also comply with Chapter 306 of the Acts of 2004, which pertains to the health and safety on public construction projects and work.

A Bid Bond equal to 5% of the value of the bid payable to the S ERSG Service Corp. **must accompany the bid**. Bid securities will be returned upon execution of the Contract or within 60 calendar days of the bid date if no award is made.

The Awarding Authority will be the Board of Selectmen/Select Board, Town Manager, Town Administrator, Mayor, or Chief Procurement Officer of each SERSG municipality participating in this procurement. A contract will be awarded by each participating municipality to the lowest responsible and eligible bidder for each Item of Work.

A Bidder awarded a Contract will be required to submit a labor and materials bond issued by a surety company licensed by the Commonwealth's Division of Insurance in an amount equal to 50% of the estimated value of each contract awarded when work with a municipality is scheduled.



William Francis Galvin
Secretary of the Commonwealth of Massachusetts

General contract submission confirmation

The following General Contract submission was successfully received.

Planned date of publish is 10/27/2021

Awarding Agency

Agency Name and Address:	Southeastern Regional Services Group (SERSG) 6 Park Row Mansfield, MA 02048
Project Number:	
Estimated Cost:	15,053,670.66
Contractor Qualification:	

Required for DCAMM contracts over $150,000, Highway Division contracts over $50,000. Add categories to the Project description below.

Contact Information

Name:	Moira Rouse		
Phone:	508-851-6441	Fax	
Email Address:	sersg@sersg.org Do not notify email address listed when final publish date assigned.		

Contract Information

Project:	DPW Services for 24 municipalities' 1-year contracts are: Pavement Reclamation; Cold In-Place Recycling; Permanent Trench Patch Repairs; SuperPave; Chip Seal; Rubber Chip Seal; Micro Paving; Cape Sealing; Bonded Wearing Course; Crack Sealing; Polymer-Modified Crack Sealing; Traffic Line Painting; Chlorinated Rubber, Thermoplastic or Epoxy; Guard Rail Installation; Structure Work; Sub-Drain Installation; Catch Basin Cleaning; Catch Basin Cleaning with Sump Measurement; Tub Grinding; Screening; Excavation; Snow & Materials Hauling & Disposal; Snow Shoveling Flat Roof, Sidewalk Construction with Curbs and Edging, Standard and High-Production Tree Removal and/or Trimming
Plans/Specifications Available: Place, date and time	IFB available 10/21/21 12:00PM. Email or call to request

General Bid Deadline*:	11/17/2021	Time	10:00AM
Sub Bid Deadline:		Time	
Sub Bid Categories:			
Additional Information	**Official bid packages provided only to vendors on the Massachusetts Department of Transportation list of prequalified contractors for each category of work. The estimated-value used to request Pre-Qualification lists is provided in the bid package for each class of work. Requestors NOT on the list will receive an unofficial bid package that cannot be used for bidding. A Bid Bond equal to 5% of the value of the bid payable to the SERSG Service Corp. must accompany the bid. Bid securities will be returned upon execution of the Contract or within 60 calendar days of the bid date if no award is made.**		

This page can be printed for your records.

Add Another Return To Menu

William Francis Galvin, Secretary of the Commonwealth of Massachusetts
Terms and Conditions
Accessibility Statement

THANK YOU for your legal notice submission.

ORDER DETAILS

Order Number:
W0092897
Order Status:
Submitted
Classification
Legal Notice - Bids/RFPs
Package:
Legal Notices
Cost:
360.00
Payment Type:

User ID:
W0011943

ACCOUNT INFORMATION

Moira Rouse
6 Park Row
Mansfield, MA 02048
508-851-6441
sersg@sersg.org
SERSG Service Corp.

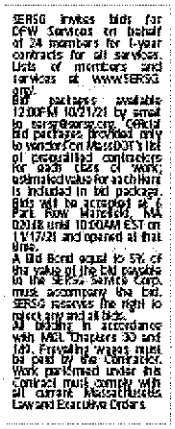
TRANSACTION REPORT

Date
10:14 AM - Fri, Oct 15, 2021
Amount:
360.00

SCHEDULE FOR LEGAL NOTICE NUMBER W00928970

Thu Oct 21, 2021
Boston Globe Legal Notices

PREVIEW FOR LEGAL NOTICE NUMBER W00928970



SERSG invites bids for DPW Services on behalf of 24 members for 1-year contracts for all services. Lists of members and services at www.SERSG.org/
Bid packages available 12:00PM 10/21/21 by email to sersg@sersg.org. Official bid packages furnished only to vendor on MassDOT's list of prequalified contractors for each class of work; estimated value for each item is included in bid package. Bids will be accepted at 6 Park Row Mansfield, MA 02048 until 10:00AM EST on 11/17/21 and opened at that time.
A Bid Bond equal to 5% of the value of the bid payable to the SERSG Service Corp. must accompany the bid. SERSG reserves the right to reject any and all bids.
All bidding in accordance with MGL Chapters 30 and 149. Prevailing wages must be paid by the Contractor. Work performed under this Contract must comply with all current Massachusetts Law and Executive Orders

<< Click here to print a printer friendly version >>

Southeastern Regional Services Group

BID SOLICITATION

Bid Opening Date: 11/17/2021 10:00 AM
Printed: 10/27/2021 01:40 PM

Bid Number
BD-22-2157-SERSG-SERSG-67585
Alternate ID
Requisition Number

Description: DPW Services

Item	Class-Item	Quantity	Unit	Unit Price	Total
1	DPW Services, 1-yr contracts for 24 members: Pavement Reclamation, Cold InPlace Recyclg, Permanent Trench Repair,	1	EA	_____	_____
				TOTAL:	_____

THIS IS NOT AN ORDER, AND DOES NOT COMMIT THE PURCHASING ENTITY TO PURCHASE ANY GOODS OR SERVICES.

PURCHASED

By: Moira Rouse

Phone#: (508) 851-6441

Email: sersg@sersg.org

BUYER

Southeastern Regional Services Group

Invitation for Bids for DPW Services

February 1, 2022 – January 31, 2023

Bids Due 10:00 AM
Wednesday, November 17, 2021

Moira L. Rouse, Procurement Officer

SERSG@sersg.org

6 Park Row Mansfield, MA 02048 (508) 851-6441

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A Bidder awarded a Contract will be required to submit a labor and materials bond issued by a surety company licensed by the Commonwealth's Division of Insurance in an amount equal to 50% of the estimated value of each contract awarded when work with a municipality is scheduled.

INSTRUCTIONS TO BIDDERS

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QUANTITIES

A list of municipalities and their expected service quantities is included. Such quantities are provided for the comparison of bid prices and are reasonable estimations of the work needed but are only estimates. The actual amounts requested by municipalities will be based on funding and other factors related to the work. This is a unit price contract and the contract will be awarded to the contractor with the lowest bid based on all the listed items as calculated in the total cost line item. The quantity numbers in the bid form are only for bidder comparison to determine the lowest bidder. It is understood that the contractor will provide the quantities actually required by the municipalities. Because these services are procured on an as-needed basis, contractors will be required to provide a written estimate of the project cost based on the bid pricing when requested to provide a specific service for a municipality. No contracts resulting from this year's bid will be eligible for renewal.

INVESTIGATION OF CONDITIONS

Bidders are expected to visit the locality of the work and acquaint themselves with all available information concerning local conditions. They are also expected to make their own estimates of the facilities needed and difficulties attending the execution of the proposed Contract including local conditions, availability of labor, uncertainties of weather and other contingencies. In no event will the municipalities take any responsibility whatsoever for any interpretation, deduction or conclusion drawn from the inspection of the work site. Failure to acquaint oneself with all available information concerning these conditions will not relieve the successful bidder from responsibility for estimating the difference and costs of successfully performing the complete work.

Questions regarding site specific work in a municipality should be addressed to the appropriate contact person in that municipality, as identified in this bid package.

INQUIRIES

Any bidder finding ambiguity, inconsistency, or error shall promptly notify the SERSG Procurement Officer of such. Inquiries concerning this procurement prior to bid opening shall be made in writing to Procurement Officer Moira Rouse, SERSG Service Corp. SERSG@sersg.org Questions on the substance of the bid that generate answers, which may apply to all bidders, will be answered in writing and will be distributed to each party who obtains a copy of the bid package. Answers to such questions shall be incorporated into these specifications. The deadline for questions is Wednesday November 11, 2020 at 12:00PM. After that point, bidders must use the best information they have to formulate their bid.

ADDENDA

Addenda will be issued by e-mail to all known bid package recipients. It is the vendor's responsibility to ensure you check your email throughout the availability of the bid and obtain any issued addenda. No addenda will be issued within the immediate two (2) work days prior to the date of the scheduled bid opening, except an addendum to postpone the bid opening.

PRE-QUALIFICATION

Bidders must be pre-qualified for the specific Item of Work they intend to bid on by the Massachusetts Department of Transportation **in accordance with Massachusetts General Law Chapter 81, Section 8B; 720 CMR 5.00. The estimated value used for Prequalification purposes is provided after QUANTITIES BY ITEM AND MUNICIPALITY.** Bidders for tub grinding, screening, excavating, grad-all, hauling and shoveling services need NOT be pre-qualified to bid. These are the only bidders allowed to submit a bid on UNOFFICIAL Bid Pages.

MATERIALS

All materials and services shall conform, where applicable, to the requirements of the Commonwealth of Massachusetts, Mass. Highway Department Standard Specifications for Highways and Bridges, 1995 Edition, hereinafter referenced to as The Standard Specifications. All fabricated or manufactured items shall be made in the United States of America. Exceptions or additions to The Standard Specifications are noted under each Item of Work.

REQUIREMENTS OF THE BID

BIDDERS MUST SUBMIT A COMPLETE and **ORIGINALLY-SIGNED** BID. It must INCLUDE A BID BOND OR THE BID WILL BE DECLARED NON-RESPONSIVE! Appendix pages may be reproduced for bidding purposes. A complete bid includes:

- ❑ Bid Quote Form, Appendix A.
- ❑ References, Appendix B. *A minimum of 5 municipal References needed with required details specified.*
- ❑ Certificate of Non-Corporate, Appendix C, ***OR*** Corporate bidder, Appendix D, as applicable.
- ❑ Certificate of Non-Collusion, Appendix E.
- ❑ Certification Regarding Employment of Labor, Appendix F.
- ❑ Bid Bond in the form of a certified, bank treasurer's or cashier's check or bond made payable to SERSG Service Corp. executed by the bidder and issued by an acceptable surety in an amount equal to five percent (5%) of the total value of the bid. An acceptable surety is a surety company incorporated pursuant to section 105 of Chapter 175 of the M.G.L. or a surety company authorized to do business in the Commonwealth under the provisions of section 106 of Chapter 175 of the M.G.L. and which is approved by the U.S. Department of the Treasury and which is acceptable as a surety and reinsurer on Federal bonds under Title 31 of the United States Code, Section 9304 to 9308. Bid Bonds will be returned upon execution of the contract or within 60 calendar days of bid date if no award is made.

BID OPENING

Sealed bids shall be marked with the bidder's name, **"SERSG DPW Services Bid,"** and the **item number(s)** being bid. Bids will be received until **10:00 AM** Eastern Standard Time on **Wednesday, November 17, 2021** at SERSG, Attn: Moira Rouse at 6 Park Row, Mansfield, MA 02048. Hand-delivered bids will be accepted by the SERSG office on the 3rd floor, and by the Mansfield DPW service counter on the 2nd floor. Late bids will not be considered. Bids delivered to the wrong address or office will be considered late. The clock in the SERSG Office will be definitive.

The bid opening will be held in conference room 3A/B on the 3rd floor of Mansfield Town Hall. No email, telegraph or fax bids will be accepted.

Received bids will be opened and read aloud at **10:00AM Wednesday, November 17, 2021.** All interested parties may attend. Within 2 business days after the bid opening, a Bid Tally along with scans of all received Bids will be posted at **www.sersg.org/bids**.

Bids may be held by the Southeastern Regional Services Group for a period not to exceed sixty (60) days from the date of the opening of bids for the purpose of reviewing the bids and investigating the qualifications of the bidders prior to awarding the Contract. Bidders may not withdraw their bids during this period.

Bidders may amend or modify or withdraw their bids if such amendment, modification, or withdrawal is sent in a sealed envelope marked "**Amendment, Modification or Withdrawal of SERSG DPW Services Bid**", contains the bidder's name and is received at the SERSG Offices by 10:00 AM on November 17, 2021. No late bids or amendments, modifications or withdrawals will be considered.

AWARD CRITERIA

The Board of Directors of the Southeastern Regional Services Group will recommend to the Awarding Authorities of each City or Town participating in this procurement award to the lowest responsible and eligible bidder for each Item of Work. Bids will be rejected that fail to provide prices for all work included in one Item. Alternative or conditional bids will not be considered nor will bids that are not the same for all municipalities for an Item, except for items that are priced by Zone. A contract will be awarded to the lowest responsible and eligible bidder for each Item of Work by each participating municipality, as defined in DETERMINATION OF LOWEST BID below.

The SERSG Board of Directors reserves the right to waive any informality or reject any or all bids.

BRAND NAME or EQUAL

Unless otherwise specified in this IFB, any reference to a particular trademark, trade name, patent, design, type, specification, producer or supplier is not intended to restrict this IFB to any manufacturer or proprietor or to constitute an endorsement of any commodity or service, and the department may consider clearly identified offers of substantially equivalent commodities and services submitted in response to such reference.

DETERMINATION OF LOWEST BID PRICE

The lowest bid shall be determined on the basis of the total price for which the entire Work in each Item will be performed. Prices quoted in Appendix A should include all materials and services specified in this IFB. The participating municipalities are exempt from the payment of taxes and no taxes should be included in the bid price. Bidders may bid on any number of Items. The lowest responsible and eligible bidder will be determined separately for each Item of Work. Contractors must bid for all the sub-items of work included in one Item of Work. The estimated quantities for each sub-item will be multiplied by the unit price to achieve a total amount for that sub-item. Then, the total amounts for all the sub-items will be totaled to reach a total bid price for each Item of Work. Each contractor's total bid price for the same Item of Work will be compared to the other bidders' total bid prices to determine which is lowest.

For Item One Pavement Reclamation and Item Twenty-Eight Sidewalks, the lowest bidder for each municipality will be determined by multiplying each municipality's quantities of items and sub-items by the prices bid for those items. Contractors with the lowest total price for each municipality will be awarded that municipality's contract.

For Item Seventeen, Structure Work, the lowest bid will be determined by calculating the average cost of each of the categories of work, as outlined in this item's Specification. The bidder with the lowest average price will be deemed to be low bidder.

Bidding one penny on a sub-item of work is only allowed when such bidding does not render the bid unbalanced. An unbalanced bid is defined as one containing an abnormally low price for one item and an abnormally high price for another item in order to recoup losses from the abnormally low price. Contractors who bid one penny will be fully expected to perform the sub-item of work for that price.

REJECTION OF BIDS

Bids that fail to meet the requirements of the Invitation may be rejected. **Bids that the Procurement Officer, in her sole discretion, determines to be incomplete, conditional or obscure, or which contain additions not called for, erasures, alterations or irregularities of any kind, may be rejected.** Bids in which errors occur, or which contain abnormally high or abnormally low prices for any Total Bid Price for any Item of Work shall be declared non-responsive. If the Procurement Officer deems it to be in the best public interest, the SERSG Board may waive any or all informalities as to form. Informalities as to substance, however, shall not be waived. In cases of ambiguity of bid prices, the unit price will prevail over the total price listed.

METHOD TO BE USED TO AWARD A CONTRACT WITH TIE BIDS

Should there be two or more low bids for the Contract to be awarded which are identical and where the bidders are determined to both be responsible and eligible in accordance with M.G.L. Chapter 30, Section 39, the following procedure shall be used to award the Contract:

a. The Contract will be awarded to that bidder with its office located within the SERSG region.
b. If there is no bidder with its office located within the SERSG region or if there are two or more bidders with offices located within the SERSG region, the award of the Contract shall be determined by a toss of a coin. Such a toss shall be done in the presence of the respective bidders.
c. If there are more than two bidders with identical bids, the coin toss method shall be used by selecting the first two bidders in alphabetical order and eliminating one with a coin toss. This process shall be continued until such time as there remains one bidder.

PREVAILING WAGE

The Department of Labor Standards established **county wage tables** provided in this document. These wage rates must be paid to all workers employed on the Contract and are the minimum rate of wages allowable for payment to workers on this contract throughout the terms of the Contract.

Beginning with new contracts resulting from this 2021 bid*, Prevailing Wage Tables are provided for each county and must be paid for all towns/cities within that county.* ***A list of SERSG-member towns by county is provided in Attachment 3: Prevailing Wage Rates.***

The Contractor shall not have any claim for extra compensation from if the actual wages paid to employees on the Contract exceeds the rates listed on the schedule. The Contractor shall cause a copy of said Schedule to be kept in a conspicuous place at the Project site during the term of the Contract. (See M.G.L. c.149 §27).

WAGE RATE CHANGES

The Director of the Department of Labor and Workforce Development has established the wage rates established for this contract for a one (1) year period. On the option years of this contract, if extended pursuant to a contract extension, new wage rates shall be established pursuant to a new requirement of said department. If additional contract years are exercised by Awarding Authorities the new changes (difference) will be allowed in bid price for

contract extension. The difference is the increase only in the updated prevailing wages from the previous year. No other costs will be allowed.

LABOR AND MATERIALS PAYMENT BOND

Within ten days of receipt of notification of the start of work, the bidder awarded a contract must pay for and furnish each Awarding Authority with a Labor and Materials Payment Bond in the sum of fifty percent (50%) of the estimated contract value. Such bonds must be issued by a surety company incorporated pursuant to section 105 of Chapter 175 of the M.G.L. or by a surety company authorized to do business in the Commonwealth under the provisions of section 106 of Chapter 175 of the M.G.L. and be approved by the U.S. Department of the Treasury and be acceptable as a surety and reinsurer on Federal bonds under Title 31 of the United States Code, Sections 9304 to 9308. Payment bonds issued by foreign companies must be counter-signed by the lawfully constituted and licensed resident agent of the company in the Commonwealth. These bonds shall list each Awarding Authority separately on its face. These bonds must be maintained in force until one year after the completion of the Contract Term.

The Contractor shall be required, as work totaling more than the estimated contract value has been assigned, to increase the amount of the payment bond in a manner such that the total amount of the payment bond shall be equal to at least fifty percent (50%) of the total dollar value of the Contract to date.

LIQUIDATED DAMAGES

Failure or refusal of the successful bidder to execute and deliver a signed contract, Certificate of Insurance and Labor and Materials Payment Bond acceptable to the Procurement Officer within ten days after notice of contract award will result in forfeiture of the Bid Bond as liquidated damages. The Con-tract will be awarded to the next lowest bidder or the IFB re-advertised, as the SERSG Board may elect.

TRAFFIC DETAILS

The municipalities will arrange and pay for police officers to direct traffic when needed, except as noted in the specifications of this IFB.

SIGNAGE

Contractor shall at his own expense provide and erect barricades, barrier fences, traffic signs and all other traffic devices in order to protect the work from traffic, pedestrians or animals.

HEALTH AND SAFETY

The successful contractor shall fully comply with Chapter 306 of the Acts of 2004. This act is relative to the health and safety on public construction projects and work.

PRICE ADJUSTMENTS

The index for all price adjustments can be found at https://www.mass.gov/service-details/massdot-current-contract-price-adjustments . All adjustments will be made based on the *October 2021* price posted for each of the following products.

DIESEL FUEL PRICE ADJUSTMENT

Adjustments due to changes in cost of diesel fuel will be calculated as follows. The adjustment is to be based on the increase or decrease of diesel fuel cost, as measured by the U.S. Department of Energy, Energy Information

Administration baseline cost of diesel fuel determined on the date of the bid. The increase or decrease, as determined above, will be applied to the volume of fuel used which will be determined based on fuel consumption agreed on by each municipality. Adjustments will be made monthly, based on the cost of diesel for the month used. It shall be the contractor's responsibility to provide each municipality with full documentation prior to fuel adjustments being accepted.

LIQUID ASPHALT PRICE ADJUSTMENT

This adjustment will provide for either additional compensation to the Contractor or repayment to the municipality depending on an increase or decrease in the average price of liquid asphalt. This provision applies to all products containing liquid asphalt. The Base Price of Liquid Asphalt on the project will be a fixed price determined on the date of the bid. The price adjustment will be based on the variance in price for the Liquid Asphalt component only from the Base Price to the Period Price. It shall not include transportation or other charges. The Period Price for any products including liquid asphalt for a 30-day period will be determined and published by the Massachusetts Highway Department by averaging the prices posted at the beginning, middle, and end of each two month period by two or more suppliers.

The Contract Price of the product will be paid under the respective item in the contract. The price adjustment, as herein provided, upward and downward, will be made as work is performed, using the most recent previous price adjustment Item until the applicable Period Price is established. The asphalt content for each item is set forth in the specifications.

The Price Adjustment will be a separate payment item. It will be determined by multiplying the number of tons of product placed during each previous 30 day period by asphalt content percentage times the variance in price between Base Price and Period Price of asphalt. Contractors must include price adjustment documentation with every invoice. No price adjustment will be allowed beyond the completion date of the contract, unless there is an approved extension of time by the municipality.

PORTLAND CEMEMT PRICE ADJUSTMENT

The municipality will use the Massachusetts Department of Transportation, Highway Division procedure for price adjustment for Portland cement as outlined in Document 00814, "Special Provisions: Price Adjustment for Portland Cement Concrete Mixes," January 12, 2009. The price adjustment will be based on the variance in price for Portland cement from the base price to the period price.

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ITEMS OF WORK: TECHNICAL SPECIFICATIONS

Any reference to the Mass. Standard Specifications incorporates not only the 1995 Mass DOT Standard Specifications but also the Standard Special Provisions dated September 24, 2010; 2010 Construction Standard Details; and Supplemental Specifications dated 6/6/2006 and 2/25/2010 and any other fully approved updates.

ITEM ONE: PAVEMENT RECLAMATION

The scope of work under this item shall include pavement reclamation, lowering of castings, structure adjustments, structure remodels and structure rebuilds.

For this item, each municipality's total will be added up separately to determine the lowest bidder for each city/town based on its particular combination of sub-items needed. This is as described in DETERMINATION OF LOWEST BID in the INSTRUCTIONS TO BIDDERS at the beginning of this document.

The work under this item shall conform to the relevant provisions of the English edition, Massachusetts Highway Department Standard Specifications for Highways and Bridges, dated 1988, the latest supplemental specifications, the 2014 Massachusetts Department of Transportation (MassDOT) Construction Standard Details and all supplemental drawings, the latest Manual on Uniform Control Devices (MUTCD), the latest rules and regulations of the Architectural Access Board (AAB) and the following:

PAVEMENT RECLAMATION

The work under this item shall conform to Section 403 of the Standard Specifications Reclaimed Pavement Borrow for Base and/or Sub-base Course and the following:

The pulverizing and blending shall be performed in multiple passes with the reclaimer equipment. The work shall consist of pulverizing and mixing existing asphalt pavement and base course material with soil and water to produce a dense and hard base. The reclaimed pavement borrow shall be proportioned, mixed, placed and compacted in accordance with this specification. Work shall conform to the lines, grades, thicknesses, typical cross sections and pavement notes as required by the Awarding Authority.

MATERIALS

Recycled Asphalt Pavement (RAP) and Base Material shall consist of the existing asphalt pavement, existing base course material and/or subgrade material. The base course and subgrade material shall not contain roots or topsoil. The particle distribution of the processed material shall be such that 100% passes a 3-inch (75 mm) sieve, at least 95% passes a 2-inch (50 mm) sieve, and at least 55% passes a No. 4 (4.75 mm) sieve.

Moisture Content AASHTO T265

Water. Shall be free from substances deleterious to the hardening of the reclaimed material.

EQUIPMENT

Description. Reclaimed Pavement may be constructed with any machine or combination of machines or equipment that will produce a satisfactory product meeting the requirements for pulverization and water application, mixing, compacting and finishing as provided in this specification.

Mixing Methods. Mixing shall be accomplished in place, using single-shaft or multiple-shaft mixers. Agricultural disks or motor graders are not acceptable mixing equipment.

Application of Water. Water may be applied through the mixer or with water trucks equipped with pressure-spray bars. If using the spray bar system, road base shall be pre-wet to obtain optimum moisture content prior to the placement of hot mix asphalt.

Compaction. The processed material shall be compacted with one or a combination of the following: tamping or grid roller, pneumatic-tire roller, steel-wheel roller, vibratory roller, or vibrating-plate compactor. The full depth recycled material shall be rolled with a vibratory pad/tamping foot roller, a vibratory steel drum soil compactor and a Type II pneumatic tire roller. The pad/tamping foot roller drum shall have a minimum of 112 tamping feet 3 inches in height, a minimum contact area per foot of 17 in^2, and a minimum width of 84 inches. The vibratory steel drum roller shall have a minimum 84 inches width single drum. The pneumatic tire roller shall meet the requirements of Section 401.10 and the minimum allowable tire pressure shall be 85 psi.

CONSTRUCTION REQUIREMENTS

Preparation. Prior to the start of the reclamation, all utilities and drainage systems shall be relocated and/or lowered per Section 403 of the Standard Specifications.

Methods, equipment, tools, and any machinery to be used during construction shall be approved by the Engineer or Awarding Authority prior to the start of the project. Prior to the actual reclaiming of the roadway, drop inlets or catch basins that might be affected shall be sufficiently barricaded so as to prevent reclaimed subbase material, silt or runoff from plugging the drainage system.

Sufficient surface drainage must be provided for each stage of construction so that ponding does not occur on the reclaimed sub-base course prior to the placement of hot mix asphalt.

Reclamation shall be accomplished by means of a self-propelled, traveling rotary reclaimer or equivalent machine capable of cutting through existing hot mix asphalt to depths of up to 16 inches with one pass. The machine shall be equipped with an adjustable grading blade leaving its path generally smooth for initial compaction. Equipment such as road planers or pavement milling machines designed to mill or shred the existing bituminous concrete, rather than crush or fracture it, shall NOT be allowed.

Existing hot mix asphalt and any underlying granular material must be pulverized and mixed so as to form a homogenous mass of reclaimed sub-base material which will bond together when compacted.

In areas where the vertical or horizontal geometry of the proposed roadway is different than that of the existing, the roadway shall be reclaimed in-place and the reclaimed material sub-base placed in windrows or stockpiled while any filling or excavation is performed. When the proposed sub-grade elevation is achieved, the reclaimed sub-base material will be placed back onto the roadway in lifts no greater than five (5) inches in depth before being compacted.

Reshaping using the reclaimed sub-base material should be minimized in order to insure that the roadway has a uniform thickness of reclaimed sub-base material throughout. Unless otherwise specified, when reshaping of the roadway is required, it should be performed utilizing additional sub-base or processed aggregate base. The reclaimed sub-base material shall be compacted prior to the placement of any additional granular material used (sub-base or processed aggregate base). Subsequent to the compaction of the reclaimed sub-base material, any

reshaped material or additional material placed on the roadway should not exceed five (5) inches in depth before being compacted.

The reclaimed sub-base material shall be compacted to the requirements above prior to the placement of traffic on the roadway.

A motor grader shall be used for shaping, fine grading, and finishing the surface of the reclaimed material or any other granular materials placed to form the surface prior to paving.

Any surface irregularities which develop during or after the above-described work shall be corrected until it is brought to a firm and uniform surface satisfactory to the Engineer or Awarding Authority.

Mixing and Placing. Reclaimed Pavement Borrow processing shall not commence when the soil aggregate or sub-grade is frozen, or when the air temperature is below 40°F (4°C). Moisture in the base course material shall not exceed the quantity that will permit a uniform and intimate mixture of the pulverized asphalt and base material during mixing operations, and shall be within 2% of the optimum moisture content for the processed material at start of compaction.

The operation of mixing, spreading, compacting and finishing shall be continuous and completed within 2 hours from the start of mixing. Any processed material that has not been compacted and finished shall not be left undisturbed for longer than 30 minutes.

Mixing. The mixed material shall meet the following gradation conditions:

1) The final mixture (asphalt surface, granular base, and sub-grade soil) shall be pulverized such that 100% passes the 3-inch (75 mm) sieve, at least 95% passes the 2-in. (50 mm) sieve, and at least 55% passes the No. 4 (4.75 mm) sieve. No more than 50% of the final mixed material shall be made of the existing asphalt material unless approved by the engineer or Awarding Authority and included in a mixture design. Additional material can be added to the top or from the sub-grade to improve the mixture gradation, as long as this material was included in the mixture design.

2) The final pulverization test shall be made at the conclusion of mixing operations. Mixing shall be continued until the product is uniform in color, meets gradation requirements, and is at the required moisture content throughout. The entire operation of water application and mixing shall result in a uniform pulverized asphalt, soil and water mixture for the full design depth and width.

Compaction. The processed material shall be uniformly compacted to a minimum of 95% of maximum density based on a moving average of five consecutive tests with no individual test below 93%. Field density of compacted material can be determined by nuclear method in the direct transmission mode (ASTM D 2922, AASHTO T 310), sand cone method (ASTM D 1556, AASHTO T 191), or rubber balloon method (ASTM D 2167). Optimum moisture and maximum density shall be determined prior to start of construction and also in the field during construction by a moisture-density test (ASTM D 558 or AASHTO T 134).

At the start of compaction, the moisture content shall be within 2% of the specified optimum moisture. No section shall be left undisturbed for longer than 30 minutes during compaction operations. All compaction operations shall be completed within 2 hours from start of mixing.

Finishing. As compaction nears completion, the surface of the Reclaimed Pavement material shall be shaped to the specified lines, grades, and cross sections. If necessary or as required by the engineer or Awarding Authority, the

surface shall be lightly scarified or broom-dragged to remove imprints left by equipment or to prevent compaction planes. Compaction shall then be continued until uniform and adequate density is obtained.

During the finishing process the surface shall be kept moist by means of water spray devices that will not erode the surface. Compaction and finishing shall be done in such a manner as to produce a dense surface free of compaction planes, cracks, ridges, or loose material. All finishing operations shall be completed within 4 hours from start of mixing.

Calcium Chloride for Dust Control. Calcium chloride for dust control shall conform to Section 440 and M9.01.0 of the Standard Specifications. Chloride shall be sprayed at the rate of 0.25 gallons/square yard. At the request of the engineer or Awarding Authority, the contractor shall apply calcium chloride to all reclaimed pavement areas. Care shall be taken with traffic. Chloride shall dry prior to traffic being let on new reclaimed material.

Traffic. Completed portions of Reclaimed Pavement Borrow base can be opened immediately to low-speed local traffic and to construction equipment, provided the moist curing operations are not impaired, and provided the Reclaimed Pavement Borrow base is sufficiently stable to withstand marring or permanent deformation. The section can be opened up to all traffic after the Reclaimed Pavement base has received a curing compound or subsequent surface and is sufficiently stable to withstand marring or permanent deformation.

Surfacing. Subsequent pavement layers (asphalt, chip-seal, or concrete) can be placed any time after finishing, as long as the soil is sufficiently stable to support the required construction equipment without marring or permanent distortion of the surface.

Maintenance. The contractor shall maintain the material in good condition until all work is completed and accepted. Such maintenance shall be done by the contractor at his own expense. Maintenance shall include immediate repairs of any defects that may occur. If it is necessary to replace any processed material, the replacement shall be for the full depth, with vertical cuts, using either cement-treated material or concrete. No skin patches will be permitted.

INSPECTION AND TESTING

All inspections and testing shall be completed by each individual Awarding Authority.

Only those materials, machines, and methods meeting the requirements of the contract documents shall be used unless otherwise approved by the engineer or Awarding Authority.

All testing of processed material or its individual components, unless otherwise provided specifically in the contract documents, shall be in accordance with the latest applicable ASTM or AASHTO specifications in effect as of the date of advertisement for bids on the project.

Pavement Reclamation shall be measured for by the square yard of reclamation in accordance with the Standard Specifications.

Pavement Reclamation shall be paid for at the contract unit price per square yard of reclamation that has taken place in accordance with the Standard Specifications. The price shall include all labor, materials, equipment and incidental costs required to complete the work for reclaiming & pulverizing, grading & compacting, watering, curing and the lowering of all castings.

Calcium Chloride for Dust Control shall be measured for by the gallon of calcium chloride sprayed in accordance with the Standard Specifications.

Calcium Chloride shall be paid for at the contract unit price per gallons of calcium chloride sprayed in accordance with the Standard Specifications. The price shall include all labor, materials, equipment and incidental costs required to complete the work for installing calcium chloride for dust control on reclaimed roadways.

STRUCTURES: ADJUSTED, REMODELED, REBUILT

The work under this item shall conform to Section 220 of the Standard Specifications. Structures shall include all utility castings.

Adjustments of structures to line or grade or both line and grade when the change is 6 inches or less shall be an ADJUSTED. Structures adjusted shall be measured for payment at the contract unit price per each under the item Structure Adjustments.

When the adjustment of structures to line or grade or both line and grade is greater than 6 inches, the structure shall be REMODELED. Structures remodeled shall be measured for payment at the contract unit price per each under the item Structures Remodeled.

Structures rebuilt shall be measured by the average height in vertical feet and tenths of feet from the bottom row of rebuilt masonry to the bottom of the casting. Structures rebuilt shall be paid for at the contract unit price per vertical foot.

TRAFFIC MANAGEMENT

The Contractor shall be responsible to provide, install and maintain all necessary traffic controls for construction and maintenance operations. The Contractor shall provide the Awarding Authority with a plan of all proposed traffic controls necessary for the proposed work within 14 days of commencement of work. The Awarding Authority shall review, comment as necessary and provide a review response to the Contractor within 7 days of the commencement of the proposed work.

The work under this item shall adhere to Section 850 of the Standard Specifications.

All labor, materials, equipment and incidental costs required to complete the work shall be considered incidental to Item One Pavement Reclamation.

POLICE DETAILS

The Awarding Authority shall be responsible for the scheduling and payment of police details for all proposed work. The Contractor shall be responsible to coordinate with the Awarding Authority on all police detail requirements. The Contractor shall be responsible to notify the Police Department of a cancellation within 4 hours of the proposed scheduled start time or as required by the municipality. If the Contractor fails to notify the Police Department within the minimum time required to cancel a police detail, the Contractor shall credit all of the costs to the Awarding Authority associated with paying the police detail.

DISPOSAL OF MATERIAL AND FINAL CLEAN-UP

All material removed from any work site shall be delivered to a proper disposal site by the Contractor at no additional cost to the Awarding Authority. At no additional expense and in conjunction with the completion of the work, the Contractor shall be responsible to remove & dispose of temporary structures, surplus material, rubbish

left onsite from the right of way, construction site and adjacent properties. Final payment for work completed will not be approved until the site is clean and approved by the Awarding Authority.

In addition, Contractor must remove at no additional expense to the Awarding Authority all old, excavated pavement or other material that the Awarding Authority may have excavated as a result of site preparation for the pavement reclamation. No equipment or material shall be left within any aforementioned area after acceptance of the Contract without written permission of the Awarding Authority. The Contractor shall not abandon any material at or near the site regardless of whether or not it has any value.

ITEM TWO: COLD IN-PLACE RECYCLING

PART 1 – CORE SAMPLING

1. DESCRIPTION

Core sampling and mix design are required to determine a road(s) viability for the Cold In-place Recycling process. It is also an optional process to assess existing road conditions.
Whenever core sampling is done, a report of findings shall be provided to the awarding authority prior to invoicing for any work under this item.
Cores shall be obtained using a pattern that results in a representative sample of the pavement to be recycled including at or near lane lines, within and between wheel paths, at the pavement edge, and within shoulders, if shoulders are to be recycled. The roadway shall be sampled in accordance with staggered or offset sampling (as illustrated in **Diagram 1a)** or crossroad sampling with no offset (as illustrated in **Diagram 1b)**.

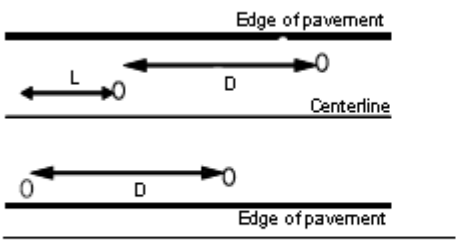


Diagram 1a – Staggered (offset) sampling.

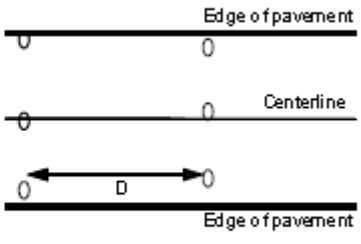


Diagram 1b – Crossroad sampling.

Core samples shall be obtained to the underlying base or subgrade soil. If a core breaks off prior to penetrating the underlying materials, coring shall continue to the bottom of the pavement for thickness-measurement purposes. On retrieval, each core shall be measured to the nearest 1/8th inch, and then placed in a separate container and labeled. A coring log summarizing the date, station, offset, and core thickness shall be recorded for each core location and provided to the mix design laboratory.

D – 1 mile maximum
L – 0.5 mile maximum

a) At least 15% of the cores shall be in the shoulder, if the shoulder is getting recycled.
b) At least 25% of the cores shall be on or within 3 feet of centerline.

Arterial and Industrial Streets

D – 2,000 feet maximum
L – 1,000 feet maximum

a) At least 25% of the cores shall be in the shoulder, if it is getting recycled, or within 3 feet of gutter.
b) At least 25% of the cores shall be on or within 3 feet of centerline.

Residential Streets

a) For streets less than 250 feet long, a minimum of one core when grouped with other streets to obtain the quantity of material required for mix design.
b) For streets 250 feet to 500 feet long, a minimum of two cores when grouped with other streets to obtain the quantity of material required for mix design (one within 3 feet of gutter, and the other within 3 feet of centerline).
c) For streets over 500 feet long, a minimum of three cores when grouped with other streets to obtain the quantity of material required for mix design (one within 3 feet of gutter, one within 3 feet of centerline, and the third between the two).

2. FILLING SAMPLE HOLES

a) Each sample hole shall be filled in accordance with the procedures described below. After sampling and filling the holes, the roadway shall be cleaned of all loose debris.
b) A high quality cold patch material shall be used to fill core or milling holes. The cold mix shall be compacted flush with a tamping rod, sledge or Marshall hammer. Approximately the same amount of cold patch (350lbs) will be required to fill the holes as is required for each mix design.

3. MEASURE AND PAYMENT

a) Under the unit bid price, the Payment for Core Sampling shall be per each day of Core Sampling regardless of how many samples are required in an 8 hour day. More than one street may be included in the eight hour day described.
b) Core Sampling will not be paid without a written report to the Owner detailing the amount of samples collected, the locations of the samples and the results of the sampling.

PART II – MIX DESIGN

1. MIXTURE DESIGN

a) Obtain cored samples for the project mix design. Three hundred and fifty pounds (350 lbs.) of representative material to be recycled is required for each mix design.

b) An independent laboratory not owned or controlled by the contractor shall develop and submit a Job Mix Formula (JMF) prior to the start of the CIR operation. Develop the JMF conforming to the requirements of Table 2B below.

Table 2B – CIR Minimum Mix Design Requirements for Stabilizing Agents

Test Method	Specification	Criteria
Gradation of RAP (Sieve Analysis of Aggregates)	ASTM C117 and C136	1 ½" sieve-100% passing 1" sieve-95 to 100% passing
Bulk Specific Gravity of Compacted Samples	ASTM D6752 or D2726	Report Only; Ndes=30
Maximum Theoretical Specific Gravity	ASTM D2041	Report Only
% Air Voids		Report Only

Test Method	Specification	Criteria
Tensile Strength (Resistance of Compacted Mixture to Moisture): Dry, psi	ASTM D4867 Part 8.11.1, 25°C, psi	Minimum 45 psi
Wet (conditioned), psi	Conditioned ITS, ASTM D 4867, psi	Minimum 30 psi
RAP Coating Test	AASHTO T 59	Minimum Good
Minimum Virgin Asphalt Content		1.5%
Foamed Asphalt Expansion Ratio		Minimum 8.0 Times
Foamed Asphalt Half-life		Minimum 6.0 Seconds

c) The lab equipment used to simulate the asphalt foaming process and RAP stabilization shall be substantially similar to the contractor's recycling equipment to be used on the project.
d) The mix design JMF shall be the baseline measure for the rate of stabilizing agent application and water blended with the RAP to construct the CIR mixture. The mix design shall indicate the allowable tolerance for field adjustments for the stabilizing agent and/or water so as not to jeopardize the performance of the mix in regard to Table 2B but allow the contractor to adjust the mix in response to field conditions in consultation with the Engineer.
e) Provide the mix design report to the awarding authority prior to invoicing for any work under this item. The report must include the following minimum information:
    1) Gradation of RAP
    2) Density, maximum specific gravity, air void content, indirect dry tensile strength, indirect wet (conditioned) tensile strength, and tensile strength ratio at each recycling agent content iteration (minimum of 4, inclusive of recommended moisture and stabilizing contents) and at the recommended moisture and stabilizing agent contents
    3) Recommended water content range as a percentage of dry RAP
    4) Optimum stabilizing agent content as a percentage of dry RAP
    5) Stabilizing agent designation, PG grading of asphalt binder, if applicable, supplier name and location, and certificates of compliance
    6) Application means of recycling agent
    7) Allowable tolerances for field adjustments for stabilizing agent and/or water
    8) Portland cement, if needed

2. MEASURE AND PAYMENT

a) Under the unit bid price, Mix Designs shall be per each mix design required in its entirety for each street that qualifies for Cold in Place Recycling as determined by the Core Sampling process.
b) Mix Design will not be paid for without a written report of the Mix Design to the Owner.

PART III – COLD IN-PLACE RECYCLING (CIR)

Description

This work consists of the full or partial depth milling of the existing HMA pavement to the width and depth specified on the plans, blending the processed material with a foamed asphalt stabilizing agent, water and other additives as necessary and required by the mix design, and placement and compaction of this mixture in accordance with the plans and specifications.

1. MATERIALS

a) **Reclaimed Asphalt Pavement (RAP) Material**
Mill the RAP from the existing roadway and process it in-place.
The RAP shall be free of contamination of concrete, silt, clay, or other deleterious materials.
Remove rubberized crack filler, pavement markers, loop wires, fabric, or other materials as observed from the roadway during the recycling process. Appropriately size and homogenously blend any residual materials with the RAP.
The milled and processed material shall conform to the following gradation prior to addition of the stabilizing agent:

Sieve Size	Percent Passing
1 ½"	100
1"	95 to 100

b) **Stabilizing Agent**

The asphalt stabilizing agent shall be Foamed Asphalt.

c) **Foamed Asphalt**

1) Provide asphalt binder performance grade for foamed asphalt of PG 64-22 or PG 64-28.
2) Sufficiently heat asphalt binder to meet the mix design expansion and half-life criteria; not to exceed 375° F.
3) Asphalt binder shall produce asphalt foam with a minimum expansion ratio of 8 and half-life of no less than 6 seconds.

d) **Mineral Filler**

If required by the mix design, the mineral filler shall be Portland Cement.

e) **Water**

Provide water added to the RAP for foaming asphalt. Water may be added to the RAP at the milling head and/or in a mixing chamber.

f) **Asphalt Pricing and Price Adjustments**
1) Contractor's bid prices below 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 based on the actual gallons incorporated into the work.

2. QUALITY MANAGEMENT PROGRAM

a) **Personnel**

Provide a qualified and certified technician for performance of field density and field moisture content testing.

b) **Equipment**

1) Furnish the necessary equipment and supplies for performing quality control testing. Ensure that all testing equipment conforms to the equipment specifications applicable to the required testing methods. The Engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the applicable AASHTO and/or ASTM specifications and maintain a calibration record at the laboratory.
2) Furnish a nuclear gauge and ensure that the gauge manufacturer or an approved calibration service calibrates the gauge the same calendar year it is used on the project. Retain a copy of the calibration certificate with the gauge.
3) Conform to ASTM D 6938 for density testing and gauge monitoring methods.

c) **Quality Control (QC) Testing**

1) Roadway production lots will be defined as 4000 lane-feet. Each roadway production lot will consist of two 2000 lane-feet sub lots.
2) Take roadway samples at a minimum frequency of 1 per lot of production.
3) For each roadway sample, report the gradation of material as determined by use of a rocker screen, or equal, for the 1" sieve and larger.
4) Report stabilizing agent foaming properties, if applicable, (i.e. half-life and expansion ratio) at a minimum frequency of 1 per lot of production.
5) Conduct and report density testing at a minimum frequency of 3 random tests per sub lot.
6) Conduct and report mill depth checks at a minimum frequency of 1 per sub lot.
7) Report stabilizing agent temperature and application rate at a minimum frequency of 1 per sub lot.
8) Provide a Daily Inspection Report to the Engineer summarizing the: daily beginning and ending stations, applicable mix design, sub lot test (mill depth check, density test, stabilizing agent temperature and application rate) locations and values, lot roadway sample locations, and any adjustments to the application rate of the stabilizing agent or water.
9) If stabilizing agent adjustments exceed the allowable limits defined in the mix design, or reduce the stabilizing agent application rate below the 1.5% mix design minimum specified in Table 2B, based on a single test or meter adjustment, re-evaluate the entire process. Obtain approval by the Engineer before resuming production.

d) **Municipality Testing**

1) The owner may conduct quality verification (QV) testing to validate the quality of the product, and independent assurance (IA) testing to evaluate the sampling and testing. The owner will provide the contractor with a listing of names and telephone numbers of all QV and IA personnel for the project and provide test results to the contractor within 5 business days after the owner obtains the sample.
2) If the owner identifies a deficiency, and after further investigation confirms it, the contractor shall correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the Engineer may suspend placement until action is taken.

3. CONSTRUCTION

a) **General**

1) Unless the contract provides otherwise, keep the road open to traffic during construction.
2) Perform CIR operations only between the dates of April 15 and October 15 when the pavement temperature in the shade is above 55°F, when the ambient air temperature approximately 3 feet above grade, in shade, and away from artificial heat sources is above 50°F and rising, and when the nighttime ambient air temperature is above 45°F the night prior and following, unless approved otherwise by the Engineer.
3) Do not perform CIR operations during inclement weather such as heavy rain that will not allow

proper mixing, placing, and/or compacting of the mixture.

4) CIR operations and recycled pavement curing to allow adequate time for placement of the Complete finish wearing course prior to the onset of winter. The 1.5 inch finish wearing course should be applied to protect the CIR no later than 10 days after the CIR process begins. **The Hot Mix Asphalt Wearing Course (1.5 inch depth) will be placed by the Owner after the CIR Operations are complete.**

b) **Equipment**

1) Equipment used for CIR shall be subject to approval by the Engineer.
2) Tankers supplying hot stabilizing agent components shall be equipped to constantly monitor temperature within the tank.
3) Portland cement bulk spreader must be fully automated and capable of achieving the application rate specified in the mix design. Portland cement spreader shall also be equipped with a water misting spray bar to reduce the amount of airborne cement dust from the spreading operation.

c) **Milling Machine**

1) Utilize milling units not inclusive of pre-mill/wedge-cut milling units capable of milling the existing pavement full lane width (12'- 6" minimum) to the depth shown on the plans, specified in the contract or directed by the Engineer, in a single pass.
2) Utilize units equipped with automatic depth control that maintain constant cutting depth and width, uniform grade, and uniform slope.
3) For processes not incorporating additional screening, sizing, or crushing, utilize a milling unit capable of producing RAP sized as specified in Section 2.a) Materials.
4) Use of a heating device to soften the pavement is not permitted.

d) **Mixing Unit**

1) Processed RAP shall be mixed with the stabilizing agent and water in a mixing unit which shall be the milling machine cutter housing.
2) The asphalt stabilizing agent shall be applied uniformly at the predetermined application rate using a computer controlled additive system. Monitor the metering of the stabilizing agent through a calibrated pump providing a continuous readout of quantities.
3) The additive system shall contain separate pumping systems for adding stabilizing agent and water. Each system shall have an inspection or test nozzle for stabilizing agent and/or water sampling.
4) The additive system shall include a heating system to maintain the PG binder flowing into the mixing chamber at the optimal foaming temperature. The PG binder heating system shall be heated electrically.
5) The system shall be capable of producing a uniformly mixed, homogenous recycled pavement mixture.

e) **Paving Equipment**

1) The placement and shaping of the recycled pavement mixture shall be completed using a self-propelled paver, with a minimum 10' and maximum 20' screed width.
2) The screed shall not be heated when paving the recycled mix.
3) The material shall be transferred directly into the paver hopper from the recycling equipment or with a pick-up device. When a pick-up device is used, the entire windrow shall be removed from the milled surface and transferred to the paver hopper.

f) **Compaction Equipment**

1) Compaction equipment shall be a minimum of 9 tons, self-propelled and include both dual smooth drum vibratory and pneumatic rollers.
2) The number and types of rollers shall be as necessary to achieve the specified compaction and surface smoothness required for the finish wearing course.

g) **Preparation**

1) Inspect the pavement surface for any areas of failing subgrade. If needed, repair areas will be saw cut, and all inferior material shall be taken out. Removed materials shall be replaced with clean

granular material compacted in lifts not to exceed 6" in thickness, up to within 6" of the road surface. The final 6", bringing the repair to road grade, shall be done with 3/4" hot mix binder.

2) If pre-milling to remove the material ahead of recycling is warranted, it will be paid under the "Pre-milling" Item.
3) Any blading of the existing roadway shoulders away from the asphaltic surface edge to minimize contamination of the CIR pavement will be the responsibility of the owner.

h) Saw cutting cost shall be incidental to the repair. Gravel to be priced by the cubic yard, and hot mix asphalt to be priced by the ton.

i) **Processing and Placement of Recycled Pavement Mixture**

1) Mill the existing pavement to the required depth and width indicated on the plans.
2) Blend the RAP material with the mix design specified proportions of stabilizing agent(s) and water; produce a uniform and homogeneous recycled mixture.
3) Spread the recycled mixture to the grade, elevations, and slopes specified on the plans; avoiding tearing or scarring of the recycled pavement surface.
4) Ensure proper material transfer, handling, and spreading to prevent particle segregation.
5) Overlap longitudinal joints between successive CIR operations a minimum of 3 inches. Overlap transverse joints between successive CIR operations a minimum of 2 feet. Control the addition of foamed asphalt to the CIR in overlap areas in order to avoid excessive localized high asphalt content in the CIR layer.

j) **Compaction - Control Strip Construction**

1) On the first day of production, construct a control strip to identify the target wet density for the CIR layer. Perform the control strip construction and density testing under the direct observation and/or assistance of the Engineer.
2) Unless the Engineer approves otherwise, construct control strips to a minimum dimension of 500 feet long and one full lane width.
3) Completed control strips may remain in-place to be incorporated into the final roadway cross-section.
4) Construct additional control strips at a minimum, when:
   - The CIR layer thickness changes in excess of 2.0 inches, or
   - The percent of target density is less than 90% or exceeds 105.0%, and is outside the range of the 10 random measurements defining the control strip, on three consecutive sub lots.
5) Construct control strips using equipment and methods representative of the operations to be used for constructing the CIR layer.
6) After compacting the control strip with a minimum of 2 passes, mark and take density measurements at 3 random locations, at least 1½ feet from the edge of the CIR layer. Take subsequent density measurements at the same 3 locations.
7) After each subsequent pass of compaction equipment over the entirety of the control strip, take density measurements at the 3 marked locations. Continue compacting and testing until the increase in density measurements is less than 2.0 lb/cubic feet, or the density measurements begin to decrease.
8) Upon completion of control strip compaction, take 10 randomly located density measurements within the limits of the control strip, at least 1½ feet from the edge of the base. The final measurements recorded at the 3 locations under paragraph (6) of this section may be included as 3 of the 10 measurements. Average the 10 measurements to obtain the control strip target density.

k) **Compaction Requirements**

Compact the CIR layer to a required minimum density of 95% of the target density.

l) **Surface Requirements**

1) Test the pavement surface at regular intervals using a 10-foot straightedge or other Engineer-specified device.
2) The Engineer may direct the repair of surface deviations greater than 1/4 inch between two surface contact points. Correct high points by reworking, rerolling, trimming, milling, or grinding. Minor depressions greater than 3/4 inch may be corrected by reworking or have a tack coat applied and be filled with HMA immediately prior to placement of the surface treatment.

m) **Maintaining the Work**
   1) After compaction is complete, determine whether the CIR is sufficiently stable and cured adequately to open to traffic.
   2) Apply a fog seal to minimize raveling and reduce water intrusion into the recycled pavement by the end of each CIR treatment day. Fog seal shall be a diluted CSS-1h emulsion (50% emulsion, 50% water), or approved equal. **NOTE: the cost of the fog seal shall be included in the unit price for the Cold In-Place Recycling and shall not be included as a separate pay item.**
   3) After opening to traffic, and prior to placing a surface treatment, maintain the surface of the recycled pavement in a condition suitable for safe movement of traffic.
   4) Repair any damage to the recycled pavement prior to placement of the wearing course at no additional cost to the owner.

n) **Curing and Surfacing**

   1) Application of a surface treatment will not be allowed until the moisture content of the CIR layer is not more than 1.5%.
   2) If the moisture content of the CIR layer does not reduce to 1.5%, the surface treatment may be applied after the change in moisture content is less than 0.10 percentage points for three consecutive calendar days.
   3) The finish wearing course should be applied as soon as curing is complete**,** not more than 14 days after the recycling process begins.
   - Immediately before the application of the finish wearing course, an asphalt emulsion tack coat shall be applied at a minimum rate of 0.05 gal/SY.
   - Do not use a hot asphaltic cement tack coat.

4. QUALIFICATIONS

a) To ensure the contractor's capabilities, the bidder shall document experience of at least five (5) foamed asphalt stabilized CIR jobs completed in the past three (3) year as References. These References must total a minimum of 250,000 square yards, include the street names and limits, year completed, owner agency name and contact information.

5. ASPHALT PRICE ADJUSTMENTS

Contractor's bid prices below shall be based upon the current MassDOT asphalt cement price index posted exactly two (2) weeks prior to the due date for receipt of bids ("Bid Index"). If the posted MassDOT asphalt cement price index in place when the work is performed differs from the Bid Index, up or down, then Contractor's invoices shall include price adjustments for the asphaltic materials, and these adjustments shall be calculated based on the actual tons of liquid asphalt cement incorporated into the work.

6. MEASURE AND PAYMENT

a) Under the unit bid price, the Owner will measure the Cold In-place Recycling (CIR) bid item as acceptably completed by the square yard (SY).
b) Under the unit bid price, the Owner will measure the Liquid Asphalt Stabilizing Agent bid item as acceptably completed by the Gallon (GAL).
c) Under the unit bid price, the Owner will measure the Portland Cement Stabilizing Agent bid item as acceptably completed by the Ton (TON).
d) Under the unit bid price, the Owner may elect to have contractor install additional RAP or virgin aggregate on top of the existing pavement ahead of the milling machine to thicken the recycled layer, owner shall furnish and deliver the virgin aggregate or screened and sized RAP (1" minus) to contractor's spreading equipment. RAP or virgin aggregate shall be delivered at a rate adequate not to slow down

the subsequent recycling operation. Contractor shall be paid for spreading this additional virgin aggregate or RAP layer by the SY. A sample of the RAP or virgin aggregate to be used will be supplied to the contractor to develop mix design(s).

e) The Owner will measure the Liquid Asphalt and Portland Cement Stabilizing Agents incorporated into the work by the gallon and by the ton, respectively, as metered through a calibrated pump, calibrated auger, or through delivered ticket quantity, acceptably completed.

f) Payment is full compensation for measured quantities as specified above; all material including mixing and milling water; equipment necessary for milling and sizing, mixing, paving, compacting the completed CIR and fog seal to maintain the completed CIR.

g) As defined in the Price Adjustments section of INSTRUCTIONS TO BIDDERS, Contractor's bid prices shall be based upon the current MassDOT asphalt cement price index posted for October prior to the November bid opening date ("Bid Index"). If the posted asphalt cement price index in place when the work is performed differs from the Bid Index, up or down, then Contractor's invoices shall include price adjustments for the asphaltic materials, and these adjustments shall be calculated based on the actual tons of liquid asphalt cement incorporated into the work.

h) The City/Town will use the MassMassDOT procedure for price adjustment for Portland cement as outlined in Document 00814, "Special Provisions: Price Adjustment for Portland Cement Concrete Mixes," January 12, 2009. The price adjustment will be based on the variance in price for Portland cement from the base price to the period price.

PART IV – PRE-MILLING PAVEMENT

DESCRIPTION

Work under this item shall be done in conjunction with the CIR. The work shall consist of removing, by cold-planer, asphalt pavement in designated areas. The milled material shall become the property of the owner to be disposed of or recycled as directed by the Engineer.

1. EQUIPMENT

a) The cold-planer, and any other motorized vehicular equipment, shall be equipped with taillights, headlights, and necessary reflectors so that they can be operated in traffic with complete safety.

b) The cold-planing machine shall be adjustable as to crown and minimum depth of 1/8". The width of the cutting drum shall be a minimum of 51"

c) The equipment shall be capable of accurately and automatically establishing profile grade along each edge of the machine (within 1/8-inch, more or less) by referencing from the existing pavement by means of a ski or matching shoe controlling cross slope at a given rate.

d) The machine shall be capable of being operated at speeds from 18 to 40 feet per minute and designed so that the operator can, at all times, observe the operations without leaving his control area.

e) The equipment furnished by the contractor shall be in good repair and shall be maintained so as to produce a clean cut into the pavement at all times.

f) The machine shall be equipped with an integral loading and reclaiming means to immediately remove material being cut from the surface of the roadway and discharge the cuttings into a truck, all in one operation. All planing machinery shall be equipped with dust control devices to prevent any dust produced in the cutting operation from escaping into the air, in compliance with EPA air quality standards. The equipment shall meet the standards set by the Air Quality Act for noise and pollution. This machine shall be equipped with a floating moldboard cutting device which is behind the mandrel, and such moldboard must have an infinitely variable down pressure from 0-300 PSI.

2. CONSTRUCTION METHOD

a) The cold planing machine shall be delivered to the project limits on a trailer. The machine shall be loaded on to the trailer to be transferred from work site to work site. The contractor shall not "walk" the machine to the next site unless prior approval from the Engineer is granted.
b) Once the cold-planing process has begun, the contractor is obliged to carry this effort forward without interruption, yet in accordance with all work hour restrictions unless otherwise directed by the Engineer
c) Cold-planing operations shall not be limited to just the primary roadway surface, but shall also extend into the adjacent intersections as well. The limit of this work shall be determined in the field by the Engineer so as to best meet the existing conditions and to further provide for a smooth pavement transitioning.
d) No asphalt millings shall remain on-site at the end of each day. Material resulting from the operation shall become the property of the owner and disposed of at an owner-furnished disposal site. Existing catch basins shall be protected in place to not allow loose material to enter structures.
e) Owner will provide trucking of pre-millings from the project. There will be no loading charges associated with the pre-milling operation.

3. MEASURE AND PAYMENT

a) Under the unit bid price, the contractor shall be done in conjunction with the CIR. The work shall consist of removing, by cold-planer, asphalt pavement in designated areas. The milled material shall become the property of the owner to be disposed of or recycled, as directed by the Engineer.
b) The bid unit cost per SY will be based on a 1.5 inch depth. Should conditions warrant that the milled depth must exceed 1.5 inches, payment will be calculated on a prorated basis to reflect the additional depth needed.
c) The City/Town will provide trucking for the millings. Any loading operations shall be considered incidental to the work and not cause for additional compensation.

PART V – GRAVEL AND REPAIR HOT MIX ASPHALT

Description

If needed, repair areas will be saw cut, and then all inferior material shall be removed. Gravel will then be placed and compacted in 6" lifts. The final 6", bringing the repair area to road grade, shall be done with ¾" hot mix binder.

1. ASPHALT PRICE ADJUSTMENTS

Asphalt Price Adjustments: Contractor's bid prices below shall be based upon the current State DOT asphalt cement price index posted exactly two (2) weeks prior to the due date for receipt of bids ("Bid Index"). If the posted State DOT asphalt cement price index in place when the work is performed differs from the Bid Index, up or down, then Contractor's invoices shall include price adjustments for the asphaltic materials, and these adjustments shall be calculated based on the actual tons of liquid asphalt cement incorporated into the work.\

2. MEASURE AND PAYMENT

a) Under the unit bid price for gravel and repair hot mix asphalt, repair areas will be saw cut, and all inferior material shall be removed, as directed by the Engineer. Gravel will then be placed and compacted in 6" lifts. The final 6", bringing the repair area to road grade, shall be done with ¾" hot mix binder.
b) Payment for gravel shall be paid by the cubic yard (CY), and for asphalt by the ton (TON). Saw cutting cost shall be incidental to the repair.
c) Contractor's bid prices below shall be based upon the current State DOT asphalt cement price index posted exactly two (2) weeks prior to the due date for receipt of bids ("Bid Index"). If the posted

State DOT asphalt cement price index in place when the work is performed differs from the Bid Index, up or down, then Contractor's invoices shall include price adjustments for the asphaltic materials, and these adjustments shall be calculated based on the actual tons of liquid asphalt cement incorporated into the work.

d) Any Tack coat required and used for these repairs shall be considered incidental to the work and not cause for additional compensation.

PART VI - LOWER AND RAISE OF EXISTING STRUCTURES (CIR) (FRAMES & GRATES OR FRAMES & COVERS)

1. MATERIALS

a) Hot mix asphalt collars compacted in lifts not to exceed 6" (preferred), or concrete collars will be constructed using 4,000 PSI cement concrete masonry at no additional cost and as directed by the Engineer. A minimum of four (4) inches of hot mix asphalt shall be placed around the adjusted structure and compacted to the underlying grade of the proposed wearing surface, and this work will be considered incidental to the above Item's unit price. If used, concrete collars will be completely coated with (RS-1) asphaltic emulsion before placement of hot mix asphalt. The brick to be used shall be clay brick. Brick courses shall not exceed 5 courses.

b) If used, concrete collars shall be constructed with high early strength cement. Concrete collars shall be incidental to the item of work to which they pertain.

c) Use of steel plates to cover open structures shall be considered incidental to the work and not cause for additional compensation. Multiple adjustments that may be necessary as a result of the work sequence shall be considered part of the one-time measurement and payment and not cause for additional compensation

d) All brick risers shall be thoroughly coated or parged with mortar to ensure a water tight seal. The space between the top of the brick and mortar and the bottom flange of the frame shall be completely filled and made watertight. A thick ring of mortar extending to the outer edge of the concrete shall be placed all around the bottom flange. The mortar shall be smoothly finished to a height of two inches (2") above the flange. Only clean bricks shall be used in brick work to adjust frame elevations. The brick shall be pre-moistened by suitable means.

e) All brick risers shall be thoroughly coated or parged with mortar to ensure a water tight seal. The space between the top of the brick and mortar and the bottom flange of the frame shall be completely filled and made watertight. A thick ring of mortar extending to the outer edge of the concrete shall be placed all around the bottom flange.

f) Any structure that is in the paved roadway, and is not to the point of being backfilled with the installed hot mix asphalt at the end of any work day, shall be steel-plated or backfilled with compacted gravel, level with the roadway. This gravel and the re-excavation of the gravel, to complete the structure adjustment, shall be included in the unit price(s) for all structures covered under this Item.

g) The Town expects that all structures lowered/raised/rebuilt under all related Items will be clean of construction debris. After construction is complete, the Contractor shall open all structures in the presence of the Engineer. The Engineer shall inspect structures for any remaining construction debris. All structures shall be set flush to the final finished grade with the exception of catch basins which shall be set one quarter inch (1/4") below finished grades. The structures will be judged on a pass/fail basis. Photos will be taken by the Engineer of any structure with remaining construction debris.

2. ENGINEERING

a) In all roadways, the castings shall be lowered to the top of the structure base.

b) After the CIR, castings shall be raised to the final grade.

c) Damaged or obsolete castings shall be stacked and replaced with new castings as directed by the Engineer. Frames, grates and covers will be delivered on site by the Owner.
d) The Owner shall remove the old damaged or obsolete castings from its stacked location. No additional compensation will be made for stacking of the old castings.

3. MEASURE AND PAYMENT

a) Under the unit bid price for this section, payment for 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 manholes adjusted, to be paid for at the unit price per each. Measurement shall be by each catch basin or manhole adjusted and approved by the Engineer.
b) In instances where the structure base is more than one foot (12") below the final rim elevation of the adjusted casting, the additional required structure rebuild will be paid an item for Structure Rebuild.
c) Any Structure Rebuild as defined above will be paid for by Vertical Foot (VF).

PART VII - DJUSTMENT OF EXISTING WATER GATES AND OTHER SMALL BOX OR SERVICE STRUCTURES (CIR)

1. CONSTRUCTION METHOD

a) Valve boxes are to be lowered prior to the CIR process and raised after the CIR process. They shall be installed vertically, centered over the operating nut, and the elevation of the top shall be adjusted to final grade.
b) All water gate boxes will be cleaned of debris by the Town prior to any roadwork being performed. If the Contractor locates any water gate boxes that are not free of dirt or debris, he shall bring it to the attention of the Engineer. Water gate boxes are to be protected from construction debris or other material resulting from construction work. The Contractor shall use any plugs already installed or shall provide an approved method of plugging the gate box tops if a plug is not already in place. Rags, cloth, burlap or plastic bags will not be allowed as an approved plug. Any construction debris or other material resulting from the work shall be removed from the gate box at the Contractor's expense.
c) If there is already a plug in the water gate riser, provided by the DPW, the contractor will be responsible for replacing that plug such that it is securely fitted into the riser directly beneath the valve box top. If the foam plug is trimmed to fit into the valve box bottom during construction the contractor will be responsible for replacing it with a new foam plug in order to achieve a secure fit.
d) Boxes shall be continuously and adequately supported during backfilling to maintain vertical alignment.
e) Bricks shall be placed at the base of the flange to properly support the box.
f) Backfill around valve boxes, and anywhere excavation is made in the street, shall be compacted in lifts not exceeding 6 inches.
g) The boxes and tops shall be furnished by the Owner.
h) The contractor shall properly dispose of any old damaged or obsolete water castings. No additional compensation will be made for disposal of old castings.

2. MEASURE AND PAYMENT

a) Under the unit bid price this section, the Contractor shall be paid full compensation for all materials and appurtenances associated with the adjustment of Existing Water Gates and other small Box or Service Structures for this bid.

b) No separate payments will be made for damages to existing utilities made during any of these adjustments.
c) Payment will be paid for labor, materials and equipment to complete this work as directed by the Engineer.
d) Measurement for payment for this section will be on the basis of each (EA) Water or small structure adjusted, as accepted by the Engineer.

ITEM THREE: PERMANENT TRENCH PATCH REPAIRS

The scope of work to be done consists of excavating Bituminous Pavement by cold planer in designated areas to improve paved trenches and areas of disintegrating top coat, then replacing said areas with either 1 ½ inch of top course bituminous, or 2 ½ inches of binder and 1 ½ inches of top course.

This item is intended for repair of isolated utility cuts and small areas of pavement deterioration in roadways and is not intended for repairs of large longitudinal utility trenches (i.e. in the case of a water main replacement project or sewer extension).

CONSTRUCTION METHODS

Contractor will be responsible for damage to existing castings resulting from his operation unless such castings (e.g.: water gates) have previously been paved over and are therefore not visible on surface.

Work area will be left clean and free from debris.

Traffic controls/safety signage used by the contractor for his own convenience, such as those placed out and removed on a daily basis, will be considered incidental to the work and shall not be included for payment under this item.

METHOD OF MEASUREMENT

Prices quoted shall include milling, loading, trucking, paving, tack, emulsion, sweeping, final clean-up, disposal of millings and all other work necessary to provide a finished patch and will be measured by the actual number of square yards completed. Sawcutting, jacking or milling of existing pavement to the excavation limits shall be considered incidental with no additional measurement or payment.

The measurement shall be made by both the Engineer and Contractors.

UNITS OF MEASUREMENT

All work items shall be measured by the square yard (SY).

EQUIPMENT

The contractor shall furnish a milling machine capable of removing a maximum width of forty inches.

The cold planer shall be capable of planning both the bituminous pavements and cement concrete patches if the latter should be encountered in bituminous pavements.

The cold planer shall be equipped with all necessary safety devices such as flashing lights and backup signal so as to operate in traffic with complete safety.

A power propelled bituminous paver with an activated screed or strike-off assembly capable of spreading and finishing bituminous material to meet the specified thickness, smoothness and grade. A 3 to 5 ton vibratory roller is to be used to sufficiently to compact the bituminous mixture.

Contractor shall also furnish auxiliary milling equipment for clean-up work along curbs and around castings.

The use of planing equipment mounted on pneumatic tires will be permitted only for cleanup work.

4-INCH GRIND AND INLAY:

Areas to be patched shall be cold planed or saw cut not less than six inches outside the area of repair and to four inch in depth to obtain a clean, sound, vertical edge and stable base.

A tack coat of emulsified asphalt, type RS-1, shall be placed on all vertical joints of the original asphalt for proper bonding of new pavement.

A minimum of two and one half inches of Class I-1 Bituminous Concrete Binder must be placed in the first layer of patching followed by a minimum one and one half inches of Class I-1 Bituminous Concrete State Top placed in the second layer.

Upon completion of patch exposed surface joints shall be sealed with emulsified asphalt and sanded.

1 ½-INCH GRIND AND INLAY:

Areas that are being prepared for a 1.5” resurfacing shall follow the same process as for 4 inch Grind and Inlay, but will only require a total of 1.5” of Bituminous Concrete State Top to be compacted “flush” with abutting pavement.

BOTH PATCH TYPES

TOLERANCES Flatness: Maximum variation of 3/16 inch measured with 10 foot straight edge.

Scheduled Compacted Thickness: Within 1/2 inch.

Variation from Indicated Elevation: Within 1/4 inch.

PROTECTION OF FINISHED WORK

Immediately after placement, protect pavement from mechanical injury. Contractor is responsible for all temporary traffic controls/signage.

BITUMINOUS CONCRETE FOR PATCH REPAIRS

All bituminous concrete materials used for Grind and Inlay shall meet MassDOT standards, as listed in Section 472 of the Standard Specifications and shall conform to the requirements of Division III thereof, as applicable.

Milled material will become the property of the contractor and will be disposed of off-site.

TRAFFIC MANAGEMENT

The Contractor shall be responsible to provide, install and maintain all necessary traffic controls for construction and maintenance operations. The Contractor shall provide the Awarding Authority with a plan of all proposed

traffic controls necessary for the proposed work within 14 days of commencement of work. The Awarding Authority shall review, comment as necessary and provide a review response to the Contractor within 7 days of the commencement of the proposed work.

The work under this item shall adhere to Section 850 of the Standard Specifications.

All labor, materials, equipment and incidental costs required to complete the work shall be considered incidental to this work Item.

POLICE DETAILS

The Awarding Authority shall be responsible for the scheduling and payment of police details for all proposed work. The Contractor shall be responsible to coordinate with the Awarding Authority on all police detail requirements. The Contractor shall be responsible to notify the Police Department of a cancellation within 4 hours of the proposed scheduled start time or as required by the municipality. If the Contractor fails to notify the Police Department within the minimum time required to cancel a police detail, the Contractor shall credit all of the costs to the Awarding Authority associated with paying the police detail.

DISPOSAL OF MATERIAL AND FINAL CLEAN-UP

All material removed from any work site shall be delivered to a proper disposal site by the Contractor at no additional cost to the Awarding Authority. At no additional expense and in conjunction with the completion of the work, the Contractor shall be responsible to remove & dispose of temporary structures, surplus material, rubbish left onsite from the right of way, construction site and adjacent properties. Final payment for work completed will not be approved until the site is clean and approved by the Awarding Authority.

No equipment or material shall be left within any aforementioned area after acceptance of the Contract without written permission of the Awarding Authority. The Contractor shall not abandon any material at or near the site regardless of whether or not it has any value.

ITEM FOUR: IN-PLACE HOT MIX ASPHALT - –No Bids Invited this year

ITEM FIVE: SUPERPAVE

Special Notice to Bidders: All bidders are reminded that they are required to call the applicable Department of Public Works to schedule inspection of newly placed asphalt. Failure to contact the Department shall result in material rejection and the Contractor shall be required to remove and replace all material at no additional cost to the Town.

DESCRIPTION

Scope - Work under this item shall consist of furnishing hot mix asphalt composed of mineral aggregate and asphalt binder, mixed in a central mixing plant and placed on a prepared course in accordance with these specifications and conformance to the lines, grades, thickness and typical cross sections shown on the plans or as directed by the Engineer. Where reference is made to MHD Standard Specifications, Form 1995 shall apply for section references; latest edition shall apply for specifications.

Each course shall be constructed to the depth, typical section, or elevation required by the contract and/or plans, or as directed and shall be rolled, finished, and approved before the placement of the next course. Each course shall be placed to a smooth, dense and uniform appearance.

Many state agencies are implementing Quality Assurance specifications. It is the intent of these municipal quality-based HMA specifications to move toward the goal of quality assurance implementation but tailored toward the real world of municipal construction. To that end, the Contractor is required to establish, provide, and maintain a Quality Control System (QCS) that will detail the methods and procedures that will be taken to assure that all materials and completed construction conform to project specifications, plans, technical specifications and other requirements, whether manufactured or processed by the Contractor or procured from subcontractors or vendors.

QUALITY ASSURANCE

The Contractor assumes the responsibility of the quality for all materials and construction incorporated into the work and will control all the processes leading to the final result through this function. Quality Control activities should include:

- Maintain a Contractor Quality Control System
- Proficiency testing prior to/during production with Engineer
- Inspection and Testing of Hot Mix Asphalt Production
- Inspection and Testing of Hot Mix Asphalt Placement

See the Section "Contractor Quality Control of HMA Pavement" of these specifications for additional information.

The Town or their authorized agent will perform the Quality Acceptance function for this work. The towns will jointly review materials, job mix formulas, and evaluate test strip production. Material will be considered for acceptance through a sampling, testing and inspection program performed by the Engineer or their agent. Quality Acceptance activities include:

- Proficiency testing prior to/during production with Contractor,
- Inspection of HMA Production Plant and Testing Laboratory.
- Production Trials of HMA Products Intended for Use in the towns of Easton/Mansfield/Foxborough or approved, current MHD job mix formulas and related Marshall or Superpave approved design.
- Inspection/Testing for Acceptance of Hot Mix Asphalt Production
- Inspection/Testing for Acceptance of Hot Mix Asphalt Placement
- HMA Quality Acceptance Report of Activities

MATERIALS

Aggregate - Aggregate shall meet the requirements of MHD M3.11.04 latest edition of the Standard Specifications and as further stipulated herein.

A. Coarse Aggregate

1. The sodium sulfate soundness loss shall not exceed nine (9) percent, nor the magnesium soundness loss exceed twelve (12) percent, after five cycles, when tested in accordance with AASHTO T104.

2. The coarse aggregate shall not contain more than one (1) percent of material such as crusher dust, sand or soft, disintegrated pieces. The coarse aggregate shall not contain more than ten (10) percent, by weight, of flat or elongated pieces, when tested in accordance with ASTM D4791 at a ratio of 3:1.

3. The aggregate shall contain a minimum coarse aggregate angularity of 75% having at least one fractured face for the base, intermediate courses and surface course, when tested in accordance with ASTM D5821.

4. The use of steel slag or blast furnace slag shall not be permitted as a coarse aggregate.

B. Fine Aggregate

1. Fine aggregate shall consist of clean, sound, durable, angular particles produced by crushing natural stone, or gravel that meets the requirements for wear and soundness specified for the coarse aggregate. The aggregate particles shall be free from coatings of clay, silt, or other objectionable matter and shall contain no clay balls. The combined materials that passed the No. 100 mesh sieve shall not have sufficient plasticity to permit the performing of the plastic limit test using AASHTO T90.

2. Fine aggregates shall have sand equivalent values of 40 or greater when tested in accordance with AASHTO T176. The sand equivalent value shall be determined for the combined mix aggregates, including coarse and fine aggregates and mineral filler portions.

3. Natural (non-manufactured) sand may be used to obtain the gradation of the aggregate blend or to improve the workability of the mix. The amount of sand to be added will be adjusted to produce mixtures conforming to requirements of this specification.

C. Mineral Filler: If filler, in addition to that naturally present in the aggregate, is necessary, it shall meet the requirements of AASHTO M17.

HMA mixtures shall contain a dust to effective asphalt ratio by mass between 0.6 and 1.2. For Superpave designed mixtures, mixtures that pass beneath the Primary Control Sieve (PCS) control point established by AASHTO M323 may contain a dust to effective asphalt ratio by mass between 0.8 and 1.6.

D. Reclaimed Asphalt Pavement (RAP) The use of a maximum of 15% recycled asphalt pavement (RAP) will be allowed in the HMA surface courses. All other HMA mixtures may contain a maximum of 25% RAP by mass of the entire mixture.

The RAP, incorporated into the HMA mixtures, shall be maintained as a separate captive stockpile and shall not be added to without prior approval. RAP shall consist of asphalt pavement recovered by cold milling or other removal techniques. The RAP shall be crushed so that 100 percent passes the maximum aggregate size of the HMA mix in which it will be used. The Contractor's Quality Control system shall assure that the RAP is free from detrimental amounts of contaminating substances such as joint seal compound and, is reasonably uniformly graded from fine to coarse.

The coarse aggregate in the RAP shall be crushed stone or crushed gravel and the top-size shall not exceed the maximum aggregate size established by the JMF. The final HMA mixture containing RAP shall conform to all the specification requirements contained herein.

For mixtures containing 15% or less RAP, the asphalt binder shall be a PG 64-28 or PG 64-22. For mixtures containing greater than 15% and up to 25% RAP, the asphalt binder grade shall be a PG 58-34, or that which satisfies AASHTO MP1 and AASHTO MP2.

The laboratory RAP-virgin binder blend viscosity value established from the RTFO residue at 140°F (60°C) shall establish the maximum viscosity allowed for the binder after discharge from the HMA plant and/or silo storage, if applicable, when recovered by AASHTO T170 and tested in accordance with AASHTO T202 and AASHTO TP48.

For design purposes, the specific gravity of the combined aggregate blend with RAP used in a HMA mixture shall be determined in accordance with the test method for BULK SPECIFIC GRAVITY OF AGGREGATE BLENDS WITH RAP (contact Town if a copy of this test method is needed).

Sampling and Testing - All aggregate samples required for testing shall be furnished by the Contractor when requested. AASHTO-T2 shall be used in sampling coarse aggregate and fine aggregate, and AASHTO T127 shall be used in sampling mineral filler. All tests for initial aggregate submittals necessary to determine compliance with requirements specified herein will be conducted by the Contractor under their Quality Control System. No aggregate shall be used in the production of mixtures without prior approval.

Sources of Supply - Previously approved MHD sources shall be used. Contractor to document MHD approvals.

Asphalt Binder Material - The types, grades, and controlling specifications, the maximum mixing temperatures and compaction temperatures for the asphalt binder materials shall conform to the following:

Performance Graded Asphalt Binder: - The Asphalt Binder shall be a Performance Graded Asphalt Binder (PGAB) which meets the specification requirements of AASHTO M320 and AASHTO R29. Acceptance of the PGAB will be in accordance with AASHTO R26 “Standard Practice for Certifying Suppliers of Performance Graded Asphalt Binders”. PGAB shall be provided by an Approved Supplier (AS) under the Approved Supplier Certification (ASC) system.

THE PGAB GRADE SELECTED FOR THIS WORK IS PG 64-28 or 64 -22 - If heavy truck traffic and high volume traffic levels warrant, the PGAB may be adjusted by the Engineer for traffic conditions. **No chemically modified PGAB shall be used on this project.**

1. A separate JMF with TSR results shall be submitted for each PGAB grade proposed for use on this project.
2. Limit one binder grade per production day unless otherwise adjusted by the Engineer for traffic conditions.
3. Documentation of the type of binder used per production day is to be stated on the weigh slips.

The Contractor shall furnish manufacturers' certified test reports for each carload or equivalent of binder shipped to the project as well as applicable Materials Certificates for the shipment of each carload or equivalent to the production plant. The reports shall be delivered to the Engineer before production of the HMA. The furnishing of the vendor's certified test reports and material certificates for the PGAB material can be used as the basis for final acceptance of the bituminous material, or, tested by the Engineer. If the Engineer elects to test the binder material at their costs, then the Contractor shall set aside one (1) 1-qt samples of the asphalt binder material obtained from each truckload, shipment, or equivalent of asphalt binder material shipped to the production facility. Each sample shall be labeled with the PG grade, source and batch number, quantity, project name, plant, date, and the sampling inspector. The Contractor shall maintain documentation in the form of a Materials Certificate of each shipment, with a copy attached to each quart sample.

After receiving the quart samples, obtained by the Contractor, the Engineer may test the samples for verification of the performance grade. Material shall conform to the specification requirements for the applicable performance grade as specified herein. Material not conforming to specification requirements shall be subject to corrective action, production suspension, rejection, removal, or reduced payment as determined by the Engineer.

The blending at the HMA plants of PG binder from different suppliers is strictly prohibited. Contractors may switch to another approved source of PG binder, upon written notification to the Engineer, and by certifying that the tank to be utilized has been drained to an un-pumpable condition. The tank shall not retain more than 0.5% in volume capacity of previous residue source. Contractors who blend PG binders will be reclassified as a supplier and required to certify the binder in accordance with AASHTO M320 and AASHTO R26. Also if any modifications, blending, or addition of additives occurs, the Contractor shall re-certify the material in accordance with AASHTO M320 and AASHTO R26.

A copy of the Certified Test Reports shall be provided in accordance with the frequency requirements established in the latest version of AASHTO M320, and shall include the following:

1) Flash point
2) Rotational viscosity at 275^{o}F and 329^{o}F
3) Specific gravity at 77^{o}F
4) Original G*/sinδ and phase angle at test temperature
5) RTFO percent mass loss
6) RTFO - G*/sinδ and phase angle at test temperature
7) PAV Residue - G*(sinδ) and phase angle at test temperature
8) Creep stiffness and m-value at test temperature
9) Direct tension results (when equipment available)
10) Strain sweep in accordance with AASHTO T315 (optional)
11) Physical hardening after 24 hours in accordance with AASHTO T313 (optional)

Latex Modifier - The latex compound used in conjunction with the asphalt binder for Ultra-thin surface shall be a cold polymerized un-vulcanized virgin synthetic rubber in latex form and conform to the following requirements:

LATEX COMPOUND

Type of Latex	Anionic
Total Rubber Solids, % by weight	60 – 72
Ash, % of total rubber solids by weight	3.5 max.
pH	9 - 11
Viscosity, Brookfield #2 @ 20 rpm, 77F	2,000 max.
Styrene Butadiene Ratio	24:76 ± 2
Residual Styrene, % by weight	0.1 max.

The manufacturer of the latex compound shall furnish certification showing actual test results conforming to the specifications. The Contractor shall submit typical samples of the latex compound and the unmodified bitumen to be used for the project to the Engineer prior to production.

Asphalt Binder Anti-Stripping Additive - MHD approved anti-strip additive shall be used.

Tack Coat: Emulsified asphalt; AASHTO M140/ASTM D 997 or AASHTO M 208/ASTM D 2397, RS-1 or CRS-1

PRELIMINARY MATERIAL ACCEPTANCE: Prior to delivery of HMA materials to the job site, the Contractor shall submit either an approved, current MHD job mix formulas for the mixtures to be used, or, certified test reports to the Engineer for the following materials certified under the Contractor's quality control system:

Coarse Aggregate

A. Percent of wear
B. Soundness
C. Flat and Elongated
D. Coarse aggregate angularity

Fine Aggregate

A. Liquid limit
B. Plastic index
C. Sand equivalent
D. Fine aggregate anularity

Mineral Filler

Performance Graded Asphalt Binder: The certification(s) shall show the appropriate AASHTO and/or ASTM test(s) for each material, the test results, and a signed statement that the material meets the specification requirement.

The Engineer may request samples for testing, including but not limited to, modifiers, truck coatings, and emulsion, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

COMPOSITION OF HMA MIXTURES

Hot Mix Asphalt – HMA plant mix may be composed of a homogeneous mixture of aggregate, filler if required, bitumen, and/or additives, combined to meet the composition limits by weight and other characteristics as specified. The several aggregate fractions shall be sized, uniformly graded and combined in such proportions that the resulting mixture meets the grading requirements of these specifications.

Hot Mix Asphalt Mix Design: The Contractor shall be responsible for the development of all job mix formulas. All job mix formulas other than for Surface Treatment and Base mix shall be based on and supported by volumetric mix designs, either Marshall Method or Superpave method. Marshall Mix design method, procedures and criteria shall be based on Asphalt Institute MS-2 and AASHTO T245 and the requirements contained herein. Superpave mix designs shall be based on Asphalt Institute SP-2 and AASHTO M323, R35, R30, T312, and the requirements contained herein. For the Superpave volumetric mix design, the mixture of asphalt and aggregate shall be oven aged at the mixture's specified compaction temperature in accordance with AASHTO R30.

JOB MIX FORMULA (JMF). Work shall not begin nor shall any mixture be accepted until the Contractor has submitted a job mix formula, samples of the existing and new materials intended for use, and has established a separate, job mix formula (JMF) for each mixture. A separate job mix formula shall be submitted for each mixture and each approved RAP stockpile (the stockpile shall be of a uniform quality throughout). The JMF will be jointly approved by the Towns. Separate approval by each community is not required.

JMF Submittal - The job mix formula shall establish the percentage of each additional aggregate required, a single percentage of aggregate passing each required sieve size, a single percentage and the grade of asphalt binder to be added, the percentage of recycling additive, and a single temperature at which the mixture is to be discharged from the plant, and the number of seconds for dry mixing time and the number of seconds for wet mixing time. AASHO-T195 (Ross Count) with a coating factor of ninety-eight (98) percent will be used when necessary to evaluate proper mixing time. The moisture content of all hot mix asphalt upon discharge from the mixer shall not exceed 0.5 percent when tested in accordance with AASHTO T110. The job mix formula shall also specify a single source or uniform blend of particular sources for fine aggregate, a single source for each nominal size of coarse aggregate, and a single source of supply for mineral filler and for asphalt. The JMF shall be submitted in writing by the Contractor to the Engineer at least 30 days prior to the start of paving operations and shall include as a minimum:

A. Percent passing each sieve size.
B. Percent of asphalt binder.
C. Performance grading test results and Material Certificate certifying the PG grade.
D. Number of gyrations for the estimated design ESAL loading.
E. Mixing temperature.
F. Compaction temperature.
G. Temperature of mix when discharged from the mixer.
H. Plot of the combined gradation on the Federal Highway Administration (FHWA) 0.45 power gradation curve.
I. Percent natural sand.
J. Percent fractured faces.
K. Percent flat or elongated particles.
L. Tensile Strength Ratio (TSR).
M. Antistrip agent – type and quantity.
N. Sand equivalent value.
O. Fine aggregate angularity value.
P. Percentage of wear.
Q. Sulfate soundness loss.
R. Individual and combined aggregate specific gravity.
S. Dust to effective asphalt ratio.
T. Graphical plot of air voids, voids in mineral aggregate (VMA), and voids filled with asphalt (VFA) versus asphalt content. The Superpave mixes shall also show density at Ninitial, density at Ndesign, and density at Nmaximum versus asphalt content

The Contractor shall submit samples to the Engineer, upon request, for JMF verification testing.

The JMF for each mixture shall be in effect until modified in writing by the Engineer. Should a change in sources of materials be made, a new JMF must be approved by the Engineer before the new material is used.

JMF Tolerances - The job mix formula, operating within the allowable action limits for individual measurements as specified in Table 7 herein, shall be set within the design master limits specified for each mixture class, either Table 5 for Superpave design or Table 6 for Marshall design except that the Engineer may modify the design limits if they determine this to be necessary and in the best interest of the Town.

Plant Trial Mixtures - After receiving the job mix formula prepared by the Contractor, the Engineer will notify the Contractor regarding a verification of the optimum asphalt content and/or pre-production trials and Control Section for those mixtures so designated by the Engineer. A minimum of one trial mix shall be produced at the Contractor's proposed asphalt binder content and aggregate gradation.

JMF Approval – The Contractor will be notified by the Engineer if the JMF submittals are approved for production. The approved job mix formula for the mixture shall be in effect until modified in writing. As indicated in Section 4.3.3, Plant Trial Mixtures, of this specification, the Engineer will notify the Contractor regarding the placement of a Control Section (See Section 5.0). Following placement and testing of the Control Section, the JMF may have to be modified to meet both production and placement requirements of this specification. If warranted, the JMF resubmittal shall follow the applicable requirements of Section 4.3 of this specification. A JMF, once approved, will not be required for further mix approval for the construction season unless a change has occurred that warrants a new JMF approval or as directed by the Engineer. The approval of all JMFs will terminate on December 31st each year, regardless if the work is carried over to the following year. Control strips are required by the contractor for in-place mat thickness, uniformity, longitudinal joint characteristics, and density requirements before approval.

HMA Mixture Design Criteria

TABLE 3. PERCENT VOIDS IN MINERAL AGGREGATE (VMA)	
Nominal Maximum Aggregate Size	Percent Minimum
#4 (4.75mm)	16.0
3/8" (9.5 mm)	15.0
1/2" (12.5 mm)	14.0
3/4" (19.0 mm)	13.0
1.0" (25.0 mm)	12.0

TABLE 4: Hot Mix Asphalt and Volumetric Properties for Superpave Mixtures.

Traffic Levels	Design ESALs (million)	Number of Gyrations by Superpave Gyratory Compactor			Percent Density of Gmm from HMA specimen			Voids Filled with Asphalt (VFA) Based on Nominal mix size					
		Nini	Ndes	Nmax	Nini	Ndes	Nmax	4.75 mm	9.5 mm	12.5 mm	19.0 mm	25.0 mm	37.5 mm
1	< 0.3	6	50	75	≤ 91.5	95 - 97	≤ 98.0	70 – 80	70 - 80	70 - 80	70 - 80	67 – 80	64 – 80
2	0.3 to < 3.0	7	75	115	≤ 90.5	95 - 97	≤ 98.0	65 – 78	65 - 78	65 - 78	65 - 78	65 - 78	64 - 78
3	3.0 to < 30	8	100	160	≤ 89.0	95 - 97	≤ 98.0	75 – 78	73 - 76	65 - 75	65 - 75	65 - 75	64 - 75
4	≥ 30.0	9	125	205	≤ 89.0	95 - 97	≤ 98.0	75 - 78	73 - 76	65 - 75	65 - 75	65 - 75	64 - 75

TABLE 5. SUPERPAVE HOT MIX ASPHALT MIXTURES

	Percent by Weight Passing Sieves											
Sieve Size in. (mm)	4.75mm Control Points		9.5mm Control Points		12.5mm Control Points		19.0mm Control Points		25.0mm Control Points		37.5mm Control Points	
	Min %	Max %	Min %	Max %	Min %	Max %	Min %	Max %	Min %	Max %	Min %	Max %
2" (50.0)									-	-	100.0	

1-1/2" (37.5)	-	-	-	-	-	-	-	-	100	-	90.0	100.0
1" (25.4)	-	-	-	-	-	-	100.0	-	90.0	100.0	-	90.0
3/4" (19.0)	-	-	-	-	100.0	-	90.0	100.0	-	90.0	-	-
1/2" (12.5)	100.0	-	100.0	-	90.0	100.0	-	90.0	-	-	-	-
3/8" (9.5)	95.0	100.0	90.0	100.0	-	90.0	-	-	-	-	-	-
#4 (4.75)	90.0	100.0	-	90.0	-	-	-	-	-	-	-	-
#8 (2.36)	-	-	32.0	67.0	28.0	58.0	23.0	49.0	19.0	45.0	15.0	41.0
#16 (1.18)	30.0	60.0	-	-	-	-	-	-	-	-	-	-
#30 (0.600)	-	-	-	-	-	-	-	-	-	-	-	-
#50 (0.300)	-	-	-	-	-	-	-	-	-	-	-	-
#100 (0.150)	-	-	-	-	-	-	-	-	-	-	-	-
#200 (0.075)	6.0	12.0	2.0	10.0	2.0	10.0	2.0	8.0	1.0	7.0	0	6.0
Dust to Binder Ratio[(Note)]:	0.9	2.0	0.6	1.2	0.6	1.2	0.6	1.2	0.6	1.2	0.6	1.2

Note: The Engineer may increase the Dust to binder ratio from 0.6-1.2 to 0.8-1.6 if the proposed aggregate gradation passes beneath the Primary Control Sieve (PCS) control point established in AASHTO M323.

Table 6. MARSHALL DESIGN MASTER RANGE TOLERANCES

Standard Sieves	Base Course	Dense Binder Course	Modified Arterial Top	Top Course	Dense Mix	Surface Treatment	Ultra-Thin Surface (c)
2" (50mm)	100						
1-1/2"(38mm)							
1" (25mm)	57-87	100					
3/4" (19mm)		80 - 100	100				
1/2" (12.5mm)	40-65	65 - 80	90-100	100	100		100
3/8" (9.5mm)			70-90	80-100	80-100	100	90 - 100
#4 (4.75mm)	20-45	48 - 65	45-70	50-76	55-80	80-100	55 - 85
#8 (2.36mm)	15-33	37 - 51	28-55	37-54	48-63	64-85	32 - 47
#16 (1.18mm)			18-40	26-40	36-49	46-68	18 - 31
#30 (0.60mm)	8-17	17 - 30	10-30	17-31	24-38	26-50	11 - 22
#50 (0.30mm)	4-12	10-22	6-23	10-23	14-27	13-31	7 - 18
#100 (0.15mm)			4-15	6-16	6-18	7-17	4 - 12
#200 (.075mm)	0-4	0-6	2-7	2-7	4-8	3-8	3 - 10
Asphalt Content	4.0-5.0	5.0-6.0	5.0-7.0	5.5-7.0	7.0-8.0	7.0-8.0	6.5-8.0(b)

					(a)		
Temp. Mix (F)	255-295	265-325	265-325	265-325	265-325	275-325	330 - 360
Temp.Mix (C)	124-146	129-163	129-163	129-163	129-163	135-163	166-182
Marshall Blows	N/A	50	75	50	50	N/A	50
Stability, lbs. min		1000	1500	1000	1000		1800
Stability, Newtons		4500	6750	4500	4500		8000
Flow,0.01"(.25mm)		8-16	8-16	8-16	8-16		8-16
AirVoids,%		3.0 - 6.0	3.0 - 5.0	3.0 - 6.0	3.0 - 6.0		3.0 - 5.0

Table 6 Notes:

(a) Dense mix including approved anti-stripping compound shall be furnished and used for protective (bottom) courses of pavement on bridges, and elsewhere shown on the plans.

(b) The total asphalt content in this mixture shall contain 5% ± 0.5% of rubber solids.

(c) The aggregates used for the production of the Ultra-Thin Surface will contain all crushed aggregates, natural sand is not allowed.

The asphalt content of all mixtures shall be calculated on the percentage basis by weight of the total mix.

4.5 Additional HMA Criteria – In addition to the above HMA design requirements, the HMA mixtures shall also conform to the following:

A. Stripping: Each mixture shall be evaluated for stripping by performing indirect tensile tests on compacted mixtures. If the Tensile Strength Ratio (TSR) of the composite mixture, as determined by AASHTO T283 with freeze/thaw, is less than 80, the aggregates shall be rejected or the asphalt treated with an approved anti-stripping agent. The amount of anti-stripping agent added to the asphalt shall be sufficient to produce a TSR of not less than 80. If an antistrip agent is required, it will be provided by the Contractor at no additional cost.

B. Aggregate Composition: The mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory sieves, will conform to the gradation or gradations specified in either Table 5 or Table 6, whichever is applicable, when tested in accordance with AASHTO Standards T27 and T11. The gradations in either Table 5 or 6, whichever is applicable, represent the limits which shall determine the suitability of aggregate for use from the sources of supply. The aggregate, as selected (and used in the JMF) and blended, shall have a gradation within the limits designated in either Table 5 or 6, whichever is applicable, and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve, or vice versa, but shall be well graded from coarse to fine.

C. JMF Deviations: Deviations from the final approved mix design for asphalt binder content and gradation of aggregates shall be within the action limits for individual measurements as specified in Table 7. The limits still will apply if they fall outside the master grading band in Table 5 or 6, whichever is applicable.

D. Minimum Lift Thickness Consideration: The maximum size aggregate used shall not be more than one-half of the compacted thickness of the course being constructed on a prepared surface or that which can be placed to achieve specification requirements. The maximum size is defined as one sieve size larger than the nominal maximum size. The nominal maximum size is defined as one sieve size larger that the first sieve to cumulatively retain more than 10 percent.

HMA may be stored in surge or storage bins provided that the mixture used from the bins is of a uniform quality and meets the following requirements:

Temporary Storage of Bituminous Mixture - Use of surge bins or storage bias for temporary storage of hot mix asphalt will be permitted as follows:

1. The hot mix asphalt mixture may be stored in surge bins for a period of time not to exceed three hours.
2. The hot mix asphalt mixture may be stored in insulated and heated storage bins for a period of time not to exceed twelve hours, provided an inert gas atmosphere is maintained in the bin during the storage period.
3. If the Engineer determines that there is an excessive amount of heat loss, segregation and/or oxidation of the mixture due to temporary storage, use of surge bins or storage bins will be discontinued.

In addition, the recovered asphalt from the mix samples obtained 30 days after production shall meet the following requirements:

RECOVERED ASPHALT ASTM D1856 ABSON METHOD

Test Property	Min.	Max.
Viscosity, poises @ 140F.		6000
Penetration, dmm @ 77F.	45	100
Ductility, cm @ 77F.	75	One Grade Higher
T_{max} for G*/Sin (d) DSR (RTFO Aged)	-	

HMA CONTROL SECTION. Prior to full production for the Town, the Contractor shall place a quantity of hot mix asphalt according to the JMF and the project specifications. The amount of mixture should be sufficient, at a minimum, to construct a test section 300 feet long and 20 to 30 feet wide placed in two lanes, with a longitudinal joint, and shall be of the same depth specified for the construction of the course which it represents. The underlying grade or pavement structure upon which the Control Section is to be constructed shall be the same as the remainder of that project course represented by the Control Section. The equipment used in construction of the Control section shall be the same type and weight to be used on the remainder of the course represented by the Control Section. The control strip may be as large as one production day on a Town street as long as a longitudinal joint has been constructed.

Two Random sample(s) shall be taken at the plant by the Engineer and tested for air voids in accordance with the Section 8.10, Plant-Produced Material. One random sample of mixture shall be taken at the plant and tested for aggregate gradation and asphalt binder content in accordance with the Section 8.10 Plant-Produced Material.

Three randomly selected cores shall be taken from the finished pavement mat in the Control Section, and three from the longitudinal joint, and tested in accordance with Section 8.2, Field Placed HMA Material. Random sampling shall be in accordance with procedures contained in ASTM D3665.

Mat density and air voids shall be evaluated in accordance with Section 8.2, Field Placed HMA Material.

The performance control strip shall be considered acceptable if the uniformity, thickness, longitudinal joint density and mat density, and plant air voids are within the requirements of this specification. **A single acceptable Control Section is required under this contract for each JMF. Individual control sections for each community are not required provided the materials, equipment, and methods remain the same for each community.**

If the initial Control section should prove to be unacceptable, the necessary adjustments to the JMF, plant operation, placing procedures, and/or rolling procedures shall be made. A second Control section shall then be placed. If the second test section also does not meet specification requirements, both sections shall be removed at the Contractor's expense. Additional Control sections, as required, shall be constructed and evaluated for conformance to the specifications. Any additional sections that are not acceptable shall be removed at the Contractor's expense. Full production shall not begin until an acceptable section has been constructed and accepted by the Engineer. The initial Control section, whether acceptable or unacceptable, and any subsequent section that meets specification requirements shall be paid for in accordance with the Section 10.0 PAYMENT.

Job mix formula quality control testing is to be performed by the Contractor at the start of plant production and in conjunction with the calibration of the plant for the JMF. It should be recognized that the aggregates produced by the plant might not satisfy the gradation requirements or produce a mix that exactly meets the JMF. In those instances, it will be necessary to re-evaluate and re-design the mix using plant-produced aggregates. Specimens should be prepared and the optimum asphalt binder content determined in the same manner as for the original design tests. A revised JMF will need to be submitted and a test section constructed prior to approval and full production. The test section and JMF submittal shall conform to all the specification requirements contained herein.

WARM MIX ADDITIVE - The WMA additive shall be a product approved by MassDOT. Payment for WMA additive shall be measured by the ton of hot mix asphalt modified with the warm-mix additive. Payment for the warm mix additive shall include the cost of the modifier and all equipment, labor, and incidental costs required to produce WMA. The base cost of the Superpave HMA production and placement is compensated under the respective Superpave pay items.

EQUIPMENT

Hot Mix Asphalt Mixing Plant - Shall meet MHD M3.11.07.

A. Sampling Platform: A safe and adequate platform or catwalk with stairway and railing shall be provided to accommodate the inspector while checking temperatures and obtaining samples of the mixture from haul vehicles. The height of the platforms and raised platforms shall be adequate to accommodate safe acquisition of mix samples from the type of hauling unit(s) being utilized on the project.

B. Testing Laboratory - The Contractor or producer shall provide a testing laboratory at the production plant for quality control and quality acceptance functions during periods of mix production, sampling, and testing, and whenever materials subject to the provisions of these specifications are being supplied or tested. The laboratory shall contain adequate equipment, space, and utilities as required for the performance of the specified tests.

It shall be available for joint use by the Contractor for quality control testing, if applicable, and by the Engineer for acceptance testing. And must have adequate equipment for the performance of the tests required by these specifications and the requirements of NETTCP. The Engineer shall have priority in use of the equipment necessary for acceptance testing. All the necessary testing equipment shall be located at the HMA plant supplying material to the project. In addition, all ancillary and miscellaneous equipment needed to perform the testing in accordance with these specifications shall be provided by the Contractor at no additional cost.

The effective working area of the laboratory shall be a minimum of 150 square feet with a ceiling height of not less than 7.5 feet. Lighting shall be adequate to illuminate all working areas. It shall be equipped with heating and air conditioning units to maintain a temperature of 70°F ± 5°F.

The plant laboratory shall further contain and be kept supplied with the following laboratory equipment:

Balance: 20,000gm capacity minimum, sensitivity 0.1gm.

Marshall Equipment: Automatic hot mix asphalt compactor mounted in accordance with ASTM D1559 and conforming to specifications for AASHTO T-245 which consists of totally enclosed, rigidly mounted operated frame, a standard circular-foot compaction hammer assembly designed to ensure an eighteen (18) inch drop regardless of

specimen height, a one third (1/3) horsepower motor with belt guard and controls, an automatic counter that shuts off the power after the set number of hammer drops, and a standard compaction pedestal with guide pins for centering one standard (4 inch diameter) bituminous mold at a time. The Contractor shall also provide two (2) stability compaction molds conforming to ASTM D1559 and suitable for use with the automatic bituminous compactor.

NOTE: The Soil test Model AP-800 automatic bituminous compactor and AP-166 stability compaction molds have been found suitable.

Superpave Gyratory Compactor (For plants supplying materials contained in Table 5) conforming to the requirements of AASHTO R30, R35, M323, T312 and the Asphalt Institute Manual SP-2.

Bulk specific gravity determination equipment (AASHTO T166), and theoretical maximum specific gravity equipment (AASHTO T209).

Laboratory facilities shall be kept clean and all equipment shall be maintained in proper working condition. The Engineer shall be permitted unrestricted access to inspect the Contractor's laboratory facility and witness quality control activities, if applicable. The Engineer will advise the Contractor in writing of any noted deficiencies concerning the laboratory facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

Hauling Equipment - Shall meet MHD 460.61.

Pavers - Shall meet MHD 460.63

The paver screed may be equipped with a Longitudinal Notched - Wedge Joint paver attachment or Straight Wedge Joint paver attachment and screed mounted roller attachment. When placing HMA pavement courses at a thickness of 1.5" or greater, the notched wedge is recommended; when placing HMA pavement courses less than 1.5", the straight wedge is recommended. The notched wedge joint includes a variable notched vertical edge (the notch vertical height to be equal to the mixture's maximum aggregate size). The sloped surface of the diagonal wedge joint shall not exceed a 6:1 slope.

> Rollers - Rollers of the vibratory, steel wheel, oscillatory, and pneumatic-tired type may be used. They shall be in good condition, capable of reversing direction without backlash, and operating at slow speeds to avoid displacement of the hot mix asphalt. Static rollers shall be operated at speeds not to exceed 3 mph and vibratory rollers shall be operated at a minimum of 10 to 12 impacts/ft in vibratory mode. The number, type, and weight of rollers shall be sufficient to compact the mixture to the required density while it is still in a workable condition.

The use of equipment which causes excessive crushing of the aggregate or that which does not produce a smooth, dense and uniform HMA mat will not be permitted.

The Contractor shall exercise great caution when using vibratory rollers so as not to cause damage to buried infrastructure or adjacent infrastructure. Damage to buried or adjacent infrastructure will be the responsibility of the Contractor. The new Oscillation type rollers are acceptable for use for intermediate compaction and back rolling of HMA in the Town.

The Contractor is encouraged, when applicable, to use a pneumatic square edge-tired compaction roller (either one or both axles) as another acceptable alternate for the Intermediate and Final rolling of hot mix in the Town.

HMA CONSTRUCTION

Weather Limitations - Hot mix asphalt shall not be placed when weather conditions of fog or rain prevail or when the pavement surface or base shows signs of free moisture (film of water). When the surface temperature of the underlying course is less than 50°F, the estimated time available for compaction shall be provided by the Contractor to the Engineer. The Engineer and the Contractor shall determine if there is an adequate amount of time available to compact the mixture. The Contractor assumes responsibility for constructing the pavement to meet compaction and specification requirements.

The Engineer will not permit work to continue when overtaken by sudden storms until the pavement surface shows no signs of free moisture. The material in transit at the time of shutdown will not be placed until the pavement surface shows no signs of free moisture, provided the mixture is within temperature limits as specified.

The construction of hot mix asphalt concrete pavements shall terminate on November 15 and shall not be resumed prior to April 1 except as determined and directed in writing by the Engineer.

Thermometer: The Contractor will supply an approved dial type thermometer with a temperature range of 50ºF to 500ºF and an infrared pistol thermometer for use during HMA placement. The infrared pistol thermometer shall be Fahrenheit or Celsius selectable and conform to the following requirements:

Portable and battery operated	Accuracy of +/- 2%
Repeatability of +/- 3ºC	Emissivity preset at 0.95
LCD Display to nearest 1º	Temp. Operating range of -4ºF to 752ºF

The thermometers will remain the property of the Contractor upon completion of the project.

Pre-Paving Conference: Prior to the placing of any HMA, a pre-paving conference (approximately 5 hours in length) shall be held to discuss and approve the paving schedule, source of HMA, job mix formula approvals, type and amount of equipment to be used, sequence of paving pattern, rate of HMA supply, all sampling, testing and reporting procedures to be used, traffic control, safety, and general continuity of the operation. Engineer's representatives, Contractor's plant, quality control and field representatives and Engineer's testing and inspection agents shall attend this meeting. All equipment used shall be approved on the project site prior to starting up each day. **It will be mandatory for the Contractor and the paving subcontractor, if utilized, to attend this conference.** The Contractor will be responsible for all costs associated with additional training.

The Engineer, upon 48 hours' notice, may be able to hold this conference preferably on the forecast of an inclement day.

Preparation of the Underlying Surface. Immediately before placing the hot mix asphalt, the underlying course shall be thoroughly cleaned of all dust and debris by a self-propelled sweeper. Areas inaccessible by power sweepers shall be broom swept until the pavement surface is clean. Extra care shall be required during fall leaf fall.

Proof roll prepared base material surface, if applicable, to identify areas requiring removal and re-compaction, and to provide a uniform degree of compaction over the entire pavement area.

Do not begin paving work until deficient base material areas and utility trenches have been corrected and are ready to receive paving. Paving shall not be applied until the Engineer inspects and approves the finished base.

When an existing surface or new base upon which the lower course is to be placed contains unsatisfactory irregularities, in the Engineer's judgment, such irregularities may be eliminated by an adequate placing and compaction of HMA mixture so as to furnish a surface with true contour and grade before placing any specified course of mixture.

Check all frames, covers, grates, water valve boxes and other miscellaneous castings that are located in the proposed pavement areas to ensure that all have been correctly positioned and set to the proper slope and elevation. All covers and grates shall be set flush with the required finished surface. No depressions or mounds will be permitted in the pavement to accommodate inaccuracies in the setting of castings.

For Reclaimed base, reconstruction or where new base is graded, the Contractor shall furnish, set, and maintain all line and grade stakes necessary to guide the automated grade control equipment. Where required these control stakes shall be maintained by the Contractor and used throughout the operations, from the grading of the subbase material up to and including the final layers of the pavement.

Adequate artificial lighting shall be provided during night placements. Hauling over freshly placed material shall not be permitted until the material has been compacted, as specified, and allowed to cool to an internal temperatre of 140°F minimum.

Proper precautions shall be taken to prevent damage by construction operations to edges adjacent to the hot mix asphalt. These edges may be, but are not limited to, gutters, catch basins, curbs, concrete structures, and hot mix asphalt concrete. If damage occurs, repairs shall be made to the satisfaction of the Engineer with no additional payment.

Tack Coat: Contact surfaces of manholes, structures, vertical pavement edges, etc. shall be painted with a thin, uniform tack coat just before the material is placed against them.

Tack coat is required on all surfaces to be paved; this includes leveling, base or intermediate layers of HMA, unless the underlying HMA layer was placed during the same day. Particular attention should be made during the application that the longitudinal joint areas be treated with no bare spots. Missing areas adjacent to the longitudinal joint area will require either re-application or localized hand work application as directed by the Engineer.

Tack coat shall be applied at a residual binder amount on the pavement between 0.03 to 0.05 gallons per square yard. Use the lower application amount between new lifts and the higher application rate on milled or Portland cement surfaces. This amounts to a very thin application that needs to be carefully applied. Massachusetts uses RS-1 and CRS-1 type asphalt emulsions for tack coating. These can be applied, as an emulsion, between 0.05 to 0.08 gallons per square yard. Tack coat shall be supplied as part of the HMA operation.

Allow tack coat to dry from a brown color to a black color prior to paving.

HMA Production

The aggregates and the asphalt binder material shall be weighed or metered and introduced into the mixer in the amount specified by the JMF and within the allowable action limits as stated in Table 7 HMA PRODUCTION LIMITS. These limits shall be applied to the target values established in the JMF.

Corrective action shall be taken by the Contractor when the calculated individual result for gradation or asphalt content falls outside the target JMF value beyond the action limit listed in Table 7. The Contractor shall take the appropriate action when results indicate the material is out of tolerance. The Contractor shall be required to suspend production when the calculated individual result for gradation falls outside the target JMF value beyond the suspension limit listed in Table 7, or when the asphalt binder content is below the minimum values stated in Table 5 or 6, whichever is applicable. The Contractor shall be required to suspend production if two points in a row fall outside the Action Limits for individual measurements or if three nonconsecutive samples fall outside the Action limits. The Contractor shall be required to suspend production if one point falls outside the Suspension Limits for individual measurements. The Contractor shall also be required to suspend production if one point falls outside the Suspension Limits for range, Table 8.

Plant Trials - If production is suspended, the production facility shall be required to produce material on a trial basis for testing purposes without shipment to the project. No payment will be made for material and labor employed for nonconforming plant trials. The Engineer or his representative shall pay for acceptance sampling and testing for the first set of trials necessary to determine conformance with the specification requirements. If the first set of trials does not conform to specification requirements, the Contractor shall pay for any additional trial sampling and testing for acceptance. When trials have been approved, the plant will return to its normal operation.

Failure to stop production and make adjustments when required due to an individual test(s) not meeting the specified requirements may subject all of the mix from the stop point to be considered unacceptable.

RAP VERIFICATION - The Town will randomly test HMA mixtures from the production plant or storage silos to determine the quality of the PG binder. For non-modified binder mixtures, the absolute viscosity of the recovered asphalt shall be no greater than 6,000 poises at 140^{o}F. If the absolute viscosity is greater than 6,000 poises, then a full PG binder test verification will be run for conformance to the PG grade specified. For modified asphalt binder mixtures, a full PG binder test verification will be run for conformance to the PG grade specified. Failure of the PGAB to conform to specification requirements may be cause for rejection of the Lot. Further PGAB tests may be conducted on previous Lots; all costs for the PGAB tests will be the responsibility of the Producer if the results do not meet specifications [T_{MAX} for G*/Sin (d) DSR (RTFO Aged] for PG 64-28 or 64-22 (whichever is applicable) recently placed.

<u>Transporting, Placing and Finishing:</u> HMA deliveries shall be scheduled so that placing and compacting of mixture is uniform with minimum stopping and starting of the paver.

Upon arrival, the mixture shall be placed to the full width by a hot mix asphalt paver. It shall be struck off in a uniform layer of such depth that, when the work is completed, it shall have the required thickness and conform to the grade and contour indicated. The speed of the paver shall be regulated to eliminate pulling and tearing of the hot mix asphalt mat. Unless otherwise permitted, placement of the mixture shall begin along the centerline of a crowned section or on the high side of areas with a one-way slope. The mixture shall be placed in consecutive adjacent strips having a minimum width of 10 feet except where edge lanes require less width to complete the area. The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least one (1) foot, however, the joint in the top layer shall be at the centerline of the pavement. Transverse joints in one layer shall be offset by at least two feet from transverse joints in the previous layer. The placement of the material along the longitudinal joint may be performed by setting the screed to overlap the first mat. The elevation of the screed above the surface of the first mat should be equal to the amount of roll-down expected

during compaction of the new mat. The overlapped material shall be bumped by the lutes, if necessary, to optimize the density along the longitudinal joint. Under no circumstances should the overlapped material be broadcast across the mat. Excess material should be removed by hand. Transverse joints in adjacent lanes shall be offset a minimum of 10 feet.

On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the mixture may be spread and luted by hand tools. When hand spreading is permitted, the mixture shall be distributed into place by means of hot shovels and spread with lutes in a loose layer of uniform density and correct depth. The use of rakes to spread the hot mix asphalt shall not be permitted. Loads shall not be dumped any faster than they can be properly handled by the shovelers and the shovelers shall not distribute the dumped load any faster than it can properly be handled by the luters. The luting shall be carefully and skillfully done to avoid segregation and so that, after the first passage of the roller over the luted mixture, no back patching will be necessary. Compaction must immediately follow hand spreading such that specification density is achieved while the mixture temperature is above the manufacturers recommended compaction temperature for the performance graded binder.

The mixtures shall be placed and compacted only at such times as to permit the proper inspection and checking by the Engineer.

The mixtures shall only be placed in the work when they can be efficiently and satisfactorily placed, compacted, smoothed, and made uniform in accordance with these specifications. Unless otherwise permitted by the Engineer for special particular conditions, only machine methods of placing shall be used.

No mixture shall be placed unless the breakdown and intermediate rolling can be completed by the time the material has cooled to 150^{o}F, or that minimum compaction temperature specified by the binder manufacturer and provided that the density and uniformity of the completed pavement attains specification compliance.

No traffic of any kind shall be permitted on the HMA intermediate or HMA base when dirt or any other foreign substance may be tracked thereon.

Immediately after any course is screeded and before roller compaction is started, the surface shall be checked, any irregularities adjusted, any accumulation from the screed removed by rake or lute, and all fat spots in any course removed and replaced with satisfactory materials. Irregularities in alignment and grade along outside edges shall be corrected by the addition or removal of mixture before the edges are rolled. Indiscriminate casting of mix on the new screeded surface, where irregularities are not evident, shall not be permitted.

All hot mix shall be placed and compacted in such a manner as to ensure a continuous bond between the tacked hot mix pavement surfaces and obtain the required density.

Second Control Strip Requirement - If it is determined, during the performance of the contract, that the pavement does not conform to the surface tolerance, density and uniformity requirements, the Engineer may order the Contractor to cease all operations and construct an HMA CONTROL SECTION consisting of a sufficient quantity of surface course mixture. The Contractor shall construct a control section as directed by the Engineer either: a minimum of 100 feet long by 12 feet wide, or a minimum of 50 feet long by a minimum of 24 feet wide depending upon the problem. A control section may be required each time a change is made in the Job Mix Formula, sources of supply or paving and rolling equipment.

The mixture shall be prepared, placed, and compacted in accordance with this specification. When the control section pavement has cooled sufficiently, a total of six (6) samples of the finished pavement shall be taken and tested in accordance with the requirements of Section 5.0.

If the tests by the Engineer indicate that pavement does not conform to specification requirements, necessary adjustment to plant operation and placement/rolling procedures shall be made.

Where the average density of the core samples does not conform to specification requirements, the pavement shall be removed at no cost to the Engineer. No payment will be made for material and labor employed, either in placement or removal of the nonconforming control section.

The second control strip may be removed at the direction and at no cost to the Engineer if the test result of any one mat core density falls below 90% of theoretical maximum laboratory density and/or any one longitudinal joint density falls below 88% of theoretical maximum laboratory density.

The Contractor shall not be permitted to place surface course pavement until a control section is approved by the Engineer.

Joints: The formation of all joints shall be made in such a manner as to ensure a continuous bond between the courses and obtain the required density. All joints shall have the same texture as other sections of the course and meet the requirements for smoothness and grade. When abutting a previously placed lane, the longitudinal joint should be rolled first followed by the regular rolling procedure.

Transverse Joints - The roller shall not pass over the unprotected end of the freshly laid mixture except when necessary to form a transverse joint. When necessary to form a transverse joint, it shall be made by means of placing a bulkhead or by temporarily tapering the course, in which case the edge shall be cut back to its full depth and width on a straight line to expose a vertical face. In both methods, all contact surfaces shall be given a coat of hot-pour rubberized asphalt sealer before placing any fresh mixture against the joint.

Longitudinal Joints - All longitudinal joints shall be constructed with the first paver pass in a neat straight line. Deviation from trueness will negate the ability to form a properly compacted longitudinal joint.

The paver screed may be equipped with a Longitudinal Notched - Wedge Joint or Straight Wedge Joint paver attachment and screed mounted roller attachment when placing HMA pavement courses. Use the Notched Wedge Joint for thicknesses of 1.5" or greater and use the Straight Wedge Joint for thicknesses less than 1.5". The notched wedge joint shall include a variable notched vertical edge (the notch vertical height to be equal to the mixture's maximum aggregate size). The sloped surface of the diagonal wedge joint shall not exceed a 6:1 slope. Prior to placing the adjacent paver pass for sloped joints, all joint contact surfaces shall be given a tack coat prior to placing any fresh mixture against the joint.

Vertical butt joints which are not constructed straight, or are not constructed with an edge restraining device (either a commercial paver screed attachment or by dropping the end gate down to the surface), or are damaged or otherwise defective shall be cut back 3 inches to expose a clean, sound surface for the full depth of the course. All contact surfaces shall be given a coat of hot-pour rubberized asphalt sealer prior to placing any fresh mixture against the joint.

Longitudinal and transverse joints shall have an in-place density when measured by the average of three, six (6") inch cores between 90% to 98% of maximum theoretical.

Compaction of HMA Mixture After Placing - The mixture shall be thoroughly and uniformly compacted by rolling. The surface shall be compacted as soon as possible when the mixture has attained sufficient stability so that the rolling does not cause undue displacement, cracking or shoving. The sequence of rolling operations and the type of rollers used shall be at the discretion of the Contractor. Rolling shall be initiated with the drive roll or wheel towards the paving machine. When rolling on steep grades, the previous procedure may need to be altered.

The speed of the roller shall, at all times, be sufficiently slow and of uniform speed to avoid displacement of the hot mixture and be effective in compaction. Any displacement occurring as a result of reversing the direction of the roller, or from any other cause, shall be corrected at once.

Sufficient rollers shall be furnished to handle the output of the plant. Rolling shall continue until the surface is of uniform texture, true to grade and cross section, and the required field density is obtained. The number of rollers and passes required shall be governed by the compaction results; however, at least two rollers shall be provided for each paver employed on the paving operation. The Town is encouraging the use of pneumatic or oscillation rollers. If one of the selected rollers is pneumatic, it shall be equipped with the European square edge tires. This will allow the pneumatic roller to handle both the intermediate compaction as well as the back rolling responsibilities on two-roller trains. An alternate to a full pneumatic European tired roller would be a combination 10-ton steel vibratory with large pneumatic square edge rear wheels. An acceptable alternative to the vibratory or pneumatic tired rollers would be the “Hamm” Oscillatory roller. Each roller shall be operated by a competent, experienced roller operator and shall be kept in as nearly continuous operation as practicable while work is underway. A plate shall be attached to each roller showing the ballasted and un-ballasted weight per length-width of tread.

To prevent adhesion of the mixture to the steel roller, the drums or shall be kept properly moistened, cocoa mats kept clean and scrapers used, but excessive water will not be permitted. Pneumatic rollers shall be operated on adjacent pavement surfaces to get the tires warm to hot from friction, then moved to the fresh mat.

In areas not accessible to the roller, the mixture shall be thoroughly compacted with hand tampers and vibratory plate compactors.

Any mixture that becomes loose and broken, mixed with dirt, contains check-cracking, or in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at the Contractor’s expense. Skin patching shall not be allowed.

Along any adjoining edge such as curb, gutter or an adjoining pavement, and after the HMA is placed by the paver, just enough of the hot HMA shall be placed by hand method to fill any space left open. These joints shall be properly ‘set up’ with the back of a lute at the proper height and level to receive the maximum compaction. Any areas where the rollers cannot access shall be hand tamped or plate compacted.

Shaping Edges - While the surface is being compacted and finished, the Contractor shall carefully trim the outside edges of the pavement to the proper alignment. Edges so formed shall be beveled while still hot with the back of a lute or smoothing iron and horoughly compacted by tampers or by other satisfactory methods.

Surface Smoothness - The finished surfaces of the pavement shall be uniform in appearance, free from irregularities in contour and texture and shall present a smooth-riding surface. Smoothness evaluation

applies to all hot mix asphalt concrete roadways receiving 1.5" or more in plan (compacted) thickness of HMA pavement.

Tests for conformity with the specified crown and grade shall be made by the Contractor immediately after initial compaction. Any variation shall be corrected by the removal or addition of materials and by continuous rolling.

The finished surface of the pavement, when measured with a 10-foot straightedge, shall not vary more than 1/4 inch for the surface course and 3/8 inch for the intermediate course measured perpendicular and parallel to the centerline. If, in the opinion of the Engineer, the surface visually appears wavy, but meets the surface tolerance test with the 10-foot straightedge, the Engineer reserves the right to additionally test with the use of Inertial Profile Equipment which records cumulative vertical deviations per unit length using a statistic called International Roughness Index (IRI). Town street upset limit for IRI is set at 135 in/mile using similar equipment that MHD specifies in their Quality Assurance HMA projects.

After the completion of final rolling, the smoothness of the course shall again be tested; humps or depressions exceeding the specified tolerances shall be immediately corrected by removing the defective work and replacing with new material, as directed by the Engineer. This shall be done at the Contractor's expense.

Skin patching will not be permitted.

When profile corrections are required, the Contractor shall use one or more of the following corrective methods:

a. Removing and replacing the entire pavement thickness;
b. Diamond grinding or micro milling;
c. Overlaying (not patching) with the specified surface course;
d. Removing the surface by milling and applying a lift(s) of the specified course(s);
e. Use of other methods that will provide the desired results;

The corrective method(s) chosen by the Contractor shall be performed at the Contractor’s expense, including all necessary equipment and traffic control. Areas of removal and replacement shall be removed the full width of the lane. The removal areas shall begin and end with a transverse butt joint which shall be constructed with a transverse saw cut perpendicular to the centerline. Replacement materials shall be placed in sufficient quantity so the finished surface will conform to grade and smoothness requirements. The corrective area shall conform to all material and density specification requirements. When the corrective work consists of an overlay, the overlay shall cover the full width of the pavement including shoulders. The area overlaid shall begin and end with a transverse butt joint which shall be constructed with a transverse saw cut and asphalt removal. All materials shall meet contract requirements. The overlay shall be placed so the finished surface will conform to grade and smoothness requirements. The overlayed area shall be compacted to the specified density.

The Engineer shall retest any sections where corrections were made to verify that the corrections produced a surface that conforms to the grade and smoothness requirements

Uniformity- HMA mat shall be smooth, dense, and uniform. Uniformity is generally affected by Thermal and/or Aggregate segregation.

If segregation is evident and discernable by either the Contractor or the Engineer, the Contractor shall immediately cease production and take steps to correct and eliminate the cause(s) of the segregation to the satisfaction of the Engineer.

The Contractor shall review all potential causes of segregation as it relates to its operation, including but not limited to HMA Plant issues, loading and transportation issues, placement issues, thermal segregation, and hand work. The Contractor shall employ additional investigation methods and make the necessary changes in their operation such that segregation is eliminated and mat uniformity is acceptable.

Thickness - The thickness requirements contained herein shall apply only when each pavement layer is specified to be a uniform compacted thickness of 1 inch or greater. Thickness shall be evaluated for acceptance by the Engineer to the requirements shown on the plans. Measurements of thickness may be checked periodically by the Contractor in following their QC system for field operations. Measurements of thickness for acceptance shall be made by the Engineer using four-inch minimum diameter pavement cores removed also for subsequent density measurement.

The finished surfaces of each HMA pavement course shall not vary from that specified or cross sections shown on the contract drawings by more than one-quarter (1/4) of an inch. The Contractor shall correct pavement areas varying in excess of this amount by removing and replacing the defective work or as ordered by the Engineer. Skin patching will not be permitted.

Grade - The finished surface of the pavement shall not vary from the gradeline elevations as shown on the plans by more than 1/2 inch. The Contractor shall remove deficient areas and replace with new material. Sufficient material shall be removed to allow at least 1.5 inches of hot mix asphalt to be placed. Skin patching for correcting low areas shall not be permitted. High points may be ground off.

Leveling Course - Any HMA used for truing and leveling shall meet the requirements of the mix design methods and the requirements of the TABLE 7 or TABLE 5 and 6 specifications for the applicable mixtures. Leveling courses shall not be subject to density requirements. The thickness of the Leveling Course shall be measured off the interface with the existing milled or un-milled pavement surface. The leveling course shall be compacted with the same effort used to achieve placement and density of the test section. The truing and leveling course shall not exceed a nominal thickness of 1.5 inches.

Opening to Traffic

No vehicular traffic or loads shall be permitted on the newly completed pavement until adequate stability has been attained and the material has cooled sufficiently to an internal temperature of 140^{o}F or less. If the climatic or other conditions warrant, or if the PGAB manufacturer recommends, the period of time before opening to traffic may be extended at the discretion of the Engineer.

Contractor Quality Control of HMA Pavement - Contractor Quality Control shall include production and placement Inspection and Testing and shall apply to all tons used in the Town road program.

The Contractor shall be prepared to discuss and present, at the pre-paving conference, their understanding of quality control for this contract.

Control Charts

Contractor may develop production control charts and post for visual reference in the testing laboratory. The control charts should identify the project number, the contract item number, the test number, each test parameter, the Action and Suspension Limits applicable to each test parameter, and the production test results. If the project data during production indicates a problem and the Contractor is not taking satisfactory corrective action, then the Engineer may suspend production or acceptance of the material, in accordance with these specifications.

Individual Measurements: Control charts for individual measurements may be established to indicate production quality control within given tolerances for aggregate gradation and asphalt binder content. The control charts will use the JMF target values as the indicator of central tendency for the following test parameters with associated Action and Suspension Limits:

TABLE 7 HMA PRODUCTION LIMITS FOR INDIVIDUAL MEASUREMENTS

Sieve Size	Action	Suspension
1-1/2" (37.5mm)	0%	0%
1" (25.0 mm)	±6%	±9%
3/4" (19.0 mm)	±6%	±9%
1/2" (12.5 mm)	±6%	±9%
3/8" (9.5 mm)	±6%	±9%
#4 (4.75 mm)	±6%	±9%
#8 (2.36 mm)	±5%	±7.5%
#16 (1.18 mm)	n/a	n/a
#30 (0.600 mm)	n/a	n/a
#50 (0.300 mm)	n/a	n/a
#100 (0.150 mm)	n/a	n/a
#200 (0.075 mm)	±2%	±3%
Asphalt Binder Content	±0.4%	±0.70%
Design Air Voids (4.0%)	±1%	±1.7%

When evaluating the production limits, the sieve sizes above the maximum size aggregate should be deleted from the Individual Measurements Chart and the maximum aggregate sieve size Action and Suspension Limits should be changed to 0%.

Range. Control charts for range may be established to indicate production variability for the test parameters and Suspension Limits listed below. The range may be computed as the difference between the high and low test results per lot for each control parameter. The Suspension Limits specified below are based on a sample size of n = 2. Should the Contractor elect to perform more than two tests per lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for n = 3 and by 1.27 for n = 4.

Table 8 CONTROL CHART LIMITS BASED ON RANGE	
(Based on n = 2)	
Sieve	Suspension Limit
1-1/2" (37.5 mm)	11 percent
1" (25.0 mm)	11 percent
3/4" (19.0 mm)	11 percent
1/2" (12.5 mm)	11 percent
3/8" (9.5 mm)	11 percent
#4 (4.75 mm)	11 percent
#8 (2.36 mm)	10 percent
#16 (1.18 mm)	n/a
#50 (0.30 mm)	n/a
#200 (0.075 mm)	3.5 percent
Asphalt Binder Content	0.8 percent
Design Air Void Content	2.0 percent

CORRECTIVE ACTION

The Contractor's Quality Control system shall include an appropriate action to be taken when the process is believed to be out of tolerance. The Contractor should review the control charts on a continuous basis making adjustments to the process when necessary to keep the product consistent. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken, if:

Design Air Voids falls outside the Suspension Limit line for its individual measurement or range as indicated in Table 7 or Table 8; or

Design Air Voids and two or more points fall outside the Action Limit line for individual measurements or range as indicated in Table 7 or Table 8 ; or

Design Air Voids fall outside the Action Limit and one point falls outside the Suspension Limit for individual measurements or range as indicated in Table 7 or Table 8; or

Three points in a row fall outside the Action Limit line for individual measurements as indicated in Table 7.

Three nonconsecutive samples fall outside the Action Limit line for individual measurements as indicated in Table 7.

Two consecutive streets or two consecutive 1,000 ton lots of material tested for mat density or longitudinal joint density falls below the threshold density for 100% adjustment, as noted in Table 9 and Table 10.

The average of the last five streets or five 1,000 ton lots of material tested for mat density or longitudinal joint density falls below the threshold density for 100% adjustment, as noted in Table 9 and Table 10.

Acceptance testing requirements are the responsibility of the Engineer.

Quality Acceptance of HMA

All acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the Engineer at no cost to the Contractor, unless otherwise stated herein. Testing organizations performing these tests shall meet the requirements of ASTM D 3666. All equipment in Contractor furnished laboratories shall be calibrated and verified by a testing organization prior to the start of operations. Such verification/certification shall be furnished to the Engineer prior to production. Engineer's testing personnel shall be certified by the New England Transportation Technician Certification Program (NETTCP). This function does not relieve the Contractor from performing their daily quality control tasks as part of their normal operating business.

The Engineer or their agent shall have access at any time to all parts of the producing plant for:

A) Inspection of the condition and operations of the yard, plant and laboratory.
B) Confirmation of the adequacy of equipment in use.
C) Verification of the character and proportions of the mixture.
D) Determination of temperatures being maintained in the preparation of the mixtures.
E) Inspection of incidental related procedures.

Samples of all material including compacted specimens and certified copies of all reports and printouts shall be made available to the Engineer or its agent as often as requested including: asphalt binder; virgin aggregates; modifiers, loose and compacted mixture specimens; and combined aggregate samples.

Plant-Produced Material. Plant-produced material shall be sampled and tested for VMA, gradation, asphalt binder content, and air voids (Marshall or Superpave at N_{design}), on a lot basis. The Engineer's testing personnel shall be

certified by the New England Transportation Technician Certification Program (NETTCP), as HMA Plant Technicians. Sampling shall be from material deposited into trucks at the plant or from trucks at the job site. A lot will consist of:- one day's production

Where more than one plant is simultaneously producing material for, the job, the lot sizes shall apply separately for each plant.

Sampling - Sufficient material for analysis and preparation of test specimens will be sampled by the Engineer on a random basis, in accordance with the procedures contained in ASTM D 3665. A minimum of one set of laboratory compacted specimens will be prepared for each lot in accordance with AASHTO T312, at the number of gyrations required by Table 5 herein (for Superpave only), or in accordance with Marshall design criteria, Table 6. Each set of laboratory compacted specimens will consist of two test portions prepared from the same field sample.

The sample of hot mix asphalt may be put in a covered metal tin and placed in an oven for not more than 30 minutes to maintain the heat. The compaction temperature of the specimens should be as specified in the JMF.

In addition to the hot mix asphalt samples, the Contractor shall take one, one-quart sample of the PG binder used to produce the hot mix asphalt at the start of the work. The PG sample shall be turned over to the Engineer on the first day of project production.

Testing

A. Bulk Specific Gravity - Sample specimens shall be tested for bulk specific gravity in accordance with AASHTO T166 or T275, whichever is applicable, for use in computing air voids and density. Air voids shall be computed in accordance with AASHTO T269.

B. Gradation and Asphalt Binder Content - The gradation and asphalt binder content of the mixture shall be measured for each lot in accordance with the following:

(1) Asphalt Binder Content - A minimum of three (3) extraction tests shall be performed in accordance with AASHTO T164 or AASHTO T308 for determination of asphalt content. The weight of ash portion of the extraction test, as described in AASHTO T164, shall be determined as part of the first extraction test performed at the beginning of plant production; and as part of every tenth extraction test performed thereafter, for the duration of plant production. The last weight of ash value obtained shall be used in the calculation of the asphalt content for the mixture. If utilizing AASHTO T308 for asphalt content determination, the calibration process and calibration factor, as described in AASHTO T308, shall be determined as stated, prior to acceptance testing. A verification shall be performed as part of every twentieth test performed thereafter or when changes in the mix are apparent.

(2) Gradation - Aggregate gradations shall be determined from mechanical analysis of extracted aggregate in accordance with AASHTO T 30 and AASHTO T27 (Dry Sieve). When asphalt content is determined by the nuclear method, aggregate gradation shall be determined from hot bin samples on batch plants, or from the cold feed on drum mix

or continuous mix plants, and tested in accordance with AASHTO T27 (dry sieve) using actual batch weights to determine the combined aggregate gradation of the mixture.

C. The Dust-to-Effective Asphalt ratio shall be determined once for each sub-lot from the mechanical analysis of extracted aggregate and the asphalt binder content. The Dust-to-Effective Asphalt ratio shall be determined by the Engineer in accordance with AASHTO PP28-02.

D. The Theoretical Maximum Specific Gravity of the mixture shall be measured for each lot in accordance with AASHTO T209, Type C, D, or E container. Samples shall be taken on a random basis in accordance with ASTM D 3665. The value used in the field placed void computations shall be the average of the maximum specific gravity measurements for the street paved.

E. Temperatures. Temperatures shall be checked, at least three times per lot, at necessary locations to determine the temperatures of the dryer, the asphalt binder in the storage tank, the mixture at the plant, and the mixture at the job site.

F. VMA and air voids, for each plant field sample, will be determined by the Engineer in accordance with the applicable AASHTO test method. The VMA, and air voids for each lot shall be computed by averaging the results of the two test specimens representing that lot.

Acceptance of Plant Produced HMA - Acceptance of plant produced HMA material will be based upon plant air voids, Marshall stability and flow (if applicable), VMA, gradation, asphalt binder content, and temperature, and shall be determined by the Engineer in accordance with these specifications.

Field Placed HMA Material - HMA material placed in the field shall be tested for both joint and mat density on a completed street or public facility basis. The Engineer may conduct any necessary testing to monitor that the specified density, uniformity and smoothness is being achieved. A properly correlated nuclear or non-nuclear gauge may be used to monitor the pavement density in accordance with ASTM D2950.

Sampling - Density gauges (nuclear or non-nuclear) may be used by the Engineer to determine density of the HMA mat and/or longitudinal joints in accordance with the calibration and correlation procedures outlined in this specification. Cores of the HMA material shall be minimized and only taken at the direction of the Engineer and approval of the Town.

Mat and longitudinal joint density tests will be located by the Engineer on a stratified random sampling basis for each street or facility paved within three days of construction. The length of the longitudinal paving joint will be divided into sub-lots for sampling and testing purposes. If more than one longitudinal joint is formed on a street, then the random sample length will be the total lineal feet of longitudinal joint placed. A mat and longitudinal joint test will be taken by the Engineer randomly from each these sub-lot intervals. Sub-lots will be determined on the basis of five (5) sub-lots per one thousand (1,000) tons of material placed or a minimum of three (3) sub-lots from each street or facility paved. Sampling and testing for density will be conducted in the following manner:

Paving courses will tested with the density gauge (for correlation), then sampled by coring the mat and longitudinal joint using a 6 inch diameter wet-core bit specifically designed for cutting pavement. The cores will be tested for density and thickness.

When sampling of the longitudinal joint for density determinations by coring, the core will be taken on the joint, not adjacent to the longitudinal paving joint.

A test for intermediate course density and a test for surface course density will be obtained from each sub-lot segment. The total width of the paved surface (curb to curb) will be determined at the longitudinal sub-lot location to sample and test for mat density. A transverse off-set distance from the centerline of the roadway will be established for mat density sampling and testing. The location, either right or left of centerline, will be based on whether a random number is "odd or even" (odd=left; even=right). When the off-set location is within 2 foot of the pavement edge, curb, catch basin or structure, or 1 foot off a longitudinal joint, or 10 foot off a transverse joint, the sample shall be relocated.

For all nuclear density gauge test locations, two 60-second readings will be taken with the gauge turned 180 degrees for each increment. The average of the two readings will be reported as the density value for each location.

For non-nuclear density gauge test locations, five (5) increments will be used, moving the gauge six inches after each reading in a square pattern, taking one reading in each corner and one in the center. The average if the five readings will be reported as the density value for each location.

The testing of the longitudinal joint for density determinations will be made by placing the density gauge first on one side adjacent to the longitudinal paving joint, then placed on the other side of the longitudinal paving joint, then the results averaged. Each placement of the gauge will result in the averaging of two test increments on each side of the joint with the gauge turned 180 degrees for each increment.

If the results of the average density gauge readings for a street, pavement facility, or paving day are below the threshold for 100% adjustment as indicated in Table 9 or Table 10, pavement cores will be removed as per this specification, and used for determining the actual pavement density.

In the event that a new density gauge must be correlated for this project, cores will be taken from the mat and longitudinal joint representing the test locations. If "re-correlation" is necessary, take four density tests at quarter points around each of five previously cored and tested locations; making sure that the side of the gauge is at the edge of the patched core location and firmly seated. For nuclear density gauges, each test must be the average of two test increments turning the gauge 180 degrees.

For non-nuclear density gauges, five (5) increments will be used, moving the gauge six inches after each reading in a square pattern, taking one reading in each corner and one in the center. The average if the five readings will be reported as the density value for each location.

All core samples shall be neatly cut with a core drill and water cooled bit where the cutting edge of the core drill bit shall be of hardened steel or other suitable material with diamond chips embedded in the metal cutting edge. The minimum diameter of the sample shall be 6 inches. Samples that are clearly defective, as a result of sampling, shall be discarded and another sample taken. The Engineer or the Owner's agent shall furnish all tools, labor, and materials for cutting samples and filling the cored pavement. Cored holes shall be filled by the Engineer and within one day after sampling.

Pavement cores may be used to determine the average percent density and thickness of HMA courses; nuclear or non-nuclear density gauge readings may be used for density testing of HMA courses. The average density will be used to determine the percent payment. Resampling of the pavement shall be in accordance with applicable provisions of the NETTCP Quality Assurance Technologist Manual, latest edition.

If the Contractor is concerned about the test results obtained by the Engineer, the Contractor may request that random core samples be obtained and tested to supplement (not replace) the original core data. The coring, patching and testing of the additional samples will be the responsibility of the Contractor. Cores for the mat and/or longitudinal joint density tests will be located by the Engineer and witnessed by the Contractor. Cores locations will be based on a new stratified random sampling plan for each street or facility paved in accordance with the procedures stated above. Upon approval of the coring operation, the Contractor will notify the Engineer 48 hours in advance of the cores being taken such that the Engineer can witness the sampling. The additional cores must be tested by a certified HMA plant technician in the presence of the Engineer or his designated representative.

Only one (1) set of additional mat and/or longitudinal joint cores will be allowed on a street or lot.

Testing - The bulk specific gravity of each cored sample will be measured by the Engineer in accordance with AASHTO T166 or T275, whichever is applicable. The theoretical maximum specific gravity shall be the average maximum specific gravity for the day's production in accordance with the plant-produced material section. The theoretical value used for the percent density of the core samples shall be the average of the measurements for maximum specific gravity for the day's production. The percent density of each sample will be determined in accordance with AASHTO T269, using the bulk specific gravity of each sample and the average theoretical maximum specific gravity. Retesting of pavement shall be in accordance with applicable provisions of the NETTCP Quality Assurance Technologist Manual, latest edition.

A. Mat Density. Core locations will be determined by the Engineer on a random basis in accordance with procedures contained in ASTM D 3665. Cores shall not be taken closer than 1 foot from a longitudinal joint and 10 feet from a transverse joint.
B. Joint Density. Three (3) six inch diameter cores of finished longitudinal joint will be taken by the Engineer or the Engineer's representative from each street, public facility, or paving day. Core locations will be determined by the Engineer on a random basis over the joint, not adjacent to the joint.

Adjustment Pay Schedule for Mat Density - The pay factor based on the density adjustment schedule will be applied to the bid price per ton after any monthly price adjustments for liquid asphalt and fuel for compacted mixtures greater than or equal to 1-1/2 inches thickness as shown in the contract award.

Table 9. HOT MIX ASPHALT MAT DENSITY Adjustment Schedule

Average Percent of Maximum Density (minimum 3 samples)	Percent Payment
100.0 - 98.1	98
98.0 - 95.0	102
94.9 - 92.0	100
91.9 – 89.0	90
88.9 – 87.0	75

86.9 or less	50% or rejection

8.2.4 Adjustment Pay Schedule for Longitudinal Joint Density - The pay factor based on the joint density adjustment schedule will be applied to the bid price per ton after any monthly price adjustments for liquid asphalt and fuel for compacted mixtures greater than or equal to 1 1/2 inches thickness as shown in the contract award.

Table 10.
HOT MIX ASPHALT LONGITUDINAL-JOINT DENSITY, Adjustment Schedule

Average Percent of Maximum Density (minimum 3 samples)	Percent Payment
100.0 - 98.1	98
98.0 - 95.0	102
94.9 - 90.0	100
89.9 - 89.0	90
88.9 - 88.0	80
87.9 - 87.0	70
86.9 or less	50% or rejection

The total hot mix asphalt adjustment will be based on the weighted sum as follows:

.60 Mat Adjustment + .40 LJ Adjustment = Total HMA Adjustment

When the construction of the pavement does not include the construction of a longitudinal joint, the payment adjustment will be based on Table 9 only, no weighted sum will be calculated.

Price adjustments to the contract bid price related to monthly price adjustments for liquid asphalt, diesel fuel and gasoline will be performed first, followed by HMA adjustments related to mat and joint density.

Rejection of Inferior HMA - The Engineer may at any time, notwithstanding previous plant acceptance, reject and require the Contractor to dispose of any batch of hot mix asphalt which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or improper mix temperature. Such rejection may be based on only visual inspection or temperature measurements. Similarly, the Engineer may at any time, notwithstanding field acceptance for mat density, reject and require the Contractor to correct any HMA pavement that was placed with unacceptable mat uniformity or paving joints due to low density, segregation, improper elevation, or tearing. In the event of such rejection, the Contractor and Engineer may take random split samples of the area(s) in question in the presence of the Engineer, and if it can demonstrate in the laboratory, in the presence of the Engineer, that such material/pavement was erroneously rejected, payment will be made for the material at the contract unit price.

Rounding - Numbers used in all calculations shall be carried to the correct significant figures and rounded as follows:

A. When the first digit after those you want to drop is 4 or less, that digit and all others to the right are dropped. Ex. 62.9437 to 3 significant digits = 62.9
B. When the first digit after those you want to retain is 5 or greater, that and all others to the right are dropped and the last digit retained is increased by one. Ex. 1.955234 to 3 significant digits = 1.96.
C. All Intermediate calculations should not be rounded and shall be reported to two more significant figures than the least number of significant figures in the data values.
D. Test Standards and technical look-up tables serve as first priority over these rounding rules.

Outliers - Due to the extremely low probability of an outlier occurring in a small number of samples representing the Lot, no outliers will be considered. If a result is suspect, it would be prudent to take the time to investigate the sampling, testing, equipment calibration, production and construction operation to identify the cause of the suspect reading.

Measurement

Method of Measurement - The quantity of hot mix asphalt to be paid for shall be the measured by the ton complete in place. The quantity of each truck load shall be obtained from printed tickets indicating the recorded batch weights or certified truck scale weights that have been properly countersigned by an authorized representative of the Engineer at the time of delivery. HMA quantities shall be verified by the Engineer using HMA yield calculations which will include the in-place bulk specific gravity and actual area and nominal depth for the mixture placed.

STRUCTURES: ADJUSTED, REMODELED, REBUILT

The work under this item shall conform to Section 220 of the Standard Specifications. Structures shall include all utility castings.

Adjustments of structures to line or grade or both line and grade when the change is 6 inches or less shall be called ADJUSTED. Structures adjusted shall be measured for payment at the contract unit price per each under the item Structure Adjustments.

When the adjustment of structures to line or grade or both line and grade is greater than 6 inches, the structure shall be REMODELED. Structures remodeled shall be measured for payment at the contract unit price per each under the item Structures Remodeled.

Structures rebuilt shall be measured by the average height in vertical feet and tenths of feet from the bottom row of rebuilt masonry to the bottom of the casting. Structures REBUILT shall be paid for at the contract unit price per vertical foot

SAWCUTTING ASPHALT PAVEMENT

The Contractor shall receive approval from the Highway Superintendent or Engineer for all sawcutting prior to commencement of work. The work shall include the sawing of existing hot mix asphalt where shown on the plans, or as directed by town. Equipment used to sawcut the existing pavement shall be approved by the town prior to commencing work.

The existing pavement shall be sawcut through its full depth, or to the elevation of the abutting proposed pavement subgrade, whichever is lesser, at all joints between existing and proposed pavements and at all utility trenches through existing pavement to remain, to provide a uniform, vertical surface for the proposed pavement joint with the exiting pavement. Sawcut edges that become broken, ragged or undermined shall be re-cut prior to the placement of abutting proposed pavement at no additional cost to the town. Sawcut surfaces in hot mix asphalt shall be sprayed with a uniform thin coat of RS-1 asphalt emulsion immediately before the placement of hot mix asphalt material against the surfaces.

Sawcutting Asphalt Pavement shall be measured by the foot of actual in place sawcuts on the existing hot mix asphalt and approved.

Sawcutting Asphalt Pavement will be paid for by the contract unit price per foot, which price shall include all labor, materials, equipment and incidental costs required to complete the work including asphalt emulsion.

BASE COURSE

The Contractor shall place a permanent base pavement over pipe trenches and in roadways as directed by the Awarding Authority. The pavement base shall consist of gravel sub-base (when directed) conforming to Section 405 of The Standard Specifications which has been laid and shaped to the lines and grades delineated by the Awarding Authority, and a bituminous base course of the thickness specified by the Awarding Authority. Materials and methods of construction shall conform to Section 420 of The Standard Specifications.

COLD PLANING

The work to be done consists of bituminous excavation by the cold planer, trucking and sweeping, in designated areas to improve curb reveal and re-profile existing surfaces and must conform to Section 120.66 of The Standard Specifications. Milling is at a depth of up to 3 inches.

The Cold Planer must be equipped with a cutter drum at least 72" wide with an elevating device capable of loading milled material directly into trucks while operating and with a dust control system capable of complying with environmental air quality standards. Also the planer should be equipped with front and rear ski with connecting string line measuring 25 feet for road profiling and slope control for lateral profiling. The contractor is responsible for trucking material to a designated location within town limits.

The use of planing equipment mounted on pneumatic tires will be permitted only for clean-up work. The minimum width of pavement planed in each pass shall be 2 meters except in areas to be trimmed and edged. Excess material shall become the property of the Awarding Authority.

Contractor is responsible for notifying the Traffic Signal Engineer prior to beginning cold planing in a street containing loop detectors for traffic lights. Contractor must make every effort to protect any loop detectors present in the street so that the operation of the traffic light is maintained throughout the cold planing work.

Payment will be made at the unit price quoted for actual yards planed and measured in the field by the square yard.

DRIVEWAYS AND SIDEWALKS (HAND WORK)

At the time that Contractor is performing the paving work described above, if requested by the Awarding Authority, the Contractor shall spread bituminous concrete on adjacent sidewalks and entrances to driveways to

the limits and widths specified in the drawings or as directed by the Awarding Authority. When directed by the Awarding Authority, the sub-grade for sidewalks shall be shaped parallel to the proposed surface and thoroughly compacted. All depressions shall be filled and compacted and all projecting materials removed and the area refilled and compacted. Sidewalks shall be surfaced with Type I-1 bituminous concrete in conformance with Sections 701.62 and 460 of The Standard Specifications. Driveways shall be resurfaced with Type I-1 bituminous concrete in conformance with Sections 701.63 and 460 of The Standard Specifications.

BITUMINOUS CONCRETE CURB

At the time that Contractor is performing the paving work described above, if requested

by the Awarding Authority, the Contractor shall place bituminous concrete curb where directed by the Awarding Authority. Bituminous concrete for curb shall conform to Section M 3.11.0 of The Standard Specifications. Concrete shall be compacted and placed with a machine capable of producing curb of the type and density required. Bituminous concrete curb shall be placed evenly on the bituminous surface along the edge of the roadway and shall be free from blemishes. Joints shall be kept to a minimum. If at any time before acceptance of the work, imperfections develop in the curb, such material shall be replaced with new curb at no additional expense to the Awarding Authority. Payment for curb shall be per linear foot installed.

CAPE COD BERM

At the time that Contractor is performing the paving work described above, if requested by the Awarding Authority, the Contractor shall place a bituminous concrete cape cod berm where directed by the Awarding Authority. Bituminous concrete berm shall consist of a Class I bituminous concrete Type I-1 finished and installed in accordance with Section 470 of The Standard Specifications. The berm shall be completed and set with a machine capable of furnishing a monolithic berm to the lines and grades delineated by the Awarding Authority and free from soft spots or imperfections. Bituminous concrete berms shall be set on the roadway base course and shall be placed in such a manner that a smooth transition is made between the berm surface and roadway surface course with no projecting edges. Failure of the berm due to imperfect mixing of materials or improper setting will be cause for rejection. Rejected berms shall be replaced with new materials at no additional charge to the Awarding Authority. Payment for cape cod berm is not a separate payment item but rather included as additional tonnage for which the unit price of in-place bituminous concrete applies.

PARKING LOTS AND PLAYGROUNDS

In conjunction with paving of roadways within the municipality, a Contractor may be required by the Highway Superintendent to pave other municipal properties including parking lots, playgrounds or smaller paving jobs that are less than 150 tons. Pavement sections hall be completed as requested by the Highway Superintendent.

The work under this item shall conform to Section 460 of the Standard Specifications.

Parking Lots and Playgrounds shall be measured by the ton of asphalt and shall be the actual and verified tonnage, complete in place and approved. The quantity shall be determined by weight slips that have been properly countersigned by the town at the time of delivery.

Parking Lots and Playgrounds shall be paid for at the contract unit price per ton of asphalt required, complete in place, including butt joint sealant, if required. The price shall include all labor, materials, equipment and incidental costs required to complete the work.

Any handwork necessary while paving parking lots or playgrounds shall be paid with the item Hot Mix Asphalt for Miscellaneous Work.

PAYMENT

Basis of Payment - Payment shall be made at the contract unit prices per ton complete in place with any applicable adjustments. This payment shall be full compensation for furnishing and placing all quality hot mix asphalt materials, including installation of paver placed berm, cutting of keyways or milling/stripping of pavement to produce neat joints, mechanical sweeping of streets and for all labor, tools, equipment, materials, and all incidentals necessary to complete the work.

Adjustment for Density - Adjustment for mat and joint density shall be made when the HMA material varies from the specification target limits, but is within the tolerances stated in Sections above for "Adjustment Pay Schedule for Density", respectively; the material will be allowed to remain in place with the specified adjustment in payment with the exception of mixtures placed with mat density below 86.9 percent of maximum. Adjustment for density will be made after any necessary adjustments relating to liquid asphalt, diesel fuel, and gasoline.

Hot Mix Asphalt Pavement – Marshall Mixes	TON
Base Course	
Dense Binder Course (Marshall)	
Modified Arterial Top(Marshall)	
Top Course (Marshall)	
Dense Mix (Marshall)	
Ultra-Thin Surface (Marshall)	
Hot Mix Asphalt Pavement – Superpave Mixes	TON
Superpave 9.5mm	
Superpave 12.5mm	
Superpave 19mm	
Superpave 37.5mm	
Superpave 4.75mm	
Bitumen for Tack Coat	GAL
Hot Poured Rubberized Asphalt Sealer	LF
Cold Planing	SY
Structure Adjustments	EA
Structures Rebuilt	VF
Hand Work	TON
Sawcutting	LF
Playground/Parking Lots	TON

TRAFFIC MANAGEMENT

The Contractor shall be responsible to provide, install and maintain all necessary traffic controls for construction and maintenance operations. The Contractor shall provide the Awarding Authority with a plan of all proposed traffic controls necessary for the proposed work within 14 days of commencement of work. The Awarding Authority shall review, comment as necessary and provide a review response to the Contractor within 7 days of the commencement of the proposed work.

The work under this item shall adhere to Section 850 of the Standard Specifications.

All labor, materials, equipment and incidental costs required to complete the work shall be considered incidental to this work Item.

POLICE DETAILS

The Awarding Authority shall be responsible for the scheduling, cancellation and payment of police details for all proposed work. The Contractor shall be responsible to coordinate with the Awarding Authority on all police detail requirements. The Contractor shall be responsible to notify the Police Department of a cancellation within 4 hours of the proposed scheduled start time or as required by the municipality. If the Contractor fails to notify the Police Department within the minimum time required to cancel a police detail, the Contractor shall credit all of the costs to the Awarding Authority associated with paying the police detail.

DISPOSAL OF MATERIAL AND FINAL CLEAN-UP

All material removed from any work site shall be delivered to a proper disposal site by the Contractor at no additional cost to the Awarding Authority. At no additional expense and in conjunction with the completion of the work, the Contractor shall be responsible to remove & dispose of temporary structures, surplus material, rubbish left onsite from the right of way, construction site and adjacent properties. Final payment for work completed will not be approved until the site is clean and approved by the Awarding Authority.

No equipment or material shall be left within any aforementioned area after acceptance of the Contract without written permission of the Awarding Authority. The Contractor shall not abandon any material at or near the site regardless of whether or not it has any value.

ITEM SIX: CHIP SEAL

Also called: ASPHALT CHIP SEAL WITH STONE, OR WITH SAND, OR WITH DOUBLE STONE

This work shall consist of furnishing and applying emulsified and latex material with stone chips or sand on existing bituminous concrete wearing surfaces as described herein. Work will not be done unless the road surface is dry. No work shall be done during rain or foggy periods or if the local forecast call for rain or fog on that day. No work shall be done if the ambient temperature is below 50 degrees F.

Surface preparation which may include pothole patching, truing and leveling, and adjusting of structures will be the responsibility of the Awarding Authority. Immediately prior to the application of asphalt materials, the Awarding Authority will arrange to have the street swept to clean any loose material from the pavement surface and shall protect structures within the shoulder areas against the application of the asphalt materials.

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 Awarding Authority shall provide the Contractor with an aggregate storage area near the job site.

The materials that will be used in the chip sealing will meet the following specifications:

1. Emulsified Asphalt

Emulsified asphalt grades shall be: CRS-2 (3% Latex). CMS-2 (3% Latex), HFRS-2 (3% Latex) or HFMS-2 (3% Latex) conforming to AASHTO specifications M208 or M140.

2. Latex Additive

The latex additive shall be Ultrapave 70 (Anionic) or Ultrapave 1156 (Cationic) or equivalent conforming to the following specifications. It is required that the latex be co-milled at the bulk emulsion facility to ensure complete and balanced blending. The emulsion manufacturing plant must be open to inspection by the Awarding Authority.

	Anionic	Cationic
Monomer Ratio (Butadiene/Styrene)	(76+/-2/24 +/-2)	(76 +/-2/24 +/- 2)
Solids, min %	67	59
Solids, min lbs/gal	5.2	4.8
Coagulum (80 mesh screen) max	0.1%	0.1%
pH of Latex	9.5-10.5	4.0-5.5
Brookfield Visc. (Model RVT, #3 spindle @20 RPM)	800-2000	5000 max.
Mechanical stability	Excellent	Excellent

3. Treated stone

Stone shall be crushed quarry stone, free from dust, soft stone or other contaminants with a minimum of 70% of the stones have a fractured face. All stones 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 Bituminous Material at the rate of 0.1% 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

Maximum passing 0.075mm (#200) sieve shall not exceed 2.0%, wet washed, for all sized aggregates used in surface treatments.

5. Sand

Sand shall consist of fine granular material, composed of hard, durable particles,

and shall be clean of organic matter.

REQUIRED SAND GRADATION

SIEVE SIZE	% BY WEIGHT PASSING
#4	95 – 100
#8	50 – 100
#16	20 – 75
#30	10 – 50
#50	0 – 20
#100	0 – 5
#200	0 - 2

The quantity of asphalt material to be used shall be in the range of 1.6 to 2.3 liters per square meter (0.35 to 0.50 gallons per square yard). Cover aggregate shall be spread in the range of 10.9 to 16.3 kilograms per square meter (20 to 30 pounds per square yard).

The Contractor will use lab tests to design specific material quantities to meet existing field conditions. Variations in material quantities will be made without adjustment to contract unit price.

The equipment used by the Contractor shall include, but not be limited to, one or more of the following:

1. 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 liters applied and distance traveled. It shall be capable of applying asphalt material in accurately measured quantities at any rate between 0.5 to 9.1 liters per square meter (0.1 to 2.0 gallons per square yard) of roadway surface at any length of spray bar up to 4.9 meters (16 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 .3 meter (one 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.

The asphalt material shall not be applied more than 91 meters (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 TREATED STONE.

2. Aggregate Spreader

The aggregate spreader shall be hydrostatically driven and self-propelled. It shall be equipped with a hydraulically controlled variable adjustable head that is capable of spreading stone in widths from 1.2 to 4.9 meters (4 to 16 feet). The spreader shall be mounted on pneumatic tires and shall apply the treated 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 the chip spreader. It shall have the ability to apply stone on any grade from 0-6%. The spreader shall be equipped with an integral hopper with a minimum capacity of 4.5 metric tons (5 tons) of treated stone which shall be filled by trucks in a manner which ensures that the truck tires never come in contact with 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.

3. Rollers

At least one rubber-tired and one steel-wheeled roller 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 1.5 meters (5 feet). Each roller shall have a gross weight of not less than 9.1 metric tons (10 tons) and contact pressure adjustable from 1379 to 2069 kPa (200 to 300 psi). Initial rolling shall be done immediately following the application of treated stone. Rollers shall be operated at a speed that will not displace aggregate.

4. Trucks

Rear discharge conveyor-fed trucks in sufficient number and size shall be used to deliver treated stone to the spreader. Conventional dump trucks that require bodies to be raised to distribute aggregate will not be allowed.

Traffic control is the sole responsibility of the Awarding Authority. Controlled traffic may be permitted as soon as the final layer is applied and rolled. A recommended maximum speed of 32km/h (20 mph) should be maintained for a period of two (2) hours.

Surplus aggregate shall be swept off of the road surfaces by the Awarding Authority and shall be the property of the Awarding Authority.

This specification covers requirements for materials, manufacture, and application of asphalt-rubber as a stress absorbing membrane (SAM) or a stress absorbing membrane interlayer (SAMI). This specification shall consist of an application of a combined reacted mixture of hot paving grade asphalt and ground rubber followed immediately with a cover material.

MATERIALS

1.1 Base Asphalt Binder**:**

The base asphalt binder shall have a PG (Performance Grade) of PG58-28. The supplier may substitute PG64-28 where needed to meet the requirements of ASTM D 6114 (type II). The intended PG must be used in the mix design and for the Asphalt-Rubber blending.

Asphalt-Rubber Binder:

The physical requirements for the Asphalt-Rubber binder shall conform to ASTM D 6114 type II specifications. The minimum percentage of ground rubber shall be 15% by weight of the total Asphalt-Rubber binder.

The reclaimed vulcanized rubber shall be produced primarily from the processing of automobile and truck tires. The rubber shall be produced by the ambient temperature grinding processes only.

The specific gravity of reclaimed vulcanized ground rubber shall be not less than 1.10 and not greater than 1.20

Rubber for use in Asphalt-Rubber binder shall be free of loose fabric, wire and other contaminants. Up to 4 percent (by weight of rubber) calcium carbonate or talc may be added to prevent caking or sticking of the particles together. The ground rubber shall be sufficiently dry so as to be free flowing and not produce foaming when blended with the hot PG binder.

At least two weeks before its intended use, the Contractor shall furnish samples of the Asphalt-Rubber binder proposed for use on the project. The samples shall consist of 2 one-quart size cans of the Asphalt-Rubber binder, together with the formulation and identification of the base PG binder used.

Aggregate

The aggregate shall conform to the requirement of appropriate state or local specifications for crushed stone. Crushed gravel stone will not be permitted. Percentage of wear as determined by the Los Angeles Abrasion Test (AASHTO-T96) shall be a maximum of 30. The aggregate shall be pre-heated to a temperature between 93°C and

149°C, (200°F and 300°F), and be pre-coated with 0.4% to 0.8% (by weight of aggregate) of PG 58-28, PG 64-28 or PG 64-22 asphalt binder prior to application. It is recommended that the gradation of the aggregate meet the following limits:

Sieve Size	% Passing – Nominal Size		
	9.5 mm, (3/8”)	12.5 mm, (1/2”)	9.5 mm, (3/8”) SAMI ONLY
15.8 mm, (5/8”)	100%	100%	100%
12.5 mm, (1/2”)	100%	90 – 100%	100%
9.5 mm, (3/8”)	85 – 100%	25 – 65%	85 – 100%
4.75 mm, (#4)	0 – 8%	0 – 8%	0 – 30%
2.36 mm, (#8)	0 – 4%	0 – 4%	0 – 5%
0.075 mm, (#200)	0 – 2%	0 – 2%	0 – 2%

NOTES:

1. For SAM applications use the 9.5 or 12.5 mm gradation requirements. The Flakiness Index shall be less than 20% (NFP 18-561 Test).

2. For SAMI applications use any of the above three (3) gradations. The Flakiness Index shall be less than 30% (NFP 18-561 Test).

Materials Testing

A minimum of 30 days prior to construction the Agency or contractor (if asphalt-rubber supplier is acting as a sub-contractor) shall send a representative sample of the asphalt binder and the aggregate proposed for use to the asphalt-rubber supplier for testing. Testing for stripping and asphalt content to determine and assure that appropriate characteristics are achieved when blended with the granulated rubber will be performed.

ITEM SEVEN: RUBBER CHIP SEAL

Also called: ASPHALT-RUBBER SURFACE TREATMENT WITH AGGREGATE COVER

STRESS ABSORBING MEMBRANE - SAM

STRESS ABSORBING MEMBRANE INTERLAYER – SAMI 0395

This specification covers requirements for materials, manufacture, and application of asphalt-rubber as a stress absorbing membrane (SAM) or a stress absorbing membrane interlayer (SAMI). This specification shall consist of

an application of a combined reacted mixture of hot paving grade asphalt and ground ubber followed immediately with a cover material.

BASE MATERIALS

Asphalt Cement

Asphalt cement for the asphalt-rubber mixture shall be PG 58-28 OR PG 64-28, complying with the requirements of appropriate state or local specifications. The grade selected shall be based on laboratory testing by the asphalt-rubber supplier.

Anti-stripping Agent

If required by the job-mix formula to produce appropriate water resistance, an anti-stripping agent that is heat stable and approved for use by the Agency shall be incorporated into the asphalt-rubber material at the dosage required by the job-mix formula (up to 1.0% by weight of asphalt). It shall be added to the asphalt cement prior to blending with the granulated rubber.

Rubber

The granulated rubber shall be vulcanized rubber product from the ambient temperature processing of scrap, pneumatic tires. The granulated rubber shall meet the following gradations: No substitutions will be accepted.

Sieve Size	% Passing
2.00 mm, (#10)	100
1.18 mm, (#16)	90 – 100
0.60 mm, (#30)	25 – 75
0.18 mm, (#80)	0 - 20

The use of rubber of multiple types from multiple sources is acceptable provided that the overall blend of rubber meets the gradation requirements. The length of the individual rubber particles shall not exceed 3 mm, (1/8”). The rubber shall be accepted by certification from the rubber supplier.

Aggregate

The aggregate shall conform to the requirement of appropriate state or local specifications for crushed stone. Crushed gravel stone will not be permitted. Percentage of wear as determined by the Los Angeles Abrasion Test (AASHTO-T96) shall be a maximum of 30. The aggregate shall be pre-heated to a temperature between 93°C and 149°C, (200°F and 300°F), and be pre-coated with 0.4% to 0.8% (by weight of aggregate) of AC-10 or AC-20 asphalt cement prior to application. It is recommended that the gradation of the aggregate meet the following limits:

Sieve Size	% Passing – Nominal Size	
	9.5 mm, (3/8”)	12.5 mm, (1/2”)
15.8 mm, (5/8”)	100%	100%
12.5 mm, (1/2”)	100%	85 – 100%
9.5 mm, (3/8”	85 – 100%	15 – 45%
4.75 mm, (#4)	0 – 25%	0 – 15%
2.36 mm, (#8)	0 – 5%	0 – 5%
0.30 mm, (#50)	0 – 2%	0 – 2%
0.075 mm, (#200)	0 – 2%	0 – 2%

Materials Testing

A minimum of 60 days prior to construction the Agency or contractor (if asphalt-rubber supplier is acting as a sub-contractor) shall send a representative sample of the asphalt cement and the aggregate proposed for use to the asphalt-rubber supplier for testing. Testing for stripping and asphalt content to determine and assure that appropriate characteristics are achieved when blended with the granulated rubber will be performed.

ASPHALT-RUBBER MIXING AND REACTION

Mixing and Reaction

The percent of rubber shall be 20 +/- 3% as indicated by the mixture design for specific project requirements by weight of total mixture, that is, by total weight of asphalt cement, plus granulated rubber. The exact granulated rubber content shall be determined by the mix design submitted by the asphalt-rubber supplier based on laboratory testing.

The temperature of the asphalt shall be between 177°C and 218°C, (350°F and 425°F), at the time of addition of the granulated reclaimed rubber. The asphalt and rubber shall be combined and mixed together in a blender unit and reacted in the distributor for a period of time as required by the mix design. The temperature of the asphalt-rubber mixture shall be above 163°C, (325°F), during the reaction period.

Delays

When a job delay occurs after full reaction, the asphalt-rubber may be allowed to cool. The asphalt-rubber shall be reheated slowly just prior to application, but not to a temperature exceeding 191°C, (375°F). An additional quantity of granulated rubber or additive not exceeding 3% by volume of the hot asphalt-rubber mixture may be added after reheating.

Viscosity

Viscosities shall be run, by the asphalt-rubber supplier, on each blended load of asphalt-rubber using a Haake-type field viscometer. The viscosity of the final product shall be in the range of 1,000 to 3,500 centipoise.

EQUIPMENT

Mechanical Blender

A mechanical blender for proper proportioning and thorough mixing of the asphalt-cement and granulated rubber is required. This unit shall be equipped with: an asphalt totaling meter (liters or gallons); a flow rate meter (liters per minute or gallons per minute); a positive displacement auger to feed the rubber properly to mixing chamber at the specified rate; and a static motionless mixer. Blender will have a separate rate; and a static motionless mixer. Blender will have a separate asphalt cement feed pump and finished product pump to maximize production. Blender shall be capable of providing 100% proportional mix at any given time during the blending cycle and documentation from the manufacturer, supporting this, shall be submitted to the awarding authority if requested.

Distributor Truck

On projects exceeding 31.8 metric tons, (35 tons), of liquid asphalt rubber, at least two pressure-type bituminous distributor trucks in good condition will be required. The distributor shall be equipped with an internal heating device capable of heating the material evenly up to 218°C, (425° F); an internal mixing unit capable of maintaining a proper mixture of asphalt cement and granulated rubber; have adequate pump capacity to maintain a high rate of circulation in the tank and to spray the asphalt-rubber at a viscosity of 1,000 to 3,500 centipoise; have adequate pressure devices and suitable manifolds to provide constant positive cut-off to prevent dripping from the nozzles. Distributor shall be equipped with an electronically controlled computerized compensation unit for controlling application rates at various width and speed changes. The application unit shall have electronic controls and a digital read out installed and operated from the inside of the cab of the distributor. The distribution bar on the distributor shall be fully circulating. Any distributor that produces a streaked or irregular distribution of the material shall be promptly repaired or removed from the project.

Distributor equipment shall include a tachometer, pressure gauges, volume measuring devices, and a thermometer for reading temperature of tank contents. Controls for spray bar shall be located in cab of truck, for controlling width and rate of spray of product. It shall be so constructed that uniform applications may be made at the specified rate per square meter with a tolerance of plus or minus 0.2 liters per square meter, (0.05 gal. / sq. yd).

A “bootman” shall accompany the distributor and ride in a position so that all spray bar nozzles are in his full view and readily accessible for unplugging.

Hauling Equipment

Trucks for hauling cover material shall be rear discharge conveyor-fed or “live bottom” trucks and shall be equipped with a device to lock onto the hitch at the rear of the chip spreader to prevent aggregate spillage.

Sufficient hauling vehicles will be available to ensure continuous operation of the distributor and chip spreader.

Aggregate Spreader

The aggregate spreader shall be hydrostatically driven and self propelled. It must be equipped with a hydraulically controlled variable adjustable head that is capable of spreading stone in widths from 1.4 to 5.4 meters, (4.5 to 18 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 on any grade from 0 - 6%. The spreader shall be equipped with an integral hopper with a minimum capacity of 4.5 metric tons, (5 tons), of stone which shall be filled by trucks in a manner which ensures that the truck tires never come in contact with 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.

Pneumatic-Tired Roller

Two (2) self-propelled, multiple wheel, pneumatic-tired rollers shall be used and shall weigh between 6.5 and 10.9 metric tons, (7 and 12 tons), each roller shall have a total compacting width of at least 1.4 meters, (56 inches), have a minimum tire pressure of 414 kPa, (60 psi), and be equipped with a watering system.

Steel-Wheel Roller

One (1) self-propelled, 2-axle (tandem) steel-wheel roller shall be used and shall weigh between 7.3 and 10.9 metric tons, (8 and 12 tons), and be equipped with scrapers, wetting pads and watering system. Combination pneumatic and steel drum-type rollers are acceptable, as one unit only.

CONSTRUCTION PROCEDURES

Preparation

Potholes, other areas of pavement failure, and major depressions in the existing pavement surface shall be repaired by the owner with asphalt concrete in the advance of contractor's leveling crew's work. A leveling course shall be placed on planed, milled or existing surface by the Contractor under this contract, if required. Contractor shall inspect work site in advance of scheduling leveling crew to approve repairs of others for major pavement failure and major depression.

Immediately prior to application of the asphalt-rubber, the surface shall be thoroughly cleaned by sweeping. Contractor shall be responsible for covering all utility irons just prior to application and uncovering after aggregate is spread.

Seasonal and Weather Limitations

The asphalt-rubber shall not be applied when weather conditions are unfavorable to obtaining a uniform spread. Construction shall proceed only when the atmospheric temperature is at least 10°C, (50°F), and rising. No water shall be present on the road surface.

Application

The asphalt-rubber mixture shall be applied at a temperature of 170° to 215°C, (338°F to 419°F), at a rate of 2.5 to 2.9 liters per square meter, (0.55 to 0.65 gallons per square yard). Exact rate to be determined by the aggregate gradation, traffic volume and pavement condition.

Longitude joints shall be reasonably true to line and parallel to centerline. Where any construction joint occurs, the edges shall be broomed back and blended so there are no gaps and the elevations are the same, and free from ridges and depressions. Longitudinal joints shall be overlapped from 10.2 to 15.2 centimeters, (4 to 6 inches).

During application, adequate provision shall be made to prevent marring and discoloration of adjacent pavements, structures, vehicles, foliage or personal property.

Aggregate Application

The application of aggregate shall follow as close as possible behind the application of the hot asphalt-rubber which shall not be spread further in advance of the aggregate spread that can be immediately covered. Construction equipment or other vehicles shall not drive on the uncovered asphalt-rubber. The hot pre-coated aggregate shall be spread uniformly by a self-propelled spreader at a rate of spread directed by the Agency, generally between 16.3 to 21.7 kilograms per square meter, (30 to 40 pounds per square yard). Any deficient areas shall be covered with additional material.

Rolling

A minimum of three (3) rollers shall be used for aggregate compaction into the hot asphalt-rubber. Two rollers must be pneumatic-tired and one must be steel-wheel. Rolling shall commence immediately following spread of aggregate. There shall be at least three coverage's by the pneumatic-tired rollers to embed the aggregate particles firmly into the asphalt-rubber. A coverage shall be as many passes as are necessary to cover the entire width being spread with a pass being one movement of a roller in either direction. Additional coverage of the steel-wheel roller will follow. Water shall be applied to the tires or wheels as required to limit sticking of the asphalt-rubber and aggregate to the rollers.

Sweeping

When the maximum amount of aggregate has been embedded into the asphalt-rubber and the pavement has cooled, all loose material shall be swept or otherwise removed by Contractor. This will be done at a time and in a manner which, will not displace any embedded aggregate or damage the asphalt-rubber.

The Awarding Authority will provide sweeping prior to leveling and application of rubber stone seal. The Contractor will provide sweeping directly after the application of stone seal to remove all loose stone.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

SAM OR SAMI

Stress Absorbing Membrane or Stress Absorbing Membrane Interlayer will be measured by the square meter / square yard and shall be the actual number of square meters / square yards applied. Price per square meter / square yard shall be full compensation for all labor, materials and equipment required to complete the work in accordance with these specifications.

Other Work

Measurement of and payment for other work such as patching, leveling shall be by the Ton as identified on the bid quotation sheet.

PRICE ADJUSTMENT

20% Asphalt Rubber Surface Treatment:

Current Price minus Base Price divide by 235 (Gal. Asphalt in ton) x .8 (Asphalt minus rubber content) x .60 Gal. / SY (application rate) = Adjustment per square yard.

BITUMINOUS CONCRETE TYPE I IN PLACE FOR LEVELING

SCOPE OF WORK: In addition to the standard conditions written in the Bidder Information package, the work to be performed under this bid specification shall include all necessary labor, material and equipment to place bituminous concrete at various locations w in order to shape the road for proper cross section and profile improving drainage and rideability. It is not the intent of this work item to provide a complete gutter to gutter overlay but to minimize the amount of Type I just to achieve the goal stated above..

Bituminous Concrete **Per Ton**

Bituminous concrete shall conform to the Massachusetts Department of Public Works "Standard Specifications for Roads and Bridges" designation M3.11.03 job mix formula and shall conform to the specific mix formula under the designation of the design requested.

Automated batch plants are required for all bituminous mix delivered to the job site and a computer printout shall be supplied indicating the various components of the mixture by weight, in the proper sequence and must indicate the temperature and time of mixing. All material is to be delivered to the job site in covered bodies, spread with a self-propelled mechanical spreader, and compacted with a steel wheel roller of not less than eight tons. Paving equipment must have the capability of an asphalt berm attachment when requested. The successful Bidder must submit documented evidence from a bituminous concrete plant owner or manufacturer stating the availability of product and miles from the plant to Raynham Center. Compensation shall be paid by the unit price bid in this proposal for in place material including all work described above. All work shall be accomplished in accordance with the Massachusetts Highway Standard Specifications for Roads and Bridges.

Tack Coat: All bituminous concrete overlays must have a tack coat of SS-1 applied to the existing surfaces prior to the application. The asphalt emulsion shall be diluted with equal parts of water to ensure a light even coverage. All liquid tack coat material shall be applied with a self-propelled asphalt distributor with re-circulating bars at a rate and method not to exceed 0.05 gallons per square yard and the entire surface to be overlaid will be covered. The asphalt distributor shall be kept on the job site during the entire period of placing the overlays or until dismissed by the Highway Superintendent.

Sweeping: After given a paving schedule by the Contractor, the Awarding Authority will sweep the designated area prior to the day of paving. Any additional sweeping or surface cleaning necessary at the time the paving is being performed will be the responsibility of the Contractor.

ITEM EIGHT: MICRO PAVING

DESCRIPTION

Micro-paving shall be a mixture of cationic latex 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.

MATERIALS

1. Emulsified Asphalt. The emulsified asphalt shall be a quick-set latex modified cationic type CSS-1H emulsion and shall conform to the requirements specified in AASHTO M208 and ASTM2397. It shall pass all applicable storage and settlement tests. The latex shall be milled into the emulsion. The cement mixing test shall be waived for this emulsion.

2. Special Residue Properties. Distillation of residue will be a temperature of 350 degrees F for 20 minutes. Softening point of the residue shall be 140 degrees F minimum. Viscosity, absolute at 140 degrees F, shall be 8,000 poise minimum.

3. Aggregate.

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

b. Aggregate Physical Requirements.

(i) Grading: The aggregate including natural fines when tested by AASHTO method T11 or T27 or ASTM C117 or C136 should meet the referenced gradation requirements.

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

(iii) 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.

(iv) 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 solubic 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 no more than 50% and the ambient air temperature of at least 75 degrees 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 Awarding Authority.

e. Additives. A mineral additive shall be introduced to the mineral 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 is 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 certifiable as being compatible with the mixture.

ENGINEERING

a. General. Before work commences, the Contractor shall submit a signed mix design covering the specific material to be used on the project. This design shall be performed by a qualified 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 qualified 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 provide a minimum Marshall stability of 1,800 pounds and a flow of 6 to 16 units when tested according to the ASTM 1559 or AASHTO 245 procedure as modified. 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 Awarding Authority shall approve the design mix and all micro-paving 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
Latex Modifier:	As required to provide specified properties
Field Control Additive:	As required to provide the specified properties
Water:	As required to produce consistency

Aggregate-recommended Gradations

Screen Size	Type II-% Passing	Type III- % Passing

3/8”	100	100
#4	90-100	70-90
#8	65-90	45-65
#16	40-65	30-50
#30	25-45	19-34
#50	15-30	12-25
#100	10-21	7-18
#200	5-13	4-12

Suggested Application rate:

Type II- Urban and residential streets, airport runways- 18-22 lbs. per sq. yd.

Type III- Primary and Interstate Routes- 25-30 lbs. per sq. yd. Wheel ruts application rates as required.

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 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 machine 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 machine may be equipped with self loading devices which provide for the loading of materials while continuing to lay micro-paving 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.

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. A front seal shall be provided to insure no loss of the mixture at the road contact point. The rear seal shall act as final strike off and 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 appearing, uniform and lapped. All excess

material shall be removed from the job site 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 prefill wheel ruts when necessary prior to overlay to eliminate puddles or runoff interruption. The box shall be readily adjustable from 4 feet to 6 feet width with hydraulically adjusted strike off screeds to attain maximum grade and profile.

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.

MACHINE CALIBRATION

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

WEATHER LIMITATIONS

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

SURFACE PREPARATION

a. General. The area to be surfaced 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.

b. Cracks in Surface. If directed by the Awarding Authority, the Contractor shall pretreat the cracks in the pavement surface with fiber reinforced crack filler consistent with the Standard Specifications for crack repair prior to the application of the micro-paving.

c. Tack Coat. If required by the plans, the Contractor shall apply a tack coat consisting of one part emulsified asphalt and three parts water with a distributor at .10-.15 gallons per square yard. This emulsified asphalt should be the CSS1H emulsion grade. A tack

coat shall always be applied to any concrete or brick surface.

STOCKPILE

Precautions shall be taken to insure that stockpiles do not become contaminated. The mineral aggregate shall be screened prior to being weighed for job site delivery. This weight shall be done by means of a scale approved by the Awarding Authority.

APPLICATION

a. General. The surface should be pre-wetted by fogging ahead of the spreader box when required by local 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-paving 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 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 oversize develops, the job will be stopped until the Contractor proves to the Awarding Authority 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 widths 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 handworked 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 at the time of the machine applying process.

e. Lines. Care shall be taken to insure straight lines along curbs and shoulders. No runoff on these areas will be permitted. Lines at intersections will be kept straight to provide a good appearance.

f. Rolling. If required by the plans, specified areas shall be rolled by a self-propelled 10 ton pneumatic roller with a tire pressure of 50 PSI and equipped with a water spray system.

QUALITY CONTROL

a. Materials. The Contractor will permit the Awarding Authority to take samples of the aggregate and asphalt emulsion to be used in the project at the Awarding Authority's discretion. Gradation and sand equivalent tests may be run on the aggregate and residual asphalt content test on the emulsion. Test results will be compared to specifications. Tests will be run by a qualified laboratory at the expense of the Awarding Authority. The Awarding Authority will notify the Contractor immediately if any test fails to meet the specifications.

b. Micro-Paving 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 Awarding Authority. The Awarding Authority will notify the Contractor immediately if any test fails to meet specifications. The Awarding Authority 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 Awarding Authority 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 Awarding Authority that the problems have been corrected and that the machine is working properly.

Prices shall include all labor, equipment, materials, fuels, supplies and the micro-paving material and shall be bid per square yard. Each municipality that is soliciting bids for this Item of Work, if it orders any work under the contract that is awarded agrees that it will do the estimated work in one day's time.

ITEM NINE: CAPE SEALING

DESCRIPTION

Cape Seals shall be a combination of Chip Seals with Stone (Item Four) and Micro Paving (Item Six) completed in two successive operations with the micro paving completely covering and encapsulating the chip seal aggregate. Both processes shall be completed within the same construction season, and the micro paving shall not be applied sooner than seven (7) days after the chip seal is complete in order that the chip seal emulsion can be totally cured and any surplus aggregate can be swept off the road by the Awarding Authority in advance of the micro paving.

CHIP SEAL

The chip seal first phase of the cape seal installation shall be completed in accordance with the Item Four specification herein utilizing the CRS-2 emulsion without the 3% latex.

MICRO PAVING

The micro paving second phase of the cape seal installation shall be completed in accordance with the Item Six specification herein except that the application shall be a single lift of Type II material applied at not less 25 pounds per square yard (dry aggregate weight), and of sufficient thickness that none of the chip seal aggregate is exposed after curing of the micro-surfacing. Basis of payment shall be by the square yard.

ITEM TEN: BONDED WEARING COURSE

DESCRIPTION

The Bonded Wearing Course consists of a warm polymer modified asphalt emulsion bond coat followed immediately with an ultra-thin hot mix asphalt wearing course. The tack coat is spray applied immediately prior to the application of the wearing course to produce a durable wearing surface that can be opened to traffic. The finished surface treatment has a minimum thickness of 1/2" for Type A and 5/8" for Type B and Type C. All pavement repairs, crack filling and joint filling will be paid for under the appropriate items.

MATERIALS

Mixture Requirements:

The contractor shall formulate and submit to the awarding authority, a job mix Formula (JMF) that satisfies the design general limits listed in the Mixture Requirements table below. The production tolerances customarily used by the awarding authority for HMA shall apply, but shall not fall outside the following gradation requirements.

Sieve Size	Type A - 1/4”	Type B - 3/8”	Type C - 1/2"
3/4” (19 mm)	-	-	100
1/2” (12.5 mm)	100	100	85 – 100
3/8” (9.5 mm)	95 – 100	85 – 100	45 – 85
#4 (4.75 mm)	40 – 60	24 – 41	24 – 41
#8 (2.36 mm)	21 – 33	21 – 33	21 – 33
#16 (1.18 mm)	15 – 26	15 – 26	15 – 26
#30 (0.60 mm)	11 – 20	11 – 20	11 – 20
#50 (0.30 mm)	8 – 16	8 -16	8 -16
#100 (0.15 mm)	5 – 10	5 – 10	5 – 10
#200 (0.075 mm)	4 – 7	4 – 7	4 – 7
% PGB	4.9 – 5.4	4.8 – 5.3	4.8 – 5.3

*Note: All aggregate percentages are based on the total weight of the aggregate.

Asphalt Binder:

Use the appropriated performance graded binder, (PGAB), for the project’s geographical location and design traffic level.

Coarse Aggregate:

The coarse aggregates selected should be those typically used for high performance surfaces. Coarse aggregates, such as crushed gravel, limestone, dolomite, sandstone, granite, chert, traprock, ore tailings, slag or other similar materials, or blends of two or more of the above may be acceptable. The single size coarse aggregate shall be nominal 6.3 mm, (1/4”), 9.5 mm, (3/8”), or 12.5 mm, (1/2”) meeting the requirements listed in the Coarse Aggregate Properties table below. When coarse aggregates for these mixes are from more than one source or of more than one type of material, they shall be proportioned and blended to provide a uniform mixture.

	Test Method	Value
LA Abrasion Value, % loss	AASHTO T96-94	30 max
Soundness, % loss Magnesium Sulfate or Sodium Sulfate	AASHTO T104-94	18 max 12 max

Flat and Elongated Ratio, % @ 5:1	ASTM D-4791	10 max
% Crushed, single face	ASTM D-5821	95 min
% Crushed, two or more crushed faces	ASTM D-5821	85 min
Cleanliness (% passing 0.60 mm, (#30))	ASTM D-142	2 max
Resistance to stripping*	ASTM D-3625	80 min **

*Anti-Stripping agents may be required to provide resistance to stripping.
** If the awarding authority currently uses a higher value then that value shall apply.

Fine Aggregate:

The fine aggregate shall be 100% crushed and have a minimum sand equivalent of 50, (AASHTO T 176-86).

Mineral Filler:

Hydrated lime, fly ash, baghouse fines and cement are acceptable as mineral filler.

Bond Coat:

Use grade CRS-1P polymer modified asphalt emulsion meeting the requirements of AASHTO T208 except as modified in the below table. If latex is used, it is required that it be co-milled at the bulk emulsion facility, to ensure complete and balanced blending.

Property	Test Method	Minimum	Maximum
Elastic Recovery, 25°C	AASHTO T301	65	
Residue by Distillation, %	AASHTO T59	63	
Penetration of Residue, 25°C, 100g, 5 sec	AASHTO T49	60	150

EQUIPMENT

The equipment used by the Contractor shall include, but not be limited to, one or more of the following:

Paving:

The self-priming paver must be capable of spraying the bond coat, applying the hot asphalt overlay and smoothing the surface of the mat in one pass, without equipment driving on or disrupting the bond coat, at a rate of 30-100 feet per minute. The self-priming paver must incorporate a receiving hopper, feed conveyor, insulated storage tank for emulsion, metered tack coat spray bar and a variable width, heated, ironing type screed. The screed must have the ability to be crowned at the center both positively and negatively and have vertically adjustable extensions to accommodate the desired pavement profile.

Roller:

Use steel wheeled double drum rollers weighing at least 8 ton that are equipped with functioning water systems and scrappers to prevent the fresh mix from adhering to the roller drums.

CONSTRUCTION PROCEDURES

Streets to be Treated:

The Contractor and the Awarding Authority shall mutually determine the streets which shall receive bonded wearing course treatment. Measurements of streets to be treated shall be made by the Contractor and the Awarding Authority or his/her Awarding Authority, and the Contractor shall prepare a cost estimate for each street prior to beginning work.

Surface Preparation:

All surface preparations shall be completed by the contractor prior to applying the wearing course.

Adjust all City-owned roadway castings/utility structures and if required coordinate the re-setting/adjustment of all non-City-owned utility structures with the various utility companies.

Cover all manhole covers, water boxes, gas boxes, catch basins and other such utility structures with plastic or building felt. Reference each for location and uncovering after paving.

Remove all thermoplastic traffic markings.

Cut keyways at limits of work and additional locations as directed by the Awarding Authority to a sufficient depth to create smooth transitions and good ride quality.

Clean and flush fill all cracks and joints greater than 1/4” wide with material approved by the engineer. No over banding will be permitted. Fill all surface irregularities greater than 1” deep with material approved by the engineer.

The area to be surfaced shall be thoroughly cleaned of vegetation, loose aggregate and soil, and soil that is bound to the roadway surface through use of mechanical sweeping.

Remove all standing water. A damp surface is acceptable if favorable weather conditions are expected during paving operations.

Weather Limitations:

The minimum pavement surface temperature for application of the bond coat and placement of the wearing course is 50°F.

Application:

Apply the bond coat at a temperature of 120° - 170 F. Provide a uniform application across the entire width to be overlaid, at a rate of 0.15 - 0.25 gallons per square yard. Continuously monitor the rate of spray.

No equipment shall come in contact with the bond coat before the hot mix asphalt concrete wearing course is applied.

Immediately after applying the bond coat, apply the hot mix asphalt overlay across the full width of the bond coat at a temperature of 280° - 335°F.

Compaction:

Begin compaction immediately after the application of wearing course. Use a minimum of two (2) passes. The roller(s) will not be allowed to stop on the freshly placed wearing course. Use an adequate number of rollers to complete compaction before the pavement temperature falls below 185°F. Protect the wearing course from traffic until the rolling operation is complete and the material has cooled sufficiently to resist damage.

STRUCTURES: ADJUSTED, REMODELED, REBUILT

The work under this item shall conform to Section 220 of the Standard Specifications. Structures shall include all utility castings.

Adjustments of structures to line or grade or both line and grade when the change is 6 inches or less shall be called ADJUSTED. Structures adjusted shall be measured for payment at the contract unit price per each under the item Structure Adjustments.

When the adjustment of structures to line or grade or both line and grade is greater than 6 inches, the structure shall be REMODELED. Structures remodeled shall be measured for payment at the contract unit price per each under the item Structures Remodeled.

Structures rebuilt shall be measured by the average height in vertical feet and tenths of feet from the bottom row of rebuilt masonry to the bottom of the casting. Structures REBUILT shall be paid for at the contract unit price per vertical foot

PERFORMANCE

The Contractor shall not sublet any portion of this contract, and will own all equipment used to complete such contract. As part of the bid, the Contractor must submit a list of six similar and successfully completed jobs, whose relevance to the proposed job shall be deemed by the awarding authority. The name, address, and telephone number of a contact person involved with each of these projects must be included so they can be investigated prior to the award of the contract. It will be the responsibility of each bidder to visit the job site with the Awarding Authority. The awarding authority can reject any bid of a contractor who has not visited the work site.

TRAFFIC MANAGEMENT

The Contractor shall be responsible to provide, install and maintain all necessary traffic controls for construction and maintenance operations. The Contractor shall provide the Awarding Authority with a plan of all proposed traffic controls necessary for the proposed work within 14 days of commencement of work. The Awarding Authority shall review, comment as necessary and provide a review response to the Contractor within 7 days of the commencement of the proposed work.

The work under this item shall adhere to Section 850 of the Standard Specifications.

All labor, materials, equipment and incidental costs required to complete the work shall be considered incidental to work under this item.

POLICE DETAILS

The Awarding Authority shall be responsible for the scheduling and payment of police details for all proposed work. The Contractor shall be responsible to coordinate with the Awarding Authority on all police detail requirements. The Contractor shall be responsible to notify the Police Department of a cancellation within 4 hours of the proposed scheduled start time or as required by the municipality. If the Contractor fails to notify the Police Department within the minimum time required to cancel a police detail, the Contractor shall credit all of the costs to the Awarding Authority associated with paying the police detail.

DISPOSAL OF MATERIAL AND FINAL CLEAN-UP

All material removed from any work site shall be delivered to a proper disposal site by the Contractor at no additional cost to the Awarding Authority. At no additional expense and in conjunction with the completion of the work, the Contractor shall be responsible to remove & dispose of temporary structures, surplus material, rubbish left onsite from the right of way, construction site and adjacent properties. Final payment for work completed will not be approved until the site is clean and approved by the Awarding Authority.

No equipment or material shall be left within any aforementioned area after acceptance of the Contract without written permission of the Awarding Authority. The Contractor shall not abandon any material at or near the site regardless of whether or not it has any value.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Payment for work under this agreement shall be made at the contract unit price per square yards times the number of square yards, measured by the Contractor and the Awarding Authority or his/her Awarding Authority, of road surface treated. Price per square yard shall be for complete in place quantities. Upon completion of work, and acceptance by the Awarding Authority, the Contractor shall submit a payment request to the Awarding Authority. Payment shall be net thirty (30) days.

GUARANTEE

Any material or workmanship found to be defective for up to one (1) year from the date of acceptance by the Awarding Authority shall be replaced by the Contractor at no cost to the awarding authority. Upon notification of defective material or workmanship, the Contractor shall immediately replace such defective areas.

SPECIFICATIONS FOR ADJUSTMENT OF STRUCTURES

DESCRIPTION

Work under this item shall include adjusting sewer manhole castings, stormwater manhole castings, and catch basins castings to the proposed finished grade of the bonded wearing course surface. Adjustment of structures to grade when the change is 6 inches or less will be measured in place by the unit each, complete and approved. Adjustment of structures to grade when the change is greater than 6 inches shall be performed in accordance to the Specifications for Structure Vertical Rebuild.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Adjustment of structures shall be measured in place by the unit each, complete and approved. The unit bid price per each shall include all labor, materials and equipment necessary to complete the work as necessary or as directed by the Owner.

SPECIFICATIONS FOR STRUCTURE VERTICAL REBUILD

DESCRIPTION

Work under this item shall include vertical masonry rebuild for adjustment of structures requiring a change of greater than 6 inches to meet the proposed finished grade of the bonded wearing course surface. Vertical masonry rebuild of structures to grade will be measured in place by total height in feet, complete and approved.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Vertical masonry rebuild of structures to grade when the will be measured in place by total height in feet, complete and approved. The unit bid price per each shall include all labor, materials and equipment necessary to complete the work as necessary or as directed by the Owner.

SPECIFICATIONS FOR ADJUSTMENT OF GATE BOXES

DESCRIPTION

Work under this item shall include adjusting water & gas gate and service boxes to the proposed finished grade of the bonded wearing course surface. Adjustment of gates to grade when the change is 6 inches or less will be measured in place by the unit each, complete and approved.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Adjustment of gate boxes shall be measured in place by the unit each, complete and approved. The unit bid price per each shall include all labor, materials and equipment necessary to complete the work as necessary or as directed by the Owner.

ITEM ELEVEN: CRACK SEALING

The work described in this section 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 and vegetation removal and sterilization of cracks, where necessary.

The crack sealer shall be an asphalt fiber compound designed especially for improving strength and performance of the parent asphalt sealer and which meets M 3.05.1 of The Standard Specifications. The asphalt sealant shall be an AC-10 or AC-20 with a penetration of 75-100.

The fiber reinforcing materials shall be short length polyester fibers which have the following properties:

Length: 7 mm.

Diameter:	0.0008 inch plus or minus 0.001 inch
Specific gravity:	1.32 to 1.40
Melt temperature:	480 degrees F minimum
Ignition temperature:	1000 degrees F minimum
Tensile Strength:	75,000 psi plus or minus 5,000 psi
Break elongation:	33% plus or minus 9% fully drawn

The asphalt fiber compound shall be mixed at a rate of 5-8 percent fiber weight to weight of asphalt cement. The equipment used in the performance of the work as well as the application rate of the crack sealing material shall be subject to inspection by the Awarding Authority and shall be maintained in a satisfactory working condition at all times. Air compressors shall be portable and capable of furnishing not less than 100 cubic feet of air per minute at not less than 90 psi nozzle pressure. The compressors shall be equipped with traps that will maintain the compressed air free of oil and water.

Manually-operated gas-powered air brooms or self-propelled sweepers designed especially for use in cleaning highway pavements shall be used to remove debris, dirt and dust from cracks. Hand tools shall consist of brooms, shovels, metal bars with chisel-shaped ends and any other tools which may be satisfactorily used to accomplish this work.

The melting kettle used to melt the joint sealing compound shall be a double boiler, indirect fired type. The space between the inner and outer shells shall be filled with a suitable heat transfer oil or substitute having a flash point of not less than 600 degrees F. The kettle shall be equipped with a satisfactory means of agitating the joint sealer at all times. This may be accomplished by continuously stirring with mechanically operated paddles and/or by a continuous circulating gear pump attached to the heating unit. Debris removal from cracks shall be accomplished by high pressure air. All old material and other debris removed from the cracks shall be removed from the pavement surface immediately by means of power sweepers, hand brooms or air brooms. Where cracks show evidence of the growth of vegetation, the vegetation shall be removed and sterilized by use of a propane torch unit to eliminate all vegetation, dirt, moisture and seeds.

No crack sealing material shall be applied in wet cracks nor where frost, snow or ice is present nor when the ambient air temperature is below 25 degrees F. The joint sealing material shall be heated and applied at a temperature specified by the Manufacturer and approved by the Awarding Authority. The minimum application temperature shall be 320 degrees F.

The sealer shall be delivered to the pavement surface through a pressure hose line and applicator shoe. The shoe width and sealer overbanding area shall vary from 3 inches to 12 inches depending upon the severity of the cracks. Where traffic requires immediate use of the pavement, a boiler slag aggregate shall be broadcast over the cracks to prevent sealer pickup.

All workmanship shall be of the highest quality and excess or spilled sealer shall be removed from the pavement by methods approved by the Manufacturer and discarded. Any workmanship resulting in work not considered to be accepted by the Awarding Authority will be corrected by the Contractor at no additional cost.

The Manufacturer's certificate of material compliance will be furnished to the Awarding Authority certifying conformance to the material specified.

Measurement for this bid unit shall be by the gallon and shall be the actual number of gallons of sealer applied to the pavement. Measurement should also be priced per day (8 hour day) (maximum 800 gallons). The crew size shall be the same whether a day rate or per gallon rate is quoted – generally a four-man crew. Payment shall be at the unit price bid in the proposal and shall be complete payment for the entire item including furnishing, preparation and placing of materials, labor and equipment to be used on this project.

The Contractor shall provide, in its invoice for work completed, a tabulation of material applied by street and amount. Failure by the Contractor to provide such a tabulation shall be cause for rejection of the invoice.

ITEM TWELVE: POLYMER-MODIFIED CRACK SEAL/HOT APPLIED ASPHALTIC FILLER

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, and vegetation removal and sterilization of cracks where necessary. The day rate quoted must be for a 5 man crew.

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

(a) The asphalt binder shall consist of a blend of neat asphalt binder and chemically modified crumb rubber (CMCR) that meets the following specifications:

- PG 64-28 or PG 70-28 after modification
- Viscosity of not more than 3PaS at 300 degrees F
- Modification at a minimum shall consist of 5% CMCR and the maximum particle size for the CMCR shall be 80 mesh (#80 sieve)
- The performance grade of the neat asphalt binder shall not exceed a PG 58-XX
- The asphalt supplier shall provide testing for the neat asphalt binder and modified asphalt binder in accordance with AASHTO M320

(b) Fiber reinforcing materials shall be short-length polyester fibers having the following properties:

Length*	0.25in.+0.02
Elongation at Break; ASTM D2256-90	38%
Melting Point; ASTM D3418-82	>475 degrees F (246 degrees C)
Crimps/Inc; ASTM D3937-90	None
Cross Section	Round
Denier; ASTM D1577-90	4.5 Nominal dpf
Tensile Strength; ASTM D2256-90	>70,000 psi
Diameter	0.0085 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

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.

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

Air Compressor: Air compressors shall be portable and 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.

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.

Melter: The unit used to melt or maintain 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 degrees 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 degrees F. and 550 degrees F. and must be capable of pumping an 8% fiber content blend.

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 degrees F. and 3,000 foot/second velocity to eliminate all vegetation, dirt, moisture and seeds. All debris removed from the cracks shall be removed from the pavement surface immediately by means of a power sweeper, hand or air broom.

(b) General: No crack sealant material shall be applied in wet cracks or where frost, snow or ice is present nor when ambient temperature is below 25 degrees F.

PREPARATION AND PLACEMENT OF SEALANT

(a) The asphalt-fiber compound shall be thoroughly mixed for a minimum of one hour before application can begin. Whenever material is added to the tank, sealing operations shall be suspended for 1 hour to allow for the minimum required mixing time. Minimum application temperature shall be 320 degrees 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 sealant from being picked up.

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 engineer in charge.

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").

Manufacturer's certificate of material compliance will be furnished to the Owner certifying conformance to the above material specifications.

Measurement for this bid unit shall be by the gallon and shall be the actual number of gallons of sealer applied to the pavement. Measurement should also be priced per day (8 hour day) (maximum 800 gallons). Payment shall be at the unit price bid in the proposal and shall be complete payment for the entire item including furnishing, preparation and placing of materials, labor and equipment to be used on this project.

The Contractor shall provide, in its invoice for work completed, a tabulation of material applied by street and amount. Failure by the Contractor to provide such a tabulation shall be cause for rejection of the invoice.

ITEM THIRTEEN: CHLORINATED RUBBER TRAFFIC LINE PAINTING

ITEM FOURTEEN: THERMOPLASTIC TRAFFIC LINE PAINTING

ITEM FIFTEEN: EPOXY TRAFFIC LINE PAINTING

These work items consist of furnishing materials and the application of Reflectorized Pavement Markings in accordance with the Federal Highway Administration Manual on Uniform Traffic Control Devices. The work shall be performed in accordance with Section 860 of the Standard Specifications. One contract will be awarded for each type of traffic line painting: Chlorinated Rubber, Thermoplastic, and Epoxy.

Quality Assurance

A. Traffic line paint materials shall meet Standard Specifications.
B. Certification from the manufacturer, stating that the materials supplied meet Standard Specifications prior to installation of the pavement requirements if so requested by the Awarding Authority
C. Paint materials shall be products of Manufacturers who have previously supplied traffic line paint for installation in the Commonwealth of Massachusetts.

Paint Materials - Traffic paint shall consist of a ready-mixed pigmented binder. When applied at a wet-film thickness of 15 mills, paint shall be suitable for application to traffic bearing surfaces such as Portland cement concrete, bituminous pavements, and plain or vitrified brick surfaces of streets, highways, bridges, tunnels and parking lots. Traffic paint shall consists of a combination of alkyd resin type modified with chlorinated rubber ready-mixed white and yellow traffic paints, for use on bituminous and Portland cement concrete pavements. These paints shall be reflectorized for night visibility by adding reflective spheres before the paint dries or sets, using the drop-on or pressurized methods.

Pigments - Except for the yellow pigment, the supplies may use any combination of pigments provided the finished paint meets all the requirements specified herein. Supplier may use any organic yellow pigment

provided it meets EPA Requirements. Sufficient suspending and dispersing agents shall be used to prevent excessive settling as specified herein.

Binder - The contractor may use any combination of ingredients except all oil resins provided the finished paint meets all requirements herein. Sufficient resin solids, compatible thinners and driers, if necessary, shall be used to meet the requirements of Table I.

Paint Requirements: The mixed paints shall meet the following requirements specified in Table I for white and yellow paints:

Table I
Requirements of Mixed Paints

Characteristics		Standards	Type I White and Yellow
Pigment, percent by weight			55-60
Nonvolatile vehicle, percent by weight of vehicle			40 Min.
Uncombined water, percent by weight of paint			1.0 Max.
Coarse particles and skins (retained on No. 325 sieve, 1/Percent by weight of pigment)			1.0 Max.
Consistency: Krebs Units			65-70 (Type I) 70-110 (Type II)
Weight per gallon, lbs.	White Yellow		11.7 Min. 12.0 Min.
Fineness of grind, Hegman			2.0 Min.
Contract ratio, dry			0.96 Min.
Directional reflectance:	White Yellow		84 Min. 50 Min.

Characteristics	Standards	Type I White and Yellow
Drying time, No pick-up, minutes (lab)	ASTM D711	30 Max.
Flexibility		No cracking or flaking
Bleeding Test	ASTM D868 and D969	5 Min.
Water Resistance		---
Skinning (48 hours)		None
Storage Stability	ASTM D1309	6 Min.

Color of Yellow Paint - The color of the dry paint film when compared visually shall essentially match Color No. 33538 of Federal Standard 595.

Glass Beads shall conform to M7.01.07 specification

The beads used for drop-on application shall also conform to the Mass Highway Department Specification M7.07.07. The beads used in the formulation shall be smooth, clear and free from air inclusions and scratches that might affect their function as a reflecting media.

Plastic Pavement Markings

Thermoplastic pavement marking material shall be pigmented, 125 mils thick, preformed, retro-reflective, composed of hydrocarbon resin, aggregates, pigments, binders and glass beads, conforming t AASHTO M 249-79, and meeting the requirements of the Manual on Uniform Traffic Control Devices for Streets and Highways. Lines, legends and symbols shall be capable of being affixed to bituminous or Portland Concrete pavements by the use of the normal heat of a propane type of torch. Colors shall be yellow or white as required by project.

Material shall be capable of conforming to pavement contours, breaks and faults through the action of traffic at normal pavement temperatures. It shall have resealing characteristics and shall be capable of fusing with previously applied thermoplastic markings when heated with the torch. Material shall be capable of being applied in temperatures down to 32 degrees Fahrenheit without any special storage, preheating or treatment before application. Graded Glass Beads shall be clear and transparent and shall be distributed throughout the entire cross sectional area. The material shall contain a minimum of 30% graded glass beads by weight with not more than 20% consisting of irregular fused spheroids, or silica. The index of refraction shall not be less than 1.50.

Pigments: White, similar to Federal Highway White, color number 17886. Yellow, similar to Federal Highway Yellow, color number 13655. Yellow pigment shall be of organic origin only. Both shall be as defined in Federal Standard 595.

Surface Preparation

Contractor shall clean the surface of the roadway before application of traffic lines or pavement markings. This shall provide a clean, dry roadway surface free of loose dirt and other debris, to the satisfaction of the engineer.

Surface cleaning for Cold Plastic Markings shall include as a last operation the use of compressed air or a fine bristled broom over the application area to provide a dust-free surface.

Equipment

Line painting machines shall be of the type that do not impeded traffic flow in adjacent lanes while painting centerlines. One lane shall remain open to traffic while painting edgelines. The equipment used shall be capable of simultaneous application of two parallel lines in either a solid or broken pattern in forming the centerline and be capable of automatic dispensing of glass beads onto the painted surface at the required application rate, by the pressurized glass gun method. Equipment shall be capable of providing paint lines in 4-inch, 6-inch, and 8-inch widths. Equipment used to apply centerlines and edgelines shall automatically measure the length of each line placed to the nearest foot. Legends shall be applied with equipment approved by the Owner's Representative, hand brushes or rollers are not permitted. Glass beads may be hand applied.

Liquid Paint Application

Paint shall be dispensed in a wet film thickness of 15, plus or minus 1 mils. The rate of application of paint on bituminous surface treatment roads may be 25% greater. The Owner's Representative will determine whether roadways require an increased application rate. Glass Beads shall be applied at a rate of six (6) pounds per gallon of paint. Painted traffic lines and markings shall not be placed when the ambient temperature is less than 40 degrees Fahrenheit.

Thermoplastic Pavement Marking Material Application

Asphalt: The materials shall be applied using the propane torch method recommended by the manufacturer, and shall be applied at ambient and road temperatures no less than 32 degrees Fahrenheit without any preheating of the pavement.

Portland Concrete: The same application procedure shall be used as for Asphalt, however, a compatible primer sealer may be applied before application, to assure proper adhesion.

Additional glass beads shall be applied on the surface after application of marking, if directed by the Owner's Representative.

Protection of Painted Surfaces

Wet line protection shall be provided for Crosswalks, stope bars, symbols, legends, centerlines, and lane lines applied with conventional paint. These shall be coned for a minimum of 30 minutes, or until the paint becomes track free from vehicular traffic.

The contractor shall provide in its invoice for line painting a completed tabulation of the linear footage of lines painted by street and amount. Failure to provide such a tabulation shall be cause for rejection of the invoice.

EPOXY

B. Epoxy Material

1. Composition.

The epoxy resin composition shall be specifically formulated for use as a pavement marking material and for hot-spray application at elevated temperatures. The type and amounts of epoxy resins and curing agents shall be at the option of the manufacturer, providing the other composition and physical requirements of this specification are met.

The epoxy marking material shall be two-component (Part A and Part B), 100% solids type system formulated and designed to provide a simple volumetric mixing ratio (e.g. two volumes of Part A to one volume of Part B).

The epoxy marking material shall be supplied as either a regular dry or a slow-dry material. Regular-dry may be used for all marking patterns. Slow-dry material is intended for marking hatchlines, edgelines, and other marking patterns located out of the general path of traffic.

All acceptances of uninstalled epoxy marking material shall expire six (6) months after the date of manufacture.

Part A of both white and yellow shall conform to the following requirements:

PERCENT BY WEIGHT OF PART A .

WHITE Pigment - 18 Minimum, Titanium Dioxide (ASTM D476, Type II) Epoxy Resin - 75 to 82

YELLOW Pigment - 18 Minimum, Titanium Dioxide (ASTM D476, Type II) 5 Minimum, Organic Yellow,

Epoxy Resin – 73 to 77

The entire pigment composition shall consist of either titanium dioxide or titanium dioxide and organic yellow. No extender pigments are permitted.

Yellow pigment shall be lead-free.

The epoxy content of the epoxy resin in Part A will be tested in accordance with ASTM D 1652 and calculated as the weight per epoxy equivalent (WPE) for both white and yellow. The epoxy content will be determined on a pigment free basis. The epoxy content (WPE) shall meet a target value provided by the manufacturer and approved by the

Department. A ±50 tolerance will be applied to the target value to establish the to acceptance range.

The amine value of Part B shall be tested in accordance with ASTM D2074(2) to determine its total amine value. The total amine shall meet a target value provided by the manufacturer and approved by the Department. A ±50 tolerance will be applied to the target value to establish the acceptance range. The manufacturer may specify an

alternate test method for determining the amine value subject to the approval of the Awarding Authority.

2. Physical Properties of Mixed Components (Part A and Part B).

Unless otherwise noted, all samples are to be prepared tested at an ambient temperature of 73 ± 3°F.

a. Color.

Yellowness Index (ASTM D-1925).

- cure 72 hours after sample preparation
- Take yellow index reading, XYZ C/2°, following 72 hour cure and preceding QUV
- Maximum index before QUV: 8.0
- Place sample in QUV for 72 hours
- Maximum index after QUV: 20

Typical White Standard	Typical Yellow Standard
X78.5	X52.7
Y81.1	Y48.1
Z90.4	Z7.67

b. Directional Reflectance.

The white epoxy composition (without glass spheres) shall have a daylight directional reflectance of not less than 84% relative to a magnesium oxide standard when tested in accordance with ASTM E1347.

The yellow epoxy composition (without glass spheres) shall have a daylight directional reflectance of not less than 55 % relative to a magnesium oxide standard when tested in accordance with ASTM E 1347.

c. Drying Time (Laboratory).

When tested in accordance with ASTM D711 as modified below, regular-dry epoxy marking material shall reach a no-pick-up time in 30 minutes or less. Under these same test conditions, slow-dry epoxy marking material shall reach a no-pick-up time in 60 minutes or less. A Bird Applicator or other suitable instrument shall be used to spread a nominal 15 ± 1 mil thick wet film. Reflective glass spheres shall be immediately dropped onto the epoxy film at a rate of 18 pounds per gallon.

d. Drying Time (Field).

When installed at 77°F at the specified wet film thickness and reflectorized with glass spheres, regular-dry and slow-dry epoxy markings shall reach a no-track condition in approximately 30 minutes, and 60 minutes, respectively.

Dry to "no-tracking" shall be considered as the condition where no visual deposition of the epoxy marking to the pavement surface is observed when viewed from a distance of 50 feet, after a passenger car is passed over the line.

e. Hardness.

The epoxy composition when tested in accordance with ASTM D2240 shall have a Shore D hardness of between 75 and 100. Samples shall be allowed to cure for not less than 72 hours nor more than 96 hours prior to testing.

f. Infrared Spectrophotometer Analysis (ASTM D2621).

Samples of Part A and Part B shall be analyzed by infrared spectrography. The spectrum of each component shall be a reasonable match to the spectrum of the original formulation accepted by the Awarding Authority.

Reflective Glass Spheres.

Reflective glass spheres for drop-on application shall conform to the following requirements:

The glass spheres shall be colorless, clean, transparent, free from milkiness or excessive air bubbles, and essentially clean from surface scarring or scratching. They shall be spherical in shape and at least 80 % of the glass beads shall be true spheres when tested in accordance with ASTM is D-1155, Procedure A. The refractive index of the spheres shall be a minimum of 1.5 as determined by the liquid immersion method at 77°F.

The silica content of the glass spheres shall not be less than 60 % .

The glass spheres shall have the following gradation when tested in accordance with ASTM D-1214.

DOUBLE DROP METHOD

TYPE I		TYPE II	
Sieve Opening	% Retained	Sieve Opening	% Retained
No. 10	0	No. 20	0 - 5
No. 12	0 - 5	No. 30	5 - 20
No. 14	5 - 20	No. 50	30 - 50
No. 16	40 - 80	No. 80	9 - 32
No. 18	10 - 40	No. 100	0 - 5
No. 20	0 - 5	Pan	0 - 2
Pan	0 – 2		

The glass spheres, Type I, shall be coated with a silane-type adherence coating to enhance embedding in and adherence to the applied binder film. The coated beads shall emit a yellow-green fluorescence when tested by the Danayl Chloride test procedure. The Type II glass spheres shall be treated with a moisture-proof coating. The beads shall show no tendency to adsorb moisture in storage and shall remain free of clusters and lumps. The beads shall flow freely from the dispensing equipment at any time when surface and atmospheric conditions are satisfactory for marking operations. The moisture-resistance of the glass spheres shall be determined on the basis of the following test:

Place one kilogram of spheres in a washed cotton bag having a thread count of approximately 52 per square inch (warp and woof) and immerse the bag in a container of water for 30 seconds. Remove the bag and force excess water from the sample by squeezing the bag. Suspend and allow to drain for two hours at room temperature (73 ± 2°F). Then mix the sample in the bag by shaking thoroughly. Pour the sample slowly into a clean, dry glass funnel having a stem 4 inches in length, with a 0.4 inch inside diameter stem entrance opening and a minimum exit opening of 0.25 inches. The entire sample shall flow freely through the funnel without stoppage. When first introduced into the funnel, if the spheres clog, it is permissible to lightly tap the funnel to initiate the flow.

Reflective glass spheres may be accepted at the job site on the basis of the manufacturer's certification, or they may be submitted to the Research and Materials Laboratory for testing.

D. Packaging and Shipment.

Epoxy pavement marking materials shall be shipped to the job site in strong, substantial containers. Individual containers shall be plainly marked with the following information:

1. Name of Product
2. Item Number
3. Lot Number
4. Batch Number
5. Test Number
6. Date of Manufacture
7. Date of Expiration of Acceptance (6 months from date of manufacture)
8. The Statement (as appropriate): "Part A - Contains Pigment and Epoxy Resin," or "Part B - Contains Catalyst"
9. Quantity
10. Mixing Proportions, Application Temperature and Instructions
11. Safety Information
12. Manufacturer's Name and Address

Reflective glass spheres shall be shipped in moisture resistant bags. Each bag shall be marked with the name and address of the manufacturer and the name and net weight of the material.

EQUIPMENT AND APPLICATION REQUIREMENTS

STRIPING EQUIPMENT

The equipment shall have a system capable of spraying the epoxy paint in the manufacturer's recommended proportions and be mounted on a truck of sufficient size and stability, and with an adequate power source to produce lines of uniform dimension and prevent application failure. It shall be capable of placing stripes on the left and right

sides and of placing two intermittent lines simultaneously. It shall also be capable of applying glass beads at the rate of 25 pounds per gallon. All guns must be in full view of the operator at all times. The equipment shall be provided with a metering device to register the accumulated installed footage for each gun each day. Each vehicle shall

include at least one operator who shall be a technical expert in equipment operations and epoxy application techniques.

Equipment shall have such a design that the pressure gauges for each proportioning pump are constantly visible to the operator at all times during its operation so that any fluctuation and pressure difference can be addressed immediately.

SURFACE PREPARATION

The pavement surface on which the epoxy paint material is placed shall be clean and dry. Existing traffic markings shall be removed by blasting or grinding. The curing compound on Portland cement concrete shall also be removed. Existing markings shall be removed so that at least 95% of the underlying pavement is visible. The abrasive

material shall be removed from the pavement surface before the pavement is opened to uncontrolled traffic flow.

APPLICATION

1. Epoxy

The epoxy paint markings shall have a thickness of 25 mils ± 1 mil, calculated without drop-on glass beads. All markings shall have uniform thickness with a uniform distribution of` glass beads throughout the line width. The width of lines shall be as specified with a tolerance of 0.25 inches. Markings shall ave sharp edges and cutoff at the ends.

2. Glass Beads

The glass beads shall be applied by the double drop method, which requires that Type I and Type II reflective glass spheres be injected into or dropped onto the liquid epoxy marking. Each type shall be applied simultaneously, at a minimum rate of 10 to 13 pounds per gallon of resin with a minimum total application of 25 pounds per gallon. Type I beads shall be applied first, immediately followed by Type II beads. The beads shall adhere to the cured epoxy or all marking operations shall cease until corrections are made.

3. Temperature Limitations

During marking operations, the pavement surface where the epoxy is to be placed shall have a minimum temperature of 40° F and the air temperature shall be at least 35° F. The pavement surface and air temperatures shall be determined at the start of each day of marking operation and at any time deemed necessary by the Awarding Authority. The spraying temperatures shall be in accordance with the manufacturer’s recommendations.

4. Application Rates

Application rates will be checked by the Awarding Authority at convenient intervals by comparing tallies of materials used to the length of lines placed. For initial application and occasionally during the course of work, the

Awarding Authority may also check application to a pre-weighed sheet specifically placed for test purposes. Drop-on spheres shall not be applied in this test.

5. Protecting Newly installed Markings

Newly installed markings shall be protected from tracking during the setting period by one or more of the following methods:

1) Cone off wet lines from traffic

2) Use a convoy of moving vehicles to prevent traffic from crossing wet lines

3) Saturate lines with glass beads to prevent tracking.

ITEM SIXTEEN: GUARD RAIL INSTALLATION

The Steel Beam Guard Rail, Type SS, Single Faced, Galvanized shall conform to Section

M 8.07.0 of The Standard Specifications. Demountable Reflectorized Delineators, 1-WH (HI-4) shall conform to Section M 9.30.7 of The Standard Specifications. Guard rail denoted as "rust" means Low-Alloy Steel Guard Rail, Cold-Rolled, with Improved Atmospheric Corrosion Resistance- Type 4- meeting the specifications of AASHTO-M222 and the Standard Specifications. Installation of all guard rail shall conform to Section 601 of The Standard Specifications. The Contractor shall provide in its invoice a tabulation of the length of guard rail installed by street and the number of terminal sections. Failure of the Contractor to provide such a tabulation shall be cause for rejection of the invoice.

ITEM SEVENTEEN: STRUCTURE WORK

This work is unrelated to pavement reclamation and in-place bituminous concrete. Bidders can differentiate pricing between the cost per structure for 1-5 structures, 6-10 structures, 11-20 structures and more than 20 structures to assist in taking into account the costs of mobilizing for small jobs. Lowest bid will be determined by calculating the average cost of each of the eight categories of work. The bidder with the lowest average price will be deemed to be low bidder. This is as described in DETERMINATION OF LOWEST BID in the INSTRUCTIONS TO BIDDERS at the beginning of this document.

Contractor shall remove and store all castings from structures and gate boxes within the work area. Masonry shall be removed as required to allow for the placement of a steel plate over each structure said plate being at least 150 millimeters below the proposed finished grade of the reclaimed roadway. Following pulverization and compaction, Contractor will raise and replace all castings from structures and gate boxes within the work area. If a gate box top is damaged during reclamation, the Awarding Authority will provide a new top which the Contractor will use to replace the damaged top.

Work on structures that are adjusted, rebuilt or remodeled shall conform to Section 220 of The Standard Specifications. When the line or grade or both the line and grade of the structure changes by 150 millimeters or less, the structure shall be **adjusted** to line and grade. Prior to placing any pavement, all structures except those

under the cognizance of the Electric, Gas and Telephone Companies shall be raised so as to be flush with the proposed finished roadway grades. Municipalities that have not specified the number of structure adjustments next to their quantities will raise their own structures. Structures shall be adjusted to proper line and grade and firmly fixed in place with Portland Cement mortar and brick. Payment for structure adjustments will be made per structure.

When the line or grade or both the line and grade of the structure changes more than 150 millimeters, the structure shall be **remodeled**. When the Awarding Authority determines that a structure shall be remodeled, the sloped masonry and the vertical masonry shall be removed to such depths as directed by the Awarding Authority and new masonry constructed to conform to the proposed design and in conformity with Section 201 of The Standard Specifications. The casting shall be set to line and grade with a concrete collar and surfaced with a minimum of two inches of Class I bituminous concrete top course. Payment will be made per structure for remodeled structures and will include the cost of the concrete collar. We do not want the whole structure backfilled with concrete collar.

When the Awarding Authority determines that the masonry shows deterioration a structure shall be **rebuilt**, all of the casting and masonry shall be removed in a neat manner until a clean sound base is obtained upon which concrete blocks and clay bricks may be set to rebuild the structure. Gravel borrow will be furnished for backfill where required when excavated material is unsuitable. The casting shall be set to line and grade with a concrete collar and surfaced with a minimum of two inches of Class I Bituminous Concrete Top Course as directed by the Awarding Authority. Payment for rebuilt structures will be per vertical foot and will include the cost of the concrete collar and any required adjustments. No additional charges for adjustments will be allowed.

ITEM EIGHTEEN: SUB-DRAIN INSTALLATION

The construction of sub-drains will be per Mass. Standard Construction details and the standard pipe size is 6 inches. This work shall consist of the installation of sub-drains including the furnishing, laying, jointing and installation of the slotted polyethylene pipe including sawcutting, excavations, stone, refill and compaction, and all appurtenant work per linear foot pipe complete in place and as specified in conformance with Section 260 of The Standard Specifications. This Item of Work may include placing bituminous concrete asphalt on the compacted surface of the trench following installation of the sub-drain in which case the Contractor will be paid on a per ton basis. The construction of sub-drains will be per Mass. Standard Construction details and the standard pipe size is 6”.

ITEM NINETEEN: CLEAN CATCH BASINS

The work to be done under this contract shall consist of removing the accumulated dirt, refuse and other debris from each catch basin, the gutter mouth of curb inlets, and properly disposing of the materials removed. Drain manholes are considered catch basis in this contract.

That contractor shall in each case remove the grate, clean the catch basin, including scraping sides of the basin, to the satisfaction of the Commissioner of Public Works or his/her designee, and carefully replace the grate. The catch basin shall be considered clean when remaining material in the catch basin is not more than four inches in depth, if leveled.

Each municipality shall make available to the Contractor Work Route maps showing the sequence in which the contractor will proceed in cleaning the catch basins. The Contractor shall provide to the Public Works/Highway department on a regular basis a report in an electronic Excel format containing the location and number of catch basins cleaned during the period, estimated quantity of material removed and the total number of catch basins cleaned to date.

If a municipality elects to accept the material removed from the catch basins under this contract, municipality will provide site within municipal limits for stockpile of the material.

If a municipality elects to accept off-site disposal the contractor will be allowed to stockpile the material removed at a designated location within municipal limits for a period no greater than 60 calendar days from the date the material was removed from the catch basins. Municipalities will provide a loader and operator to load material into contractor vehicles.

Disposal of the material shall be in accordance with the Massachusetts Department of Environmental Protection (DEP) regulations and policies.

The Contractor will notify the Department of Public Works in writing of the location of the DEP approved dumpsite for the disposal of the material. This notification shall be included with the submitted bid.

Many landfills may require testing and analysis of the material prior to accepting it for disposal at the facility. The contractor shall include the cost of such testing and analysis in the submitted bid.

The material will be paid for per catch basin for removal and disposal of material, which price shall include the cost of delivery and disposal at an approved landfill, disposal facility or recycling facility, the costs for approvals, permits, testing, transportation and other incidental expenses.

The contractor is to provide appropriate number of trailers for the transportation of the material to the disposal site.

Each catch basin is to be thoroughly cleaned of sand, silt and debris from the lower portion of the basin (i.e. basin stump) by mechanical means or hand labor. Jetting or rodding may be required to loosen debris materials to assure complete removal.

The Contractor is to remove the basin grate, thoroughly clean the catch basin and reset the grate prior to leaving the basin. It is anticipated that clam trucks, not Vac Trucks, will be utilized for this contract award.

The Contractor shall notify the Superintendent of any broken grates or frames, undermined basins, plugged or broken pipe connections, contaminated debris found in the catch basin or any suspicious pipe inlets observed during the cleaning operations. Any deficiencies shall be noted in an Excel report. IF a basin does not have a sump it shall be noted in the report.

During the operation, care shall be taken by the Contractor not to damage grate, frame, catch basin, pipe, or curbing. If damage is caused by the negligence of the Contractor the damaged parts shall be satisfactorily repaired or replaced at the Contractor’s expense.

The material removed from the catch basins shall be transported immediately to the approved disposal area n trucks that will not spill or leak the material along the roadway. Any material falling on the roadway shall be noted in the report.

Each catch basin satisfactorily cleaned will be measured as a complete unit. Basins not satisfactorily cleaned will be brought to the Contractor's attention and re-cleaned at no additional cost.

A basin which cannot be cleaned due to a structural defect or absence of a sump will not be measured for payment. The Contractor shall mark the top of the catch basin with paint after it has been cleaned.

All measured catch basins will be paid for at the contract unit price. This price shall include all equipment, fuel, tools, transportation, and labor incidental to the completion of the removal and safe disposal of the material in accordance with the provisions of these specifications.

ITEM TWENTY: CLEAN CATCH BASINS AND MEASURE SUMPS

Clean as defined in above item Twenty and while cleaning also measure as follows: Using Contractor Work Route maps provided by the municipality, or other data reporting tool specified by the municipality, measure sump depth (depth from lowest invert to basin structure bottom) and sediment depth for each catch basin. Submit data for all catch basins to awarding authority to complete work and receive payment.

ITEM TWENTY-ONE: TUB GRINDING

Contractor shall provide an operator and tub grinder with a minimum 400 horsepower engine which shall be capable of processing materials at the following minimum outputs:

Brush (branches, tree limbs)	150 cubic yards per hour
Yard waste (grass, leaves, twigs)	80 cubic yards per hour
Stumps (up to 6' root ball)	50 cubic yards per hour
Logs (up to 30" diameter)	150 cubic yards per hour

The tub grinder shall be loaded by the Contractor and the cost per hour must include loading and use of either a knuckle boom, grapple, clamshell or bucket type loader.

One hour of work shall consist of no more than five (5) minutes of down time. Accumulated down time shall not exceed forty minutes. The hourly charge must include all transportation to and setup of the equipment at the site in the municipality.

The Contractor will be guaranteed a day's minimum (eight hours of grinding) for each call for service. The ground material shall become the property of the municipality unless Awarding Authority gives permission for contractor to haul away at contractor's cost.

ITEM TWENTY-TWO: LOAM, COMPOST AND GRAVEL SCREENING

This work item is for hourly rental of star or trommel screening equipment with a 3/4" (three-quarter inch) screen capable of screening compost and loam and for loading. The hourly rate will include all costs to operate the equipment, use of the equipment and the machine operator.

ITEM TWENTY-THREE: MEDIUM CLASS EXCAVATOR SERVICES

ITEM TWENTY-FOUR: GRAD-ALL SERVICES

These work items are to provide an excavator of the approximate size of a 315 CAT Excavator or Grad-all G-880 or its equal to conduct excavation operations. These items provide a method to supplement the excavation requirements of the Towns or assigned scope of services under other items. Work to include but not limited to the installation and construction of drainage infrastructure. Because some of this work will vary in size and complexity, this item will allow the Towns to contract for the construction of these devices and systems by the hour. The hourly rate will include all costs to operate the equipment, use of the equipment and the machine operator.

The Awarding Authority shall sign a written statement verifying the mileage and hours rented at the end of each day for rented equipment to be eligible for payment. Documentation received other than as specified will not be accepted.

ITEM TWENTY-FIVE: CAT EXCAVATOR W/OPERATOR, LABOR FOREMAN, AND LABORERS

It is the awarding authority's intention to have a unit price for a labor crew and machine that can be utilized to work on projects as assigned. Such project examples would be as follows:

Emergency water/sewer repairs and servicing.

Small water, sewer, drainage, utilities and right of way repairs, maintenance and/or extensions.

It is a requirement that the following items are included for this unit price bid item:

Excavator Cat 315 or equivalent size excavator with operator

Labor/Foreman, Qty (1)

Ability to read blueprints, provide general supervision to other personnel as assigned.

Foreman must have working-knowledge of all aspects of water, drainage, sewer and general roadway repairs and general upgrades.

Foreman must have a minimum of 10 years documented experience in a supervisory capacity.

Must have tool truck capable of holding the following tools: Necessary general tools and miscellaneous equipment generally consisting of shovels, rakes, wrenches and all other hand tools generally used in conjunction with this type of work. Additionally, plate compactor, cut off saw, levels, 2-inch dewater electric pump and hose, and gas generator.

Laborer Qty (2)

Shall be required to perform all aspects of general labor and be familiar with right of way construction means, methods and work types.

The Awarding Authority shall sign a written statement verifying the mileage and hours rented at the end of each day for rented equipment to be eligible for payment. Documentation other than specified will not be accepted.

ITEM TWENTY-SIX: SNOW HAULING, DUMP TRUCK W/OPERATOR

This service item provides a 6-wheel dump truck with a gross vehicle weight (GVW) greater than 24,000, or equal, with a fully licensed and insured operator. Work to include but not limited to receiving load, transporting, delivering as requested by municipality. Because some of this work will vary in size and complexity, this item will allow the Towns to contract by the hour. The hourly rate will include all costs to operate the equipment, use of the equipment and the machine operator.

The Awarding Authority shall sign a written statement verifying the mileage and hours rented at the end of each day for rented equipment to be eligible for payment. Documentation received other than as specified will not be accepted.

NOTICE OF STORM

The contracting municipality will notify contractors four (4) hours before they are to be report to the designated public works garage. Those contractors who may have operators living out of Town and needing more time to report will notify the relevant Public Works Department so arrangements can be made to allow for additional time. If special phone numbers are needed, they shall be supplied to the relevant public works department. Contractors are to furnish a reliable telephone number where they can be reached 24 hours a day.

Condition of Equipment

All equipment is required to have adequate traction or be so constructed that adding more ballast will permit this; otherwise, chains will be required. The municipality will supply each truck with sufficient ballast, which will be returned at the end of each storm.

The equipment shall be in good repair and equipped with all federal and state required safety devices, lights, symbols, etc. visible to the traveling public from both front and rear of vehicle, in order that accidents may be prevented, as the equipment may perform work on highways, before and after full daylight hours and in poor visibility conditions.

Contractors may be required to display their equipment for inspection and approval by the municipality in order to confirm that it conforms to the bid specifications, that it displays a valid inspection sticker, and that the plow and other attachments are in working order. All plows are subject to the approval of the Superintendent or his assistance.

Breakdowns

In the event that any equipment breaks down while plowing and total breakdown time does not exceed one half (1/2) hour, the contractor will not lose any time. In the case of any breakdown exceeding one half (1/2), the contractor will cease to be paid until the equipment has been repaired. If any mechanical defects or breakdowns occur while plowing, the contractors will be allowed to use the Public Works Garage if space is available to make repairs.

Operators

All operators of snow removal-hauling equipment must be experienced and have proper licenses for the particular piece of equipment. Motor Vehicle Operator must have print out of driving record from the Department of Motor Vehicles on file with the contracted municipality.

It is understood and agreed that the employees of said contractor, if found by the contracted municipality's Department of Public Works to be unfit for any reason for work herein provided, shall be removed by said contractor at the municipality's request and other competent and licensed employees furnished forthwith. No payment will be allowed during the interval; and if the contractor the contractor does not replace such employees promptly, the obligation of the municipality to continue the use of the equipment shall terminate.

The contractor and its employees shall not be deemed to be employees of the municipality for any purpose. The contractor shall hold harmless for all claims and damages resulting from the negligence of the contractor in the performance of the contract, and the contractor shall defend any such claims and pay all attorneys' fees.

Accessories & Insurance

The contractor shall provide statutory Worker's Compensation Insurance for all labor employed on the contract that may come within the protection of such laws. Evidence of an existing worker's compensation policy must be provided in accordance with MGL C 152 § 25c before this contract may be considered valid.

- Contractor's Insurance MUST provide the contracted municipality with a copy of Insurance certificates documenting amounts of coverage for Snow Plowing Operations with the Town named as additionally insured. Insurance must remain in effect for the duration of the snow plowing season, Operators will not be allowed to plow without insurance.
- Public Liability and Property Damage Liability Insurance, $1,000,000/$2,000,000
- Comprehensive Vehicle Liability and Property Damage Insurance; $1,000,000/$2,000,000
- Statutory Worker's Compensation Insurance certificates must be provided for Sole Proprietors as well as all employees. Evidence of existing workers' compensation insurance policy must be provided in accordance with MGL Ch. 152, Section 25C and attached.

The contractor must notify the Town if the vehicle registration is due to expire 10 days prior to expiration. New registration and insurance must be supplied to the municipality.

Rate per hour

Rate to be per hour, no premiums to be paid for overtime, nights, Sundays or holidays. Time will commence when the unit has reported to the municipality, equipped and ready for assignment. In the case of snow removal from roofs the crews will report to the municipality's facilities director at a location designated by the facilities director. Allowance of one-half (1/2) hour will be given for each unit that provides its own plow and arrives at the garage with the plow mounted. No compensated time will be allowed for travel, standby or meals. Contractors will notify the Public Works office when they are taking breaks or meal time, if no notification has been made then one half (1/2) hour will be deducted from each eight (8) hour accumulation or part thereof. Twenty-two and one half (22 ½) hours is to be the maximum chargeable time in any one calendar day or consecutive period. All equipment

called in for use will be paid for the actual hours worked (breakdowns excepted) computed to the nearest quarter (1/4) hour.

Gasoline or Diesel Fuel

The municipality **WILL NOT** furnish any fuel, and owners must make provisions to supply fuel for their equipment while working for the municipality.

ITEM TWENTY-SEVEN: SHOVEL SNOW OFF FLAT ROOVES

The work provided for in these specifications shall consist of furnishing all labor, materials, and equipment, and performing all work necessary to accomplish removal of snow from Town and School buildings as directed by the municipality. Contractors must follow the Safety Requirements Removing Snow from Rooftops on the Municipal and State Property issued by the Commonwealth of Massachusetts, a copy of which is included here as Attachment 2.

Snow Removal from School and Town Buildings

The work provided for in these specifications shall consist of furnishing all labor, materials, and equipment; and performing all work necessary to accomplish removal of snow from Town and School buildings as directed by the Facilities Director, or his /her designated agent.

Municipalities require contractor to follow the Safety Requirements Removing Snow from Rooftops on Municipal and State Property issued by The Commonwealth of Massachusetts. Included here as Attachment 2.

ITEM TWENTY-EIGHT: SIDEWALKS AND SETTING OF CURBS

All work under this item must conform to the most current version of the Massachusetts Highway Department Standard Specifications for Highways and Bridges, unless otherwise stated for the construction and reconstruction of sidewalks. This item includes excavation, processed gravel, installation of concrete sidewalks and wheelchair ramps, installation of bituminous concrete sidewalks and wheelchair ramps, furnishing and installation of granite curbs and edging, and the removal and resetting of curbs and edges, as well as loaming and seeding at the end of work.

The bid price shall include all labor, materials, equipment and incidental costs required to complete the work for constructing or reconstructing sidewalks, as estimated by the square yard, and for setting or re-setting of curbs and edging as estimated by the linear foot and piece.

Excavation work shall be in conformance with Section 120, sidewalk installation and shall be performed in conformance with Section 701, installation of granite curbs and edging with Section 501, and removal and resetting of curbs and edging with Section 580 of The Standard Specifications.

For this item, each municipality's total will be added up separately to determine the lowest bidder for each city/town based on its particular combination of sub-items needed. This is as described in DETERMINATION OF LOWEST BID in the INSTRUCTIONS TO BIDDERS.

Contractor shall be responsible for the general clean-up from the site. Contractor shall remove and dispose of, in an approved manner at the Contractor's own expense, all temporary structures and all surplus material and rubbish which the Contractor may have accumulated during the prosecution of the work and shall leave the area in a neat and orderly condition. This is distinct from incidental Sawcutting clean-up, which is a separate payment item. Materials from all classes of excavation which are unsuitable and any surplus of suitable materials remaining after completion of the formation of embankments, shoulders, approaches, widening of roadway or embankment slopes will be considered waste and shall be removed from the site by the Contractor at the Contractor's expense.

SIDEWALK MEASUREMENTS, CEMENT

CEMENT CONCRETE SIDEWALK, SQUARE YARD

CEMENT CONCRETE SIDEWALK AT DRIVEWAYS, SQUARE YARD

CEMENT CONCRETE WHEELCHAIR RAMP, SQUARE YARD

ADDITIONAL UNCLASSIFIED EXCAVATION, CUBIC YARD

All sidewalks except those at driveways and wheelchair ramps shall be constructed as follows:
Surface: 4" Cement Concrete (4000 PSI, ¾", 610) with fiber mesh added
Subbase: 8" Gravel Borrow (Type "B")

Sidewalks at driveways and wheelchair ramps shall be constructed as follows:
Surface: 6" Cement Concrete (4000 PSI, ¾", 610) with fiber mesh added
Subbase: 8" Gravel Borrow (Type "B")

All wheelchair ramps shall be constructed with fiber mesh added and in accordance with the MHD's Revised Wheelchair Ramp Standards the latest supplements and addendum thereto.

Sidewalk excavation shall be included in the bid price per square yard. No separate payment will be made under this item.

Encountered various utility service gate boxes that require adjustment, and miscellaneous signs, mail box, parking meter and light posts that require removal and resetting shall be included in the bid price. No separate payment will be made under this item.

If parking meter or mail box or light posts are deemed to be not reusable by the Town/City, new posts will be supplied at no cost to the Contractor.

If deemed necessary by the Town/City to excavate below 8" from bottom of sidewalk, or more than two feet wider than the finished sidewalk width, the extra excavation will be paid for separately under Item Unclassified Excavation.

When materials directly under the sidewalk are found to be acceptable by the Town/City this material can be approved to remain in place.

Payment for this work shall be made at the Contract unit bid price per square yard and shall include full compensation furnishing all labor, materials and equipment, sidewalk excavation, preparation of sub-base, gravel borrow Type "B" if required, fine grading and compaction, forming, furnishing and placing of 4000 PSI cement concrete, expansion joint, loaming and seeding, and any other incidental items necessary for the satisfactory completion of this work as specified.

SIDEWALK MEASUREMENT, HOT MIX ASPHALT

HOT MIX ASPHALT WALK SURFACE AND DRIVEWAY, PER SQUARE YARD

Work under these items shall conform to the relevant provisions of Section 701 of the most current Massachusetts Highway Department Standard Specifications for Highways & Bridges, the latest supplements and addendum thereto, unless otherwise stated for the construction and reconstruction of sidewalks.

Sidewalk excavation shall be included in the bid price. No separate payment will be made under this item.

If deemed necessary by the Town/City to excavate below 8" from bottom of sidewalk, or more than two feet wider than the finished sidewalk width, the extra excavation will be paid for separately under Item Unclassified Excavation.

The contractor may utilize Superpave mixes as specified in the special conditions under paving items 5 for hot mix asphalt and 6 for Superpave hot mix asphalt in this IFB.

Encountered various utility service gate boxes that require adjustment, and miscellaneous signs, mail box, parking meter and light posts that require removal and resetting shall be included in the bid price. No separate payment will be made under this item.

Hot Mix Asphalt installation shall be as follow or as otherwise directed:

Sidewalk and **Driveway**

1 ½" Top Course over

1 ½" Binder Course Material

Payment for this work shall be made at the Contract unit bid price per square yard and shall include full compensation for furnishing all labor, materials and equipment, sidewalk excavation, preparation of sub-base, gravel borrow Type "B" if required, fine grading and compaction, forming, furnishing and placing of hot mix asphalt, and any other incidental items necessary for the satisfactory completion of this work as specified.

SETTING OF CURBS AND EDGING

If an item reads "Installation" or "furnish & install" it means the bid includes the cost of all materials. If an item indicates "Install" only, the municipality will provide that material.

Sawcutting of the bituminous concrete roadway is required prior to installing of granite curbs, curb corners or edging. Payment for this incidental sawcutting is included in the per unit price for the installation of the granite curbs, curb corners or edging. All installations of granite curbs, curb corners or edging will be set in concrete with the finish elevation of the concrete to binder grade front and back. If granite curbs, corners, inlets or edging of different quarries is used on the same project, curbing of each particular quarry shall be segregated and set to give a uniform appearance. All granite curb and edging will conform to M 9.04.0 of The Standard Specifications.

Payment for this work shall be made at the Contract unit bid price per linear foot and shall include full compensation for furnishing all labor, materials and equipment, excavation, preparation of sub-base, gravel

borrow Type "B" if required, fine grading and compaction, forming, and any other incidental items necessary for the satisfactory completion of this work as specified.

DRAIN CONSTRUCTION AND RECONSTRUCTION WITH SIDEWALKS/CURB

When drainage construction or reconstruction is integral to a Sidewalk and/or Curb project, it will be done per Mass. Standard Construction details and the pipe size will be as specified by the awarding authority up to a maximum of 12". This work shall consist of the installation, conversion or reconstruction of drains including the laying, jointing and installation of the pipe including sawcutting, excavations, stone, refill and compaction, and all appurtenant work per linear foot pipe complete in place and as specified in conformance with Section 260 of The Standard Specifications.

Payment for this work shall be made at the Contract unit bid price per linear foot and shall include full compensation for furnishing all labor, materials and equipment, excavation, preparation of sub-base, gravel borrow Type "B" if required, fine grading and compaction, forming, and any other incidental items necessary for the satisfactory completion of this work as specified.

STRUCTURE WORK WITH SIDEWALKS/CURB

When structure work is integral to a Sidewalk/Curb project, the work shall conform to Section 220 of The Standard Specifications.

When the line or grade or both the line and grade of the structure changes by 150 millimeters or less, the structure shall be **adjusted** to line and grade. Prior to placing any pavement, all structures except those under the cognizance of the Electric, Gas and Telephone Companies shall be raised so as to be flush with the proposed finished roadway grades. Municipalities that have not specified the number of structure adjustments next to their quantities will raise their own structures. Structures shall be adjusted to proper line and grade and firmly fixed in place with Portland Cement mortar and brick. Payment for structure adjustments will be made per structure.

When the Awarding Authority determines that the masonry shows deterioration, or the line and grade of the structure changes by more than 150 millimeters, a structure shall be **rebuilt.** All castings and masonry shall be removed in a neat manner until a clean sound base is obtained upon which concrete blocks and clay bricks may be set to rebuild the structure. Gravel borrow will be furnished for backfill where required when excavated material is unsuitable. The casting shall be set to line and grade with a concrete collar and surfaced as directed by the Awarding Authority. Payment for rebuilt structures will be per vertical foot and will include the cost of the concrete collar and any required adjustments. No additional charges for adjustments will be allowed.

If a utility box top is damaged during excavation, the Awarding Authority will provide a new box, which the Contractor will use to replace the damaged box.

ITEMS TWENTY-NINE and THIRTY: TREE REMOVAL AND/OR TREE TRIMMING

These items provide tree trimming and removal services to supplement municipalities' own capacity. Because this work will vary in size and complexity, two separate items are specified as follows: Number Twenty-Nine provides standard tree trimming and removal with at least three (3) pieces of equipment present on the job site for a base price, with additional equipment pieces at an hourly rate. Number Thirty provides tree trimming and removal with at least four (4) pieces of equipment and more specific requirements.

Each service includes a four (4) hour minimum, and solicits two bid-prices: an hourly rate for the number of equipment pieces specified, and an additional hourly price for each additional equipment-piece with laborer required for the job.

The Tree Warden, Town Engineer, or another person representing an Awarding Authority will provide to the Contractor a list of trees to be trimmed and/or removed at least one week before work is scheduled to occur.

By submitting a signed bid for items Twenty-Nine or Thirty, the contractor **authorizes** the company has the following qualifications and meets these requirements:

1. Has been in business for a minimum of five (5) years
2. Has been actively engaged for at least five (5) years in hazard tree pruning and removal services for municipalities
3. Maintains all vehicles with proper registration, current inspection stickers and appropriate insurance coverage
4. Is in possession of an Electrical Hazardous Awareness (EHAP) certification, which will be provided to Awarding Authorities upon request
5. Is in possession of an OSHA 10 Certification for every employee employed of the Contractor, and will provide it to Awarding Authorities upon request
6. Will provide a Safety Manual to awarding authorities upon request. This manual must include an Electrical Hazardous Awareness (EHAP) certification
7. Employs crew supervisors with a minimum of 5 years documented experience in a supervisory capacity
8. Employs at all times at least one employee who holds and maintains a Massachusetts Certified Arborist Certification (MCA)
9. Employs at all times at least one employee who holds a maintains a Certified Tree Care Safety Professional Certification (CTSP)
10. The Contractor shall abide by all Local, State, Federal, OSHA and EPA safety standards and regulations set for employees and equipment
11. Complies with a federal regulation effective 1/1/1996 requiring employers to establish a drug and alcohol compliance program for all CDL employees
12. Shall perform all activities under this contract to both the most current ANSI A300 Standards and the most current ANSI Z133.1 Standards
13. In accordance with MGL Chapter 149, section 26-27H, the employer maintains a true and accurate record of all person employed on the public works project for which Prevailing Wage Rates have been provided. The Contractor will submit copies of their, and of any Sub-Contractor, payroll records to Awarding Authorities. These will be submitted weekly with each invoice, and will include certification of OSHA 10 with certified payrolls
14. Any contract resulting from this bid shall not be, in whole or in part, sub-contracted, assigned or otherwise transferred to any other Contractor without prior written approval by the Awarding Authority
15. Contractor shall be directly responsible for any sub-contractor's performance and work quality when used to carry out any part of the work

The unit price provides a labor crew and machines for this work on projects as assigned. The unit price for Additional Equipment pieces includes laborer and equipment.

BASIC SERVICE REQUIREMENTS

The Awarding Authority Tree Warden or Engineer, or representative, will identify Trees to be trimmed or removed.

Tree trimming shall include removal of all branches and limbs. At the completion of work, the surrounding area shall be raked and broom-swept clean of all incidental debris immediately after the trimming process.

Tree removal shall include removal of all branches, limbs and butts. At the completion of work, each stump shall be left at a height not to exceed the top of the root flare. The area surrounding the removed tree shall be raked and broom swept clean of all incidental debris immediately after the removal process.

All employees shall wear a Hi-Visibility shirt, vest and/or jacket at all times when on the job.

All employees shall wear the necessary Personal Protective Equipment (PPE) at all times when on the job. Hard hats, eye and ear protection, long pants, work boots, and chaps -when working outside of the aerial bucket truck. Safety controls for traffic management must be provided by the Contractor to include but not limited to signage and cones for each jobsite. Contractors must follow the Manual of Uniform Traffic Control Device guidelines.

HOURS OF WORK

No heavy construction machinery may be operated on any part of this project earlier than 7:00 AM or after 7:00 PM on any day of the week. Only emergency repair work will be allowed outside of these hours of operation.

No heavy construction machinery may be operated on any part of this project on Sundays or Holidays without the advance written permission from the Engineer. This prohibition of work extends to Saturdays during any holiday weekend.

The minimum number of hours hired will be Four (4), with the hourly rate honored

ENVIRONMENTAL CONTROLS

All construction equipment shall be fitted with suitable muffling devices so that the noise from construction operation shall be properly controlled.

The Contractor shall control all dirt, dust, erosion and other related results of the work to the satisfaction of the Engineer.

INSPECTION OF WORK

For the purpose of observing work that affects their respective properties, the Engineer, any public agencies, and the utility companies shall be permitted access to the work, but all official orders and directives to the Contractor will be issued by the Engineer.

POLICE DETAILS

The Awarding Authority shall be responsible for the scheduling and payment of police details for all proposed work. The Contractor shall be responsible to coordinate with the Awarding Authority on all police detail requirements. The **Contractor** shall be responsible to notify the Police Department of a cancellation within 4 hours of the proposed scheduled start time or as required by the municipality. If the Contractor fails to notify the Police Department within the minimum time required to cancel a police detail, the Contractor shall credit all of the costs to the Awarding Authority associated with paying the police detail.

ITEM TWENTY-NINE: STANDARD TREE REMOVAL AND/OR TRIMMING

Bidders for this item must have a minimum of THREE (3) of the following equipment pieces for standard work, as determined by agreement between the Awarding Authority and Contractor. At the discretion of the Awarding Authority Engineer, additional equipment pieces may be hired at the rate bid for Additional Equipment.

Equipment may not be older than fifteen years. Backup equipment must be owned or available in the event of malfunction. If requested by awarding authorities, contractor must provide an Equipment List that details Year, Make, Model, V.I.N. and Registration Plate number for:

a) 70’ Aerial Bucket Truck
b) Chip Truck with capacity of 30 yards or greater
c) Wood Chipper with 18” capacity or greater with winch
d) Log Loader Truck, with a minimum capacity of 55 yards
e) Crane, 50-ton minimum and a boom reach of not less than 150’

The minimum equipment requirements for all work under this service item is:

One Bucket Truck a chip truck, a chipper and Log Truck.

Miscellaneous small, hand tools, and personal protective equipment such as: Power Saws, blowers, brooms, vests, hard hats, gloves, eye protection, and other safety equipment and equipment and tools to clean up after tree trimming or cutting.

When “Additional Equipment Piece” is required at the specified rate, an experienced and properly trained and licensed Operator will be included on the job site.

One Class B Straight Log truck to work in conjunction with material handler to haul, load wood and brush associated with tree removal. The log trucks must have a bunk storm body no shorter than 24 feet with solid sides to avoid loss of material during transportation to disposal site.

One grapple loader ability to load and unload without assistance of any other piece of equipment. The grapple must have 24-foot minimum reach and 5,000 lb. minimum lift capacity at full boom extension

The minimum crew staffing shall include:

- One Experienced Truck Driver Operator with proper licenses to operate the log truck and accessories
- One Experienced Bucket Truck Driver Operator with proper licenses to operate the bucket truck and accessories
- Two Laborers to support the operations, clean loose debris from the roadway, etc.

ITEM THIRTY: HIGH-PRODUCTION TREE REMOVAL AND/OR TRIMMING W/GRAPPLE

Although many techniques are available for the removal of roadside trees, these municipalities require this service item use a Factory Designed Purpose-Built Material Handler (grapple) and a log truck in addition to other equipment listed. This is required in order to maximize production, and minimize the disruption to traffic and the cost associated police detail.

Bidders for this item must have at least two (2) tree service crews and the following equipment, which is not to be older than fifteen years. If requested by an awarding authority, contractor must provide an Equipment List that details Year, Make, Model, V.I.N. and Registration Plate number for:

a) Two 75’ Aerial Bucket Trucks, with at least one 4-wheel drive vehicle
b) Two Chip Trucks with capacity of 30 yards or greater
c) Two Wood Chippers with 18” capacity or greater with winch
d) Two Wood Chippers with 20” capacity or greater with grapples
e) Log Loader Truck, with a minimum capacity of 55 yards
f) Crane, 50-ton minimum and a boom reach of not less than 150’
g) Material Handler with Grapple Saw

Performance Standards & Tree Care Specification

a) Bucket Truck – 75’ aerial rear mount bucket truck, CDL Class B straight truck.
b) Chip Truck – 30-yard minimum capacity body, CDL Class B straight truck.
c) Wood Chipper – 18” minimum capacity with winch.
d) Wood Chipper – 20” minimum capacity with grapple loader.
e) Log Truck – 55-yard minimum capacity, CDL Class B straight truck with grapple loader that has a 24-foot minimum reach, 5000-pound minimum lift capacity at full boom extension and a minimum 24-foot log bunk storm body.
f) Crane – 50 ton minimum and a boom reach not less than 150’.
g) Material Handler with Grapple Saw – Rubber tired material handler, ability to operate a cutting head with a minimum 24” diameter capability and grapple /loader. The boom arm-reach not including cutter head must be a minimum of 44 feet and a grapple opening width of 60”.
h) Chainsaws, fuel, ropes, cell phones, tools and supplies incidental to safely and efficiently remove trees.

The minimum crew staffing for this item shall include:

- One Experienced operator of the Factory Designed Purpose-Built Material Handler with proper licenses to operate the machine
- One Experienced Truck Driver Operator with proper licenses to operate the log truck and accessories
- One Experienced Bucket Truck Driver Operator with proper licenses to operate the bucket truck and accessories
- Two Laborers to support the operations, clean loose debris from the roadway, etc.

When “Additional Equipment Piece” is required at the specified rate, an experienced and properly trained and licensed Operator will be included.

“Engineer” shall mean each municipality’s Tree Warden or appointed agent.

Prosecution of Work

The Contractor shall provide the Engineer with a proposed schedule of operations for the Engineer's acceptance before any work is started and within 14 business-days of the request for work. The schedule of operations shall include a plan of his construction procedures and the safety measures to be used during the prosecution of the work. The proposed schedule shall the date(s) and timeframe the Contractor proposes to complete the work.

QUANTITY TOTALS BY ITEM AND MUNICIPALITY

ONE Pavement Reclamation

Needed for only one town. Location is **Swansea Mall Ring Road and Entrances**

#	QUANTITIES BY MUNICIPALITY	Total	Swansea
1	**Pavement Reclamation** (sq yds)	10,900	10,900
	Structure **Adjustments** (each)	30	30
	Excess loading of reclaimed material (cubic yds)	900	900
	Lower & Raise manhole (each)	30	30
	Trucking (hours)	100	100

TWO Cold In-Place Recycling

#	QUANTITIES BY MUNICIPALITY	Total	Abington	Bridgewater	Canton	Dighton	E.Bridgewater	Easton	Foxborough	Hanson	Lakeville	Mansfield	Medfield	Middleborough	Milton	Norfolk	N.Attleborough	Norton	Plainville	Raynham	Sharon	Stoughton	Swansea	Taunton	W.Bridgewater	Wrentham
2	**Cold In-Place Recycling** (sq yds)	113,760			50,000						17,000			14,760	32,000											
	Core Sampling (per day)	8			5						1			1	1											
	Mix Design (per project location)	8			5						1			1	1											
	Portland Cement Stabilizing Agent/Mineral Filler (tons)	547			250						34			63	200											
	Liquid Asphalt Stabilizing Agent (gallons)	98,200			40,000						17,000			41,000	200											
	Pave RAP or Aggregate Ahead of Recycler (sq yds)	51,000			40,000						1,000				10,000											
	Pre-Milling Pavement (sq yds)	51,000			40,000						1,000				10,000											
	Gravel for Base Repair (cubic yds)	260			60										200											
	Hot Mix Asphalt for Base Repair (tons)	699			525						24				150											
	Lower & Raise Existing Structures (each)	159			110						5			4	40											
	Structure Rebuild (vertical feet)	40			25						5				10											
	Adjust Water Gates and other small structures (each)	94			60						5			4	25											

THREE Permanent Trench Patch Repairs

#	QUANTITIES BY MUNICIPALITY	Total	Abington	Bridgewater	Canton	Dighton	E.Bridgewater	Easton	Foxborough	Hanson	Lakeville	Mansfield	Medfield	Middleborough	Milton	Norfolk	N.Attleborough	Norton	Plainville	Raynham	Sharon	Stoughton	Swansea	Taunton	W.Bridgewater	Wrentham
3	**Permanent Trench Patch Repairs**																									
	4-Inch Grind and Inlay (sq yds)	1,100	0		100	0	300	100	0	300					200				0	100						0
	1 1/2-Inch Grind and Inlay (sq yds)	11,840	7,500		300	500	0	200	500	500	800				200				1,200	100						40

FIVE Superpave

Needed for only one town. Location not yet specified.

#	QUANTITIES BY MUNICIPALITY	Total	Swansea
5	**Super Pave Hot Mix Asphalt** (tons)	4,825	4,825
	Bitumen Tack Coat (gallons)	1,027	1,027
	Cold Planing (sq yards)	45,000	45,000
	Structure **Adjustments** (each)	100	100
	Hand Work (tons)	125	125
	Sawcutting (linear feet)	110	110

SIX - TEN Pavement Resurfacing, Various

#	QUANTITIES BY MUNICIPALITY	Total	Abington	Bridgewater	Canton	Dighton	E.Bridgewater	Easton	Foxborough	Hanson	Lakeville	Mansfield	Medfield	Middleborough	Milton	Norfolk	N.Attleborough	Norton	Plainville	Raynham	Sharon	Stoughton	Swansea	Taunton	W.Bridgewater	Wrentham
6	**Chip Seal, Hot Mix Asphalt with Stone, Sand, or Double-Stone:**																									
	Stone Chip Sealing (sq yds)	34,300				3,500	300								500					10,000		20,000				
	Double Chip Sealing (sq yds)	51,200				200	15,000								6,000					10,000		20,000				
	Leveling/Shim Course (tons)	2,220				70	150								1,500					200		300				
7	**Rubber Chip Seal** (sq yds)	182,250					40,000	1,000	20,000				45,000	16,750	1,500					10,000		30,000				18,000
	Leveling/Shim Course (tons)	3,625					175		500				200	2,000	200					200		150				200
8	**Micro Paving**																									
	Surface Course, 1 lift (sq yds)	31,600												30,500	1,000					100						
	Level & Surface Course, 2 lifts (sq yds)	2,100													2,000					100						
	Level & Surface Course w/Crack Repair, 2 lifts (sq yds)	18,350									17,250				1,000					100						
9	**Cape Sealing** (sq yds)	23,100							20,000						3,000					100						
	Cape Seal with Crack Reapair (sq yds)	3,100							0						3,000					100						
10	**Bonded Wearing Course** (sq yds)	83,100					30,000	25,000					25,000		3,000					100						
	Leveling course (tons)	800					300	0					100		300					100						
	Structure **Adjustments** (each)	104					12	20					25		45					2						
	Structure **Remodel** (each)	18					0	1					5		10					2						
	Structures **Rebuilt** (vertical ft)	18					0	1					5		10					2						

ELEVEN - TWELVE Crack Sealing, various

#	QUANTITIES BY MUNICIPALITY	Total	Abington	Bridgewater	Canton	Dighton	E.Bridgewater	Easton	Foxborough	Hanson	Lakeville	Mansfield	Medfield	Middleborough	Milton	Norfolk	N.Attleborough	Norton	Plainville	Raynham	Sharon	Stoughton	Swansea	Taunton	W.Bridgewater	Wrentham
11	**Crack Sealing**																									
	days	81	7	7	15	5				5					5	5		7						25		
	OR gallons	59,500			10,000								6,000		5,000	30,000				1,000			7,500			
12	**PolymerModified Crack Seal**																									
	days	77	5		15	5				5	5			15	5	5		7								10
	OR gallons	66,400			10,000		4,000	5,000	5,000						5,000	30,000	2,400			5,000						

THIRTEEN - FIFTEEN Traffic Line Painting, Various

#	QUANTITIES BY MUNICIPALITY	Total	Abington	Bridgewater	Canton	Dighton	E.Bridgewater	Easton	Foxborough	Hanson	Lakeville	Mansfield	Medfield	Middleborough	Milton	Norfolk	N.Attleborough	Norton	Plainville	Raynham	Sharon	Stoughton	Swansea	Taunton	W.Bridgewater	Wrentham
13	**Chlorinated Rubber Traffic Line Painting**																									
	4" White or Yellow Lines (lin ft)	6,583,500	7,500		4,000	410,000	300,000	650,000	500,000	500,000	325,000		######	950,000	10,000	457,000		600,000	10,000	250,000	40,000		70,000			
	4" Yellow Hatch Lines (linear ft)	36,940	2,500		1,000			200		600			1,000		1,000	100			15,000	500	15,000				40	
	12" White Cross-Walks (linear ft)	33,060			1,000	500	1,500	100		2,000			5,000	9,500	2,000	3,650		1,000	5,160	1,000	600				50	
	12" White Lines Stop Line (linear ft)	18,372			500	500	1,000	100		2,000			5,000	1,500	400	3,650		1,000	1,622	500	600					
	Stop Words (each)	212			50		10	2		10			10		5	50			15	10	50					
	Parking Lines (linear ft)	17,350			50			100		1,000			5,000		1,000					10,000					200	
	4" Parking Lines, Ts and Ls (each)	2,990			200		2,000	50					100		50				500	50					40	
	Directional arrows, federal (each)	457			200		6	30		20			50	2	10	12			45	50	12				20	
	8' ONLY (each)	83			30		6	5					5		5	12				10					10	
	3' ONLY (each)	73			30		6	5					5		5	12				10						
	8' SCHOOL (each)	92			30		6	4		4			5		5	12			5	6	10				5	
	Traffic Islands (each)	58	10		20		4	2		6			5		2	4				5						
	Railroad Crossings (each)	55			20					10			10	4	0	4		6		1						
	Removal of Existing Chlor Rubber Paint Lines (sq ft)	19,610			1,000			100		1,000			2,500		15,000					10						
	Grinding for Inlay (sq ft)	2,010			1,000			100		400					500					10						
14	**Thermoplastic Traffic Line Painting**																									
	4" White or Yellow Lines (lin ft)	269,560	7,500		40,000		40,000	1,000	50,000	15,000	25,000			50,000	3,000	10,560		2,500		10,000		5,000		10,000		
	12" White Lines (lin ft)	6,290			2,000		200	100	0	240				250	300	500		1,000		1,000		500		200		
	8' ONLY (each)	584			30		0	2	0	4					3	500				10		10		25		
	3' ONLY (each)	84			30		0	2	0	4					3					10		10		25		
	8' SCHOOL (each)	67			30		0	2	0	6					3					6		10		10		
	Removal of Existing Thermoplastic Lines (sq ft)	5,550			1,000		0	100	0	100					200					100		4,000		50		
	Grinding for Inlay (sq ft)	6,850			1,000		0	100	0	100					500					100		5,000		50		
15	**Epoxy Traffic Line Painting**																									
	4" White or Yellow Lines (lin ft)	334,650	10,000	10,000	40,000			1,000		1,000					2,500					50,000		20,000			150	200,000
	12" White or Yellow Lines (lin ft)	25,300		2,000	1,000			100		200					200					1,000		500	20,000		300	
	8' ONLY (each)	59			30			2		4					3					10		10			0	
	3' ONLY (each)	59			30			2		4					3					10		10			0	
	8' SCHOOL (each)	60			30			2		4					3					6		10			5	
	Removal of Existing Epoxy Lines (sq ft)	12,800			1,000			100		100					1,500					100		10,000			0	
	Grinding for Inlay (sq ft)	11,500			1,000			100		100					200					100		10,000			0	

SIXTEEN - TWENTY Guard Rails, Structures, Sub-Drains, Catch Basins

#	QUANTITIES BY MUNICIPALITY	Total	Abington	Bridgewater	Canton	Dighton	East Bridgewater	Easton	Foxborough	Hanson	Lakeville	Mansfield	Medfield	Middleborough	Milton	Norfolk	North Attleborough	Norton	Plainville	Raynham	Sharon	Stoughton	Swansea	Taunton	West Bridgewater	Wrentham
16	**Guard Rail Installation**																									
	Straight Galvanized metal posts (feet)	5,942			800	12	200	500	50	200		100	500	1,000	30	500		1,000		500	0	500		50	0	
	Straight Galvanized wooden posts (feet)	1,943			100	3	200	100	50	200		0	50		30	500				200	0	500		10	0	
	Straight "rust" wooden posts (feet)	2,013			50	3		100	0	0		100	500		30	500				100	100	500		10	20	
	Curved Galvanized (feet)	1,511			50	3		10	20	100		48	100	200	20	100		100		500	0	200		50	10	
	Curved "rust" (feet)	621			20	3		10	0	0		48	100		20	100				100	0	200		10	10	
	End pieces Ggalvanized (each)	187			20	3	8	5	6	8		4	4	20	4	20		15		20	0	10		30	10	
	End pieces "rust" (each)	119			20	2		5	6	0		4	4		4	20				20	4	10		10	10	
17	**Structure Work**																									
	Structures Adjusted (each)	214		25	5	4	20	10		20			40		40					50						
	Structures Remodeled (each)	113			5	4	20	2		20			20		30					12						
	Structures Rebuilt (vertical ft)	128		25	10	4	15	2		40			10		10					12						
18	**Installation of Sub-Drains (lin ft)**	2,910			200		500	100		100										10						2,000
	Hot Mix Asphalt paving following installation (tons)	1,155			25		50	20		10										50						1,000
	Loam and Seed (sq yds)	260			50		50	10		100										50						
19	**Catch Basins Cleaned**																									
	Contents deposited **in** town (each)	7,510			50			10		0					200	2,000			950	100	0			4,000	200	
	Contents **removed from** town (each)	9,730			200			10		750					200	2,000			950	20	1,400			4,000	200	
20	**Catch Basins Cleaned & Measured**																									
	Contents deposited **in** town (each)	6,510			50	0	1,000		2,300	0						2,000			950	10	0				200	
	Contents **removed from** town (each)	16,695		2,500	200	790			2,300	800	450	1,500	2,100			2,000			950	5	1,400				200	1,500

TWENTY-ONE – TWENTY-SEVEN, Misc. Services (MassDOT PreQual. not required)

#	QUANTITIES BY MUNICIPALITY	Total	Abington	Bridgewater	Canton	Dighton	E.Bridgewater	Easton	Foxborough	Hanson	Lakeville	Mansfield	Medfield	Middleborough	Milton	Norfolk	N.Attleborough	Norton	Plainville	Raynham	Sharon	Stoughton	Swansea	Taunton	W.Bridgewater	Wrentham
21	**Tub Grinding,** On-Site at Hwy Dept (hours)	669	40	40	40	8	32	24	24	24	24	32	32		16	80	40	40		24	120	24			5	
22	**Loam/Compost/Gravel Screening** (hours)	466	40		40	8	40	8	24	40		40			16			40		10	120	40				
23	**Medium Class Excavator Services** (hrs)	300	40		40		40	24	24	100					24					8						
24	**Grad-All Services** (hours)	240			40		40	24	24	40	24				40					8						
25	**CAT Excavator w/Foreman & Crew** (hrs)	296		40	120		40	24	24						40					8						
26	**Snow & Material Hauling (hours)**																									
	Contents deposited **in** town (hours)	200			80				24	24			24		40					8						
	Contents **removed from** town (hours)	168			80				0	40					40					8						
27	**Snow Shoveling on Flat Rooves** (hours)	272			80	10	100	10	24									40		8						

LOCATIONS for **Twenty-Seven: Shoveling**

Town/City	Building Name	Street Address
Canton	High School	900 Washington St
	Kennedy School	100 Dedham St
	Hansen School	25 Pecunit St
	Galvin School	55 Pecunit St
	Luce School	45 Independence St
	Public Works Campus	160 Bolivar St
	Water Garage	40 Pine St
	Library	786 Washington St
	Police Station	1492 Washington St
	Fire Station 1	99 Revere St
	Recreation Garage	87 Pine St
	Cemetery Garage	1600 Washington St
	School Building	30 North St
	Ice Rink	2167 Washington St
	Senior Center	500 Pleasant St
	Water Treatment Plant	500 Neponset St
	Water Treatment Plant	40 Pecunit St
Dighton	Dighton Rehoboth High School	2700 Regional Road
	PrimeTime	1059 Somerset Avenue
	Dighton Elementary School	1250 Somerset Avenue
East Bridgewater	Central School	17 Central Street
	Middle School	435 Central Street
	High School	143 Plymouth Street
Easton	Oliver Ames High School	100 Lothrop St, N. Easton
Foxborough	High School	120 South Street
	Ahern Middle School	111 Mechanic Street
	Taylor School	196 South Street
	Igo School	70 Carpenter Street
	Burrell School	16 Morse Street
Norton	Town Buildings	70 East Main St
Raynham	Town Hall	558 S. Main Street
	Police Dept	53 Orchard Street
	Fire Dept	37 Orchard Street
	L B Merrill Elementary School	687 Pleasant Street
	Laliberte Elementary School	777 Pleasant Street
	Raynham Middle School	420 Titicut Road

TWENTY-EIGHT Sidewalk Construction with Curbs & Edging

#	QUANTITIES BY MUNICIPALITY	Total	Abington	Bridgewater	Canton	Dighton	E.Bridgewater	Easton	Foxborough	Hanson	Lakeville	Mansfield	Medfield	Middleborough	Milton	Norfolk	N.Attleborough	Norton	Plainville	Raynham	Sharon	Stoughton	Swansea	Taunton	W.Bridgewater	Wrentham
28	**Sidewalk Construction with Curbs/Edging**																									
	Cement Concrete Sidewalk (sq yd)	**14,950**		**10,000**						**20**			**3,500**										**1,430**			
	Cement Concrete Sidewalk at Driveways (sq yd)	**1,392**		**1,200**						**10**			**20**										**162**			
	Cement Concrete Wheelchair Ramp (sq yd)	**214**								**4**			**150**										**60**			
	Hot Mix Asphalt Walk Surface and Driveway (sq yd)	**1,510**								**10**			**1,500**													
	Furnish & Install rubber ADA Handicap Panels, all color choices (each)	**72**		**25**						**8**			**20**										**19**			
	Curb and Edging																									
	Install Granite Curb Type VB - Straight (lin ft)	**31,120**		**24,000**						**120**			**5,000**				**2,000**									
	Installation of bituminous concrete berms and curbs (lin ft)	**8**								**8**																
	Furnish & Install Granite Curb Inlet Type A - Curved (each)	**0**								**0**																
	Furnish & Install Granite Curb Inlet Type A - Straight (each)	**8**								**8**																
	Furnish & Install Granite Curb Type A - Corner (each)	**4**								**4**																
	Furnish & Install Granite Curb Type SB - Straight (lin ft)	**40**								**40**																
	Furnish & Install Granite Edging Type SB - Straight (lin ft)	**40**								**40**																
	Furnish & Install Granite Curb Type VA4 - Curved (lin ft)	**40**								**40**																
	Furnish & Install Granite Curb Type VA4 - Straight (lin ft)	**30**								**30**																
	Furnish & Install Granite Curb Type VB - Curved (lin ft)	**40**								**40**																
	Furnish & Install Granite Curb Type VB - Straight (lin ft)	**40**								**40**																
	Furnish & Install Granite Transition Curb for wheelchair ramps & driveways Type VB - Curved (lin ft)	**50**								**50**																
	Furnish & Install Granite Transition Curb for wheelchair ramps & driveways Type VB - Straight (lin ft)	**254**								**50**													**204**			
	Furnish & Install Transition Slope to Vertical (each)	**10**								**10**																

#	QUANTITIES BY MUNICIPALITY	Total	Abington	Bridgewater	Canton	Dighton	E.Bridgewater	Easton	Foxborough	Hanson	Lakeville	Mansfield	Medfield	Middleborough	Milton	Norfolk	N.Attleborough	Norton	Plainville	Raynham	Sharon	Stoughton	Swansea	Taunton	W.Bridgewater	Wrentham
28	**Sidewalk Construction with Curbs/Edging,** continued																									
	Remove & Reset Granite Curb - Type SB (lin ft)	**3,310**								**100**													**3,210**			
	Remove & Reset Granite Curb - Type VB (lin ft)	**600**								**100**			**500**													
	Remove & Reset Granite Curb Corner (each)	**10**								**10**																
	Remove & Reset Granite Curb Inlet (each)	**8**								**8**																
	Remove & Reset Granite Edging (lin ft)	**100**								**100**																
	Remove & Stack Granite Curb (lin ft)	**100**								**100**																
	Remove & Stack Granite Curb Inlet (each)	**10**								**10**																
	Miscellaneous: Additional work needed																									
	Earth Excavation (cubic yds)	**80**								**80**																
	Class A Rock Excavation (cub yds)	**30**								**30**																
	Stump Excavation (cub yards)	**40**								**40**																
	Topsoil Excavated and stacked (cub yds)	**50**								**50**																
	Dense graded stone (cub yards)	**100**								**100**																
	Processed gravel, in place (cub yds)	**50**								**50**																
	Unclassified Excavation (cub yds)	**50**								**50**																
	Loam and Seed (sq yds)	**100**								**100**																
	Pavement Sawcutting/Grinding (lin ft)	**500**								**500**																
	Sweeping/Cleanup following Sawcutting/Grinding (lin ft)	**500**								**500**																

TWENTY-NINE - THIRTY Tree Trimming and/or Removal (new items)

#	QUANTITIES BY MUNICIPALITY	Total	Abington	Bridgewater	Canton	Dighton	East Bridgewater	Easton	Foxborough	Hanson	Lakeville	Mansfield	Medfield	Middleborough	Milton	Norfolk	Attleborough	Norton	Plainville	Raynham	Sharon	Stoughton	Swansea	Taunton	Bridgewater	Wrentham
29	***Standard*** **Tree Removal/Trimming**																									
	Hours (minimum 4 hours)	224		24		10		16		32					10	120				12						
	Hourly rate for Additional Equipment piece	23		4		4		4		2					5					4						
30	***High-Production*** **Tree Removal/Trimming**																									
	Hours (minimum 4 hours)	352		16		20	32	32	24	16					8	120		40		12	32					
	Hourly rate for Additional Equipment piece	41		4		4	5	4	4	2					4			5		4	5					

ESTIMATED VALUES and CLASS OF WORK for MASSDOT PREQUALIFICATION

Items of Work subject to PreQualification Requirement	**Estimated Value**	**MassDOT Class Of Work**
1 - Pavement Reclamation	**$ 97,500**	Pavement Reclamation
2 - Cold In-Place Recycling	**$ 1,809,490**	Milling & Cold Planing OR Pavement Reclamation
3 - Permanent Trench Patch Repairs	**$ 341,360**	Pavement Surfacing
5 - Superpave Hot Mix Asphalt	**$ 482,282**	Pavement Surfacing
6 - Chip Seal	**$ 691,619**	Pavement Surfacing
7 - Rubber Chip Sealing	**$ 1,473,175**	Pavement Surfacing
8 - Micro Paving	**$ 220,501**	Pavement Surfacing
9 - Cape Sealing	**$ 202,921**	Pavement Surfacing
10 - Bonded Wearing Course	**$ 760,735**	Pavement Surfacing
11 - Crack Sealing	**$ 996,969**	Crack Sealing
12 - Polymer Modif. Crack Seal/Hot-Appl. Asphalt Filler	**$ 1,200,775**	Crack Sealing
13 - Chlorinated Rubber Traffic Line Painting	**$ 444,623**	Pavement Markings
14 - Thermoplastic Traffic Line Painting	**$ 250,449**	Pavement Markings
15 - Epoxy Traffic Line Painting	**$ 203,415**	Pavement Markings
16 - Guard Rail Installation, Steel Beam Type SS	**$ 414,617**	Guard Rail & Fencing
17 - Structure Work: Adjust, Remodel, or Rebuild	**$ 247,638**	Drainage
18 - Sub-Drain Installation	**$ 243,830**	Drainage
19 - Catch Basins Cleaned	**$ 490,065**	Catch Basin Cleaning
20 - Catch Basins Cleaned & Sumps Measured	**$ 720,615**	Catch Basin Cleaning
28 - Sidewalk Construction, Curbs & Edging	**$ 2,481,678**	Highway - Sidewalk & Curbing
29 - Standard Tree Removal and/or Trimming	**$ 116,025**	Tree Trimming, Maintenance & Removal
30 - High-Production Tree Removal and/or Trimming	**$ 335,250**	Tree Trimming, Maintenance & Removal

APPENDIX A: BID QUOTE PAGES

		Bid Price	Unit	Quantity Estimate	Bid x Qty
1	**Pavement Reclamation (sq yds)**	$_____	per sq yd	10,900 square yards	$_____
	Structure **Adjustments**	$_____	per structure	30 structures	$_____
	Excess loading of reclaimed material	$_____	per cub yd	900 cubic yards	$_____
	Lower/Raise manhole	$_____	each	30 manholes	$_____
	Trucking	$_____	per hour	100 hours	$_____
				Item 1, Total	**$_____**
2	**Cold In-Place Recycling**	$_____	per sq yd	113,760 square yards	$_____
	Core Sampling	$_____	per day	8 days	$_____
	Mix Design (per project location)	$_____	per each	8 design	$_____
	Port Cement Stablzng Agent/Mineral Filler	$_____	per ton	547 tons	$_____
	Liquid Asphalt Stabilizing Agent	$_____	per gallon	98,200 gallons	$_____
	Pave RAP or Aggregate Ahead of Recycler	$_____	per sq yds	51,000 sq yds	$_____
	Pre-Milling Pavement	$_____	per sq yds	51,000 sq yds	$_____
	Gravel for Base Repair	$_____	per cub yd	260 cubic yds	$_____
	Hot Mix Asphalt for Base Repair	$_____	per tons	699 tons	$_____
	Lower & Raise Existing Structures	$_____	per each	159 structures	$_____
	Structure Rebuild	$_____	per vert ft	40 vert ft	$_____
	Adjust Water Gates/other Small Structures	$_____	per each	94 structures	$_____
				Item 2 Total	**$_____**
3	**Permanent Trench Patch Repairs**				
	4-Inch Grind & Inlay	$_____	per sq yd	1,100 square yards	$_____
	1 1/2-Inch Grind & Inlay	$_____	per sq yd	11,840 square yards	$_____
				Item 3, Total	**$_____**

_____
Signature to **authorize BID**

PRINT Company Name _____

APPENDIX A: BID QUOTE PAGES

		Bid Price	Unit	Quantity Estimate	Bid x Qty
5	**Super Pave Hot Mix Asphalt**	$_____	per ton	4,825 tons	$_____
	Bitumen Tack Coat	$_____	per gallon	1,027 gallons	$_____
	Hot Poured Rubberized Asphalt Sealer	$_____	per lin ft	0 linear feet	$_____
	Warm Mix Additive	$_____	per ton treatd	0 tons paved warm	$_____
	Cold Planing	$_____	per sq yd	45,000 sq yards	$_____
	Structure Adjustments	$_____	per structure	100 structures	$_____
	Structure Remodel	$_____	per structure	0 structures	$_____
	Structure Rebuild	$_____	per vert ft	0 vertical feet	$_____
	Hand Work	$_____	per ton	125 tons	$_____
	Unclassified Excavation	$_____	per cub yd	0 cubic yards	$_____
	Sawcutting	$_____	per lin ft	110 linear feet	$_____
	Playgrounds/Parking Lots	$_____	per ton	0 tons	$_____
				Item 5, Total	$_____
6	**Chip Seal, Hot Mix Asphalt with Stone, Sand or Double-Stone**				
	Stone Chip Sealing	$_____	per sq yd	34,300 square yards	$_____
	Double Chip Sealing	$_____	per sq yd	51,200 square yards	$_____
	Leveling/Shim Course	$_____	per ton	2,220 tons	$_____
				Item 6, Total	$_____
7	**Rubber Chip Sealing**	$_____	per sq yd	182,250 square yards	$_____
	Leveling/Shim Course	$_____	per ton	3,625 tons	$_____
				Item 7, Total	$_____
8	**Micro Paving**				
	Surface Course, 1 lift	$_____	per sq yd	31,600 square yards	$_____
	Leveling &Surface Course, 2 lifts	$_____	per sq yd	2,100 square yards	$_____
	Leveling & Surface Course with Crack Repair, 2 lifts	$_____	per sq yd	18,350 square yards	$_____
				Item 8, Total	$_____

_____
Signature to **authorize BID**

PRINT Company Name _____

		Bid Price	Unit	Quantity Estimate	Bid x Qty
9	**Cape Sealing**	$_____	per sq yd	23,100 square yards	$_____
	Cape Sealing with Crack Reapair	$_____	per sq yd	3,100 square yards	$_____
				Item 9. Total	**$_____**
10	**Bonded Wearing Course**	$_____	per sq yd	83,100 square yards	$_____
	Leveling course	$_____	per ton	800 tons	$_____
	Structure **Adjustments**	$_____	each	104 structures	$_____
	Structure **Remodel**	$_____	each	18 structures	$_____
	Structure **Rebuild**	$_____	per vert ft	18 vertical feet	$_____
				Item 10, Total	**$_____**
11	**Crack Sealing**				
	days	$_____	per day	81 days	$_____
	OR gallons	$_____	per gallon	59,500 gallons	$_____
				Item 11, Total	**$_____**
12	**Polymer Modified Crack Sealing /Hot Applied Asphaltic Filler**				
	days	$_____	per day	77 days	$_____
	OR gallons	$_____	per gallon	66,400 gallons	$_____
				Item 12, Total	**$_____**
13	**Chlorinated Rubber Traffic Line Painting**				
	4" White or Yellow Line	$_____	per lin ft	6,583,500 linear feet	$_____
	4" Yellow Hatch Lines	$_____	per lin ft	36,940 linear feet	$_____
	12" White Crosswalks	$_____	per lin ft	33,060 linear feet	$_____
	12" White Stop Line	$_____	per lin ft	18,372 linear feet	$_____
	Stop Words	$_____	each	212 words	$_____
	Parking Lines	$_____	per lin ft	17,350 linear feet	$_____

	Bid Price	Unit	Quantity Estimate		Bid x Qty
4" Parking Lines - Ts and Ls	$_____	each	2,990	lines	$_____
Directional Arrows, federal	$_____	each	457	arrows	$_____
8' "ONLY"	$_____	each	83	words	$_____
3' "ONLY"	$_____	each	73	words	$_____
8' "SCHOOL"	$_____	each	92	words	$_____
Traffic Islands	$_____	each	58	islands	$_____
Railroad Crossing	$_____	each	55	rr crossings	$_____
Removal of Existing Paint Lines	$_____	per sq ft	19,610	square feet	$_____
Grinding for Inlay	$_____	per sq ft	2,010	square feet	$_____

Item 13, Total $_____

14 Thermoplastic Traffic Line Painting

4" White or Yellow line	$_____	per lin ft	269,560	linear feet	$_____
12" white line	$_____	per lin ft	6,290	linear feet	$_____
8' "ONLY"	$_____	each	584	words	$_____
3' "ONLY"	$_____	each	84	words	$_____
8' "SCHOOL"	$_____	each	67	words	$_____
Removal of Existing Paint Lines	$_____	per sq ft	5,550	square feet	$_____
Grinding for Inlay	$_____	per sq ft	6,850	square feet	$_____

Item 14, Total $_____

15 Epoxy Traffic Line Painting

4" White or Yellow line	$_____	per lin ft	334,650	linear feet	$_____
12" white line	$_____	per lin ft	25,300	linear feet	$_____
8' "ONLY"	$_____	each	59	words	$_____
3' "ONLY"	$_____	each	59	words	$_____
8' "SCHOOL"	$_____	each	60	words	$_____
Removal of Existing Paint Lines	$_____	per sq ft	12,800	square feet	$_____

	Bid Price	Unit	Quantity Estimate	Bid x Qty
Grinding for Inlay	$_____	per sq ft	11,500 square feet	$_____
			Item 15, Total	**$_____**

16	**Install Steel Beam GUARD RAILS, Type SS**

Straight (galvanized, metal posts)	$_____	per lin ft	5,942 feet	$_____
Straight (galvanized, wooden posts)	$_____	per lin ft	1,943 feet	$_____
Straight ("rust", wooden posts)	$_____	per lin ft	2,013 feet	$_____
Curved (galvanized)	$_____	per lin ft	1,511 feet	$_____
Curved ("rust")	$_____	per lin ft	621 feet	$_____
End pieces (galvanized) each	$_____	each	187 end pieces	$_____
End pieces ("rust") each	$_____	each	119 end pieces	$_____
			Item 16, Total	**$_____**

17	**Structure Work**

ADJUSTMENT estimate: 214

for 1-5 structures per mobilization	$_____	each		
6-10 structures per mobilization	$_____	each		
11-20 structures per mobilization	$_____	each		
20+ structures per mobilization	$_____	each	Average **Adjustment** bid	$_____
			AVG x Est#	**$_____**

REMODEL estimate: 113

for 1-5 structures per mobilization	$_____	each		
6-10 structures per mobilization	$_____	each		
11-20 structures per mobilization	$_____	each		
20+ structures per mobilization	$_____	each	Average **Remodel** bid	$_____
			AVG x Est#	**$_____**

REBUILD estimate: 128

for 1-5 structures per mobilization	$_____	each
6-10 structures per mobilization	$_____	each

		Bid Price	Unit	Quantity Estimate	Bid x Qty
	11-20 structures per mobilization	$_____	each		
	20+ structures per mobilization	$_____	each	Average **Rebuild** bid	$_____
				AVG x Est#	**$_____**
				Total VALUE, Item 17:	**$_____**
18	**Installation of Sub-Drains**	$_____	per lin ft	2,910 linear feet	$_____
	Hot Mix Asphalt paving following installation	$_____	per ton	1,155 tons	$_____
	Loam and Seed	$_____	per sq yd	260 square yards	$_____
				Item 18, Total	**$_____**
19	**Catch Basins Cleaned**				
	Contents to be depostited in town	$_____	each	7,510 catch basins	$_____
	Contents to be removed from town	$_____	each	9,730 catch basins	$_____
	Location of DEP-approved dump site : _____			**Item 19, Total**	**$_____**
20	**Catch Basins Cleaned & Measured**				
	Contents to be depostited in town	$_____	each	6,510 catch basins	$_____
	Contents to be removed from town	$_____	each	16,695 catch basins	$_____
	Location of DEP-approved dump site : _____			**Item 20, Total**	**$_____**
21	**Tub Grinding**				
	On-site at Highway Department	$_____	per hour	669 hours	
				Item 21, Total	**$_____**
22	**Loam, Compost & Gravel Screening**	$_____	per hour	466 hours	
				Item 22, Total	$_____
23	**Medium Class Excavator Services**	$_____	per hour	300 hours	
				Item 23, Total	$_____

		Bid Price	Unit	Quantity Estimate	Bid x Qty
24	**Grad-All Services**	$_____	per hour	240 hours	
				Item 24, Total	$_____
25	**CAT Excavator with Foreman & Crew**	$_____	per hour	296 hours	
				Item 25, Total	$_____
26	**Snow & Material Hauling**				
	contents to be deposited **in town**	$_____	per hour	200 hours	$_____
	contents to be **removed from town**	$_____	per hour	168 hours	$_____
	Location of DEP-approved dump site: _____			**Item 26, Total**	$_____
27	**Snow Shoveling on Flat Rooves**	$_____	per hour	272 hours	
				Item 27, Total	$_____
28	**Sidewalk Construction with Curbs and Edging**				
	Sidewalks				
	Cement Concrete Sidewalk	$_____	per sq yd	14,950 square yards	$_____
	Cement Concrete Sidewalk at Driveways	$_____	per sq yd	1,392 square yards	$_____
	Cement Concrete Wheelchair Ramp	$_____	per sq yd	214 square yards	$_____
	Hot Mix Asphalt Walk Surface & Driveways	$_____	per sq yd	1,510 square yards	$_____
	Furnish & Install rubber ADA Handicap Panels, all color choices	$_____	each	72 panels	$_____
	Curb and Edging				
	Install Granite Curb Type VB - Straight	$_____	per lin ft	31,120 linear feet	$_____
	Installation of bituminous concrete berms and curbs	$_____	per lin ft	8 linear feet	$_____
	Furnish & Install Granite Curb Inlet Type A - Curved	$_____	per each	0 inlets	$____n/a_____
	Furnish & Install Granite Curb Inlet Type A - Straight	$_____	per each	8 inlets	$_____
	Furnish & Install Granite Curb Type A - Corner	$_____	per each	4 corners	$_____
	Furnish & Install Granite Curb Type SB - Straight	$_____	per lin ft	40 linear feet	$_____
	Furnish & Install Granite Edging Type SB - Straight	$_____	per lin ft	40 linear feet	$_____

APPENDIX A: BID QUOTE PAGES

	Bid Price	Unit	Quantity Estimate	Bid x Qty
Furnish & Install Granite Curb Type VA4 - Curved	$_____	per lin ft	40 linear feet	$_____
Furnish & Install Granite Curb Type VA4 - Straight	$_____	per lin ft	30 linear feet	$_____
Furnish & Install Granite Curb Type VB - Curved	$_____	per lin ft	40 linear feet	$_____
Furnish & Install Granite Curb Type VB - Straight	$_____	per lin ft	40 linear feet	$_____
Furnish & Install Granite Transition Curb for wheelchair ramps & driveways Type VB - Curved	$_____	per lin ft	50 linear feet	$_____
Furnish & Install Granite Transition Curb for wheelchair ramps & driveways Type VB - Straight	$_____	per lin ft	254 linear feet	$_____
Furnish & Install Transition Slope to Vertical	$_____	per each	10 slopes	$_____
Remove & Reset Granite Curb - Type SB	$_____	per lin ft	3,310 linear feet	$_____
Remove & Reset Granite Curb - Type VB	$_____	per lin ft	600 linear feet	$_____
Remove & Reset Granite Curb Corner	$_____	per each	10 corners	$_____
Remove & Reset Granite Curb Inlet	$_____	per each	8 inlets	$_____
Remove & Reset Granite Edging	$_____	per lin ft	100 linear feet	$_____
Remove & Stack Granite Curb	$_____	per lin ft	100 linear feet	$_____
Remove & Stack Granite Curb Inlet	$_____	per each	10 inlets	$_____
Drainage & Structure Work				
Furnish & Install **6" Pipe**	$_____	per lin ft	0 linear feet	$_____
Furnish & Install **8" Pipe**	$_____	per lin ft	0 linear feet	$_____
Furnish & Install **12" Pipe**	$_____	per lin ft	0 linear feet	$_____
Structures Change in Type/Converted	$_____	per each	0 structures	$_____
Structures **Adjusted**	$_____	per each	0 structures	$_____
Structures Rebuilt	$_____	per vert ft	0 vertical foot	$_____
Miscellaneous: Additional work needed				
Earth Excavation	$_____	per cub yd	80 cubic yards	$_____
Class A Rock Excavation	$_____	per cub yd	30 cubic yards	$_____
Stump Excavation	$_____	per cub yd	40 cubic yards	$_____
Topsoil Excavated and stacked	$_____	per cub yd	50 cubic yards	$_____
Dense graded stone	$_____	per cub yd	100 cubic yards	$_____
Processed gravel, in place	$_____	per cub yd	50 cubic yards	$_____

_____
Signature to **authorize BID**

PRINT Company Name _____

	Bid Price	Unit	Quantity Estimate	Bid x Qty
Unclassified Excavation	$_____	per cub yd	50 cubic yards	$_____
Loam and Seed	$_____	per sq yd	100 square yards	$_____
Pavement Sawcutting/Grinding	$_____	per lin ft	500 linear feet	$_____
Sweeping/Cleanup following Sawcutting/Grinding	$_____	per lin ft	500 linear feet	$_____
			Item 28, Total	**$_____**

29	**Standard Tree Removal and/or Trimming**

Standard service (minimum 4 hours)	$_____	per hour	224 hours	$_____
Additional Equipment piece on jobsite	$_____	per hour	23 add'l hours	$_____
			Item 29, Total	**$_____**

30	**High-Production Tree Removal and/or Trimming**

Service (minimum 4 hours)	$_____	per hour	352 hours	$_____
Additional Equipment piece on jobsite	$_____	per hour	41 add'l hours	$_____
			Item 30, Total	**$_____**

APPENDIX B: REFERENCES

List ***a minimum of five (5) municipalities*** *in which you have had a contract for the Item(s) of Work on which you are bidding. These must be for* ***work completed within the past two-years*** *and that are of a similar size and scope*. References **must include** name and address of municipality, name and telephone number of key contact person.

I._____

2._____

3._____

4._____

5._____

6._____

7._____

8._____

9._____

10._____

11._____

APPENDIX C: AFFIDAVIT FOR NON-CORPORATE BIDDER

I ,_____,_____ (Print Name &Title)

Of _____ (Print Name and address of Company)

_____

certify under the penalties of perjury that:

1. I duly represent the bidder and have full authority to execute any and all documents for and in behalf of the bidder relative to its operation, and

2. . Pursuant to M.G.L. c. 62C, §49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth (or the State of _____) relating to taxes, reporting of employees and contractors, and withholding and remitting child support and am fully eligible to enter into municipal contracts.

Witness my hand and seal this_____day of_____, 20___.

Bidder's Signature: _____

Date_____

Telephone Number of Bidder _____

3. For an ***out-of state company***, a resident agent in the Commonwealth of Massachusetts must be appointed for service of process. Print the *name* and *address of the company's resident agent*

here:_____

_____

APPENDIX D: AFFIDAVIT OF CLERK OF CORPORATE BIDDER

I,_____, certify as follows:

1. I am the Clerk of_____ (Print *exact* name of Corporation)

which is duly organized and incorporated under the laws of Massachusetts

(or the State of _____ and is duly registered under

M.G.L. Chapter 181 to do business in the Commonwealth of Massachusetts).

2. That the names, residential addresses and titles of the officers of the above-named

corporation are as follows:

_____ _____

President President's Address

_____ _____

Vice President Vice President's Address

_____ _____

Treasurer Treasurer's Address

_____ _____

Resident Agent (if a foreign Corp.) Resident Agen's Address (if Corp. not in MA)

3. That the above-named corp. was incorporated on _____ (date of incorporation).

4. The federal tax I.D. number of said corporation is _____.

5. Pursuant to M.G.L. c. 62C, §49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, the above-named corporation is in compliance with all laws of the Commonwealth (or the State of _____) relating to taxes, reporting of employees and contractors, and withholding and remitting child support and is in good standing with the Secretary of State of the Commonwealth of Massachusetts and is fully eligible to enter into municipal contracts.

6. _____is authorized to sign contracts/agreements on behalf of

_____pursuant to a vote of the Board of Directors/Officers

Print Exact Name of Corporation

on_____ (Date)

Signed under the pains and penalties of perjury this_____day of_____,20__.

_____ Signature of Clerk

APPENDIX E: CERTIFICATION OF NON-COLLUSION

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

_____

Name of Company

_____

Signature of Authorized Agent

_____

Printed Name and Title of Authorized Agent

_____

Date

APPENDIX F: CERTIFICATE REGARDING EMPLOYMENT OF LABOR

In accordance with Chapter 149, Section 27 of the Mass. General Laws, the bidder agrees to pay laborers employed under this contract the prevailing wage rates listed in Attachment 3, and to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work under this contract.

Bidder further certifies 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.

Bidder certifies 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.

Bidder certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location under this control where segregated facilities are maintained.

The bidder agrees that a breach of this certification will be a violation of the Equal Opportunity clause in any contract resulting from acceptance of this bid. As used in this certification, the term "Segregated Facilities" means any waiting room, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom or otherwise.

The bidder agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause and that he will retain such certification in his files.

The undersigned hereby certifies under the penalties of perjury that he or she has read the terms of these commitments and is authorized to bind the bidder to the commitments contained herein.

_____ _____

Date Signature of Authorized Agent

_____

Printed Name and Title of Authorized Agent

ATTACHMENT 1: FORM OF CONTRACT

(Provided as SAMPLE of what the winning bidder's contract will include. NOT for submission with bid)

THIS AGREEMENT is made the _____in the year two thousand and _____ by and between **«Vendor»** (hereinafter called the "Contractor") and **«municipality»** (hereinafter called the "Awarding Authority").

The Contractor has bid successfully to provide **DPW Services** (collectively called the "Work") described in the Bid Specifications for one-year period **February 1, 2022 to January 31, 2023**. Incorporated by reference and specifically made a part of this Contract are the advertisement for bids, terms in the Invitation for Bids and the bid of the Contractor.

WITNESSETH: That the Contractor and the Awarding Authority for the consideration hereinafter named agree as follows:

ARTICLE 1- COVENANTS, WARRANTIES AND REPRESENTATIONS

1. The Contractor covenants, warrants and represents to the Awarding Authority as follows:

    a. Contractor has and will maintain in full force and effect all permits and approvals necessary for the performance of the Contract.

    b. Contractor has secured for the term of the Contract the legal right to dispose of the temporary structures, surplus material and rubbish referred to in the Bid Specifications at an approved disposal site.

    c. Contractor has now and will maintain during the term of the Contract control over the equipment necessary for the performance of this Contract and will maintain in good condition or replace such equipment with suitable substitute equipment.

    d. Contractor has now or will prior to the date of commencement of performance of the Contract and thereafter maintain sufficient personnel who shall be trained, courteous and appropriately equipped to perform the Contract.

    e. If Contractor is other than an individual, Contractor is now and during the term hereunder remain duly organized, validly existing and in good standing under the laws of the Commonwealth of Massachusetts and the Contractor has taken all necessary action to authorize the execution and delivery of the Contract on behalf of the Contractor. This Contract when executed and delivered by a signatory on Contractor's behalf will be valid and binding on the Contractor.

2. Contractor agrees to perform fully all the terms and provisions of this Contract in accordance with applicable federal and state laws and town rules and regulations: more specifically, Contractor covenants to:

    a. Provide the materials and services enumerated in the Bid Specifications to the reasonable satisfaction of the Awarding Authority.

    b. Establish and comply with a work schedule, weather permitting, satisfactory to the Awarding Authority.

c. Comply with the statutes of the Commonwealth of Massachusetts which are related to the construction, alteration, repair and installation of public works, particularly with reference to labor and prevailing wage rates (as shown on the Minimum Wage Rates which were listed in the Invitation for Bids). Contractor agrees to submit weekly payroll forms to each municipality in which its employees perform work as required by M.G.L. Chapter 149, Section 27B (forms are attached to IFB).

d. Deliver to the Awarding Authority a copy of the Labor and Materials Bond (countersigned by a resident agent in the commonwealth if a foreign corporation) showing the name of the Awarding Authority as an Obligee on its face and maintain such Bond in force and effect until one year following the completion of this Contract.

e. Keep and maintain during the term of this Contract with insurers satisfactory to the Awarding Authority the policies of insurance listed in these Contract provisions. At least fifteen (15) days prior to the Commencement Date, Contractor shall deliver to the awarding Authority a certificate of insurance showing the Awarding Authority as an additional insured on all such policies and copies of all said policies.

ARTICLE 2- TERM

This Contract shall commence when signed by both parties and remain in effect until fully performed or earlier terminated. Contractor's performance of the services hereunder shall commence on February 1, 2022 (the "Commencement Date") and continue until January 31, 2022 unless sooner terminated as provided herein.

ARTICLE 3- RIGHT TO CANCEL

The Awarding Authority reserves the right to cancel this contract:
1. If the appropriation necessary to fund this Contract is not voted by the applicable authority, or
2. If the deficiencies in equipment and/or service are reported in writing to the Contractor and such deficiencies are not corrected within forty-eight hours, or
3. If the Contractor fails to maintain the insurance coverages required, or
4. If the Contractor assigns this Contract without written consent of the Awarding Authority, or
5. If the Contractor otherwise fails to comply with the terms of this Contract.

ARTICLE 4- REMEDIES

In the event that Contractor shall be in default of its obligations to perform DPW Services, the Awarding Authority may terminate the Contract and pursue the Town's remedies at law. In addition, the Awarding Authority may elect to debar Contractor from receiving similar Contracts in the future. In the event that Contractor's Contract is terminated for unsatisfactory Work or failure to complete Work, the Awarding Authority will retain five percent of the Contract Sum for the purpose of correcting the unsatisfactory Work or to pay for any additional expenses incurred as a result of completing the Work. Any excess monies not used to correct the unsatisfactory Work or complete the Work will be returned to the Contractor.

ARTICLE 5- CONTRACT SUM

The Awarding Authority shall pay the Contractor for the performance of the Contract in accordance with the prices listed on the Bid Quotation Form on a unit price basis.

The Contractor agrees to invoice the Highway Department or DPW in such form as the department may require. The Awarding Authority shall have thirty-five (35) days after receipt of a proper invoice in which to make payment. The Contractor agrees that no late penalty interest shall accrue for late

payments except as provided by law. The Awarding Authority shall withhold five percent (5%) of the invoice amount as security to cover any claims which may arise due to unsatisfactory Work or failure to complete the Work.

Price Adjustment for Products Containing Liquid Asphalt:

This price adjustment is inserted in the contract because the national and worldwide energy situation has made the future cost of fuel unpredictable. This adjustment will provide for either additional compensation to the Contractor or repayment to the municipality depending on an increase or decrease in the average price of liquid asphalt.

This provision applies to all products containing liquid asphalt. The Base Price of Liquid Asphalt on the project will be a fixed price determined on the date of the bid. The price adjustment will be based on the variance in price for the Liquid Asphalt component only from the Base Price to the Period Price. It shall not include transportation or other charges.

The Period Price for any products including liquid asphalt for a 30 day period will be determined and published by the Massachusetts Highway Department by averaging the prices posted at the beginning, middle, and end of each two month period by two or more suppliers.

The Contract Price of the product will be paid under the respective item in the contract. The price adjustment, as herein provided, upward and downward, will be made as work is performed, using the most recent previous price adjustment Item until the applicable Period Price is established. The asphalt content for each item is set forth in the specifications.

The Price Adjustment will be a separate payment item. It will be determined by multiplying the number of tons of product placed during each previous 30 day period by asphalt content percentage times the variance in price between Base Price and Period Price of asphalt. Contractors must include price adjustment documentation with every invoice. No price adjustment will be allowed beyond the completion date of the contract, unless there is an approved extension of time by the municipality.

FUEL COST ADJUSTMENT

Adjustments due to changes in cost of diesel fuel will be calculated as follows. The adjustment is to be based on the increase or decrease of diesel fuel cost, as measured by the U.S. Department of Energy, Energy Information Administration baseline cost of diesel fuel determined on the date of the bid. The increase or decrease, as determined above, will be applied to the volume of fuel used, which will be determined based on fuel consumption agreed on by each municipality. Adjustments will be made monthly, based on the cost of diesel for the month used. It shall be the contractor's responsibility to provide each municipality with full documentation prior to fuel adjustments being accepted.

ARTICLE 6- WORK SCHEDULE

All provisions related to time of completion of the work are of essence of this Contract.

Contractor agrees to commence work no later than sixty days following a request for services given by the Awarding Authority and shall prosecute the work to completion in a diligent and uninterrupted manner. With regard to calls for service for the patching of bituminous roadways, Contractor agrees to respond to the call for service within twenty-four hours of receipt of the call for service. The Contractor shall not be liable for delays or failures due to causes beyond his reasonable control including: acts of God, war, fires, strikes, embargo, inclement weather, etc. PROVIDED THAT, the Contractor gives written explanation of the cause to the Awarding Authority within five working days of the occurrence.

ARTICLE 7- CONTRACTOR RESPONSIBILITY

The Contractor must care for, replace and restore to good condition to the satisfaction of the Awarding Authority any utilities, fences, sidewalks, posts, poles or other structures damaged by or interfered with by the Contractor outside the scope of work. The Contractor shall perform any necessary replacement, reparation or restoration at no additional compensation. Damage resulting from the operation of the Contractor to any structure in the street or ground near or within the scope of work (and not required to be changed under the Contract) shall be replaced, repaired or restored by the Contractor at no additional compensation. The Contractor shall have no grounds for additional compensation because of expenses due to encountering pipes, conduits or structures. Contractor shall at his own expense provide and erect barricades, barrier fences, traffic signs and all other traffic devices in order to protect the work from traffic, pedestrians or animals.

Contractor shall promptly notify the Contract Officer when unexpected, latent difficulties are discovered (e.g. large rocks, ledge etc.) which impede or obstruct the work. All requests for additional payment and change orders must be submitted and approved in writing by the Contract Officer prior to the work being commenced. The successful contractor shall fully comply with Chapter 306 of the Acts of 2004. This act is relative to the health and safety on public construction projects and work.

ARTICLE 8- COOPERATION AND COORDINATION

The Awarding Authority may direct other contractors to commence and complete certain construction activities within the limits of the work under this Contract. The Contractor shall cooperate with all other contractors or other labor forces within the limits of the work specified. The Contractor shall allow the necessary access to the site and shall be responsible for coordinating the work of other contractors, utility companies and their agents. The Contractor shall be responsible for preventing damage by others to the work performed under this Contract or for having damage repaired, either by the party responsible or at his own expense.

ARTICLE 9-INDEMNITY

The Contractor shall indemnify, defend and save harmless the Awarding Authority and all of its officers, agents and employees against all suits, claims of liability of every nature and name, for or on account of any injuries to persons or damage to property arising out of the negligence of the Contractor in the performance of the work covered by this Contract and/or failure to comply with the terms and conditions of this Agreement whether by itself or its employees or subcontractors or other agents, including reasonable attorney's fees.

ARTICLE 10- INSPECTION

The Awarding Authority reserves the right to dispatch an authorized representative at any time to:

1. Approve all paving material production methods.
2. Inspect the condition and general operation of the heating apparatus to be employed for the purpose of producing all paving materials for this contract.
3. Verify the composition and proportions of the base and surface paving materials specified;
4. Determine that uniform mixing temperatures are being maintained.
5. Insure that adequate materials are supplied.
6. Oversee any or all related procedures.

ARTICLE 11- PUBLIC CONVENIENCE

All work to be performed under this Contract shall be performed between the hours of 7:30am and 3:30pm Monday through Friday excluding holidays unless otherwise agreed to in writing by the Contractor and the Awarding Authority. No laborer, workman, mechanic, foreman or inspector shall be

required or permitted to work more than eight hours in any one day or more than forty-eight hours in any one week except in cases of emergency.

The Contractor shall so conduct his operation as to offer the least possible obstruction and inconvenience to the public. Vehicular and pedestrian traffic will be maintained on all streets located within the work area unless permission is received in writing from the Awarding Authority or its representative to close the street. Where construction operations are such that a hazard exists to the public, all safety precautions shall be maintained.

ARTICLE 12- POLICE PROTECTION AND SIGNAGE

The Awarding Authority shall be responsible for arranging and paying for police officers to direct traffic around the construction site. Contractor shall at his own expense provide and erect barricades, barrier fences, traffic signs and all other traffic devices in order to protect the work from traffic, pedestrians or animals.

ARTICLE 13- CLAIMS BY SUB-CONTRACTORS

1. Forthwith, after the Contractor receives payment on account of a periodic estimate, the Contractor shall pay to each subcontractor the amount paid for the labor performed and the materials furnished by that subcontractor, less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the subcontractor by the Contractor.

2. Not later than the sixty-fifth day after each subcontractor substantially completes its work in accordance with the plans and specifications, the entire balance due under the subcontract less amounts retained by the Awarding Authority as the estimated cost of completing the incomplete and unsatisfactory items of work, shall be due the subcontractor; and the Awarding Authority shall pay that amount to the Contractor. The Contractor shall forthwith pay to the subcontractor the full amount received from the Awarding Authority less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the subcontractor by the Contractor.

3. Each payment made by the Awarding Authority to the Contractor pursuant to Paragraphs 1 and 2 of this Article for the labor performed and the materials furnished by a subcontractor shall be made to the Contractor for the account of that subcontractor; and the Awarding Authority shall take reasonable steps to compel the Contractor to make each such payment to each such subcontractor. If the Awarding Authority has received a demand for direct payment from a subcontractor for any amount which has already been included in a payment to the Contractor or which is to be included in a payment to the Contractor for payment to the subcontractor as provided in Paragraphs 1 and 2 of this Article, the Awarding Authority shall act upon the demand as provided in this Article.

4. If, within seventy (70) days after the subcontractor has substantially completed the subcontract work, the subcontractor has not received from the Contractor the balance due under the subcontract including any amount due for extra labor and materials furnished to the Contractor, less any amount retained by the Awarding Authority as the estimated cost of completing the incomplete and unsatisfactory items of work, the subcontractor may demand direct payment of that balance from the Awarding Authority. The demand shall be by a sworn statement delivered to or sent by certified mail to the Awarding Authority and a copy shall be delivered to or sent by certified mail to the Contractor at the same time. The demand shall contain a detailed breakdown of the balance due under the subcontract and also a statement of the status of the completion of the subcontract work. Any demand made after substantial completion of the subcontract work shall be valid even if delivered or mailed prior to the seventieth day after the subcontractor has substantially complete the subcontract work. Within ten (10) days after the subcontractor has delivered or so mailed the demand to the Awarding Authority and

delivered or so mailed a copy to the Contractor, the Contractor may reply to the demand. The reply shall contain a detailed breakdown of the balance due under the subcontract including any amount due for extra labor and materials furnished to the Contractor and of the amount due for each claim made by the Contractor against the subcontractor.

5. Within fifteen (15) days after receipt of the demand by the Awarding Authority, but in no event prior to the seventieth day after substantial completion of the subcontract work, the Awarding Authority shall make direct payment to the subcontractor of the balance due under the subcontract including any amount due for extra labor and materials furnished to the Contractor, less an amount:

(i) retained by the Awarding Authority as the estimated cost of completing the incomplete or unsatisfactory items of work,

(ii) specified in any court proceedings barring such payment or

(iii) disputed by the Contractor in the sworn reply;

provided, that the Awarding Authority shall not deduct from direct payment any amount as provided in part (iii) of this paragraph if the reply is not sworn to, or for which the sworn reply does not contain the detailed breakdown required by Paragraph 4 of this Article. The Awarding Authority shall make further direct payments to the subcontractor forthwith after the removal of the basis for deductions from direct payments made as provided in parts (i) and (ii) of this paragraph.

shall forthwith deposit the amount deducted from a direct payment as provided in part (iii) of Paragraph 5 in an interest-bearing joint account in the names of the Contractor and the subcontractor in a bank in Massachusetts selected by the Awarding Authority or agreed upon by the Contractor and the subcontractor and shall notify the Contractor and the subcontractor of the date of the deposit and the bank receiving the deposit. The bank shall pay the amount in the account, including accrued interest, as provided in an agreement between the Contractor and the subcontractor or as determined by decree of a court of competent jurisdiction.

7. All direct payments and all deductions from demands for direct payments deposited in an interest-bearing account or accounts in a bank pursuant to paragraph 6 of this Article shall be made out of amounts payable to the Contractor at the time of receipt of a demand for direct payment from a subcontractor and out of amounts which later become payable to the Contractor and in the order of receipt of such demands from subcontractors. All direct payments shall discharge the obligation of the Awarding Authority to the Contractor to the extent of such payment.

8. The Awarding Authority shall deduct from payments to a Contractor amounts which, together with the deposits in interest-bearing accounts pursuant to Paragraph 6 of this Article, are sufficient to satisfy all unpaid balances of demands for direct payment received from subcontractors. All such amounts shall be earmarked for such direct payments and the subcontractors shall have a right in such deductions prior to any claims against such amounts by creditors of the Contractor.

ARTICLE 14- COMPLETION OF PUBLIC WORKS

Completion of the work shall be in accordance with M.G.L. Chapter 30 Section 39G

ARTICLE 15- ADJUSTMENTS FOR DIFFERING OR LATENT PHYSICAL CONDITIONS

If, during the progress of the work, the Contractor or the Awarding Authority discovers that the actual subsurface or latent physical conditions encountered at the site differ substantially or materially from

those shown on the plans or indicated in the Contract, either the Contractor or the Awarding Authority may request an equitable adjustment in the Contract price of the Contract applying to work affected by the differing site conditions. A request for such an adjustment shall be in writing and shall be delivered by the party making such claim to the other party as soon as possible after such conditions are discovered. Upon receipt of such a claim from a Contractor, or upon its own initiative, the Awarding Authority shall make an investigation of such physical conditions, and, if they differ substantially or materially from those shown on the plans or indicated in the Contract or from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the plans and Contract and are of such a nature as to cause an increase or decrease in the cost of performance of the work or a change in the construction methods required for the performance of the work which results in an increase or decrease in the cost of the work, the Awarding Authority shall make an equitable adjustment in the Contract price and the Contract shall be modified in writing accordingly.

ARTICLE 16- ADJUSTMENT IN CONTRACT PRICE BECAUSE OF AWARDING AUTHORITY'S SUSPENSION, DELAY OR INTERRUPTION OF WORK

1. The Awarding Authority may order the Contractor in writing to suspend, delay or interrupt all or any part of the Work for such period of time as it may determine to be appropriate for the convenience of the Awarding Authority provided however, that if there is a suspension, delay or interruption for fifteen (15) days or more or due to a failure of the Awarding Authority to act within the time specified in this Contract, the Awarding Authority shall make an adjustment in the Contract price for any increase in the cost of performance of this Contract but shall not include any profit to the Contractor on such increase; and, provided further, that the Awarding Authority shall not make any adjustment in the Contract price under this provision for any suspension, delay, interruption or failure to act to the extent that such is due to any cause for which this Contract provides for an equitable adjustment of the Contract price under any other Contract provisions.

2. The Contractor must submit the amount of a claim under Paragraph 1 of this Article to the Awarding Authority in writing as soon as practicable after the end of suspension, delay, interruption or failure to act, and in any event, not later than the date of final payment under the Contract and, except for costs due to a suspension order, the Awarding Authority shall not approve any costs in the claim incurred more than twenty (20) days before the Contractor notified the Awarding Authority in writing of the act or failure to act involved in the claim.

ARTICLE 17- AWARDING AUTHORITY'S DECISIONS ON INTERPRETATION OF SPECIFICATIONS

Decisions by the Awarding Authority in interpreting the Specifications or this Contract shall be made promptly and, in any event, shall be made within thirty (30) days following the written request for a decision. Should further time be required to render a decision, the Awarding Authority shall provide the Contractor with a written explanation why further time is required and the date by which the written decision shall be made.

ARTICLE 18- CONTRACTOR'S MANAGEMENT RECORDS

1. The Contractor shall make, and keep for at least six years after final payment, books, records and accounts which in reasonable detail accurately and fairly reflect the transactions and dispositions of the Contractor.

2. Until the expiration of six (6) years after final payment, the Office of the Inspector General and the Commissioner of Capital Asset Management and Maintenance shall have the right to examine any

books, documents, papers or records of the Contractor or of its subcontractors which directly pertain to and involve transactions relating to the Contractor or its subcontractors.

3. If the Contract is a contract as defined herein, the Contractor shall describe any change in the method of maintaining records or recording transactions which materially affect any statements filed with the Awarding Authority, including in his description the date of the change and reasons therefore, and shall accompany said description with a letter from the Contractor's independent certified public accountant approving or otherwise commenting on the changes, and

4. If the agreement is a contract as defined herein, the Contractor has filed a statement of management on internal accounting controls as set forth in paragraph (6) below prior to the execution of the contract, and

5. If the agreement is a contract as defined herein, the Contractor has filed prior to the execution of the Contract and will continue to file annually an audited financial statement for the most recent completed fiscal year as set forth in paragraph (6) below.

6. Every Contractor awarded a Contract shall file with the Awarding Authority a statement of management as to whether the system of internal accounting controls of the

Contractor and its subsidiaries reasonably assure that:

(a) transactions are executed in accordance with management's general and specific authorization;
(b) transactions are recorded as necessary
(1) to permit preparation of financial statements in conformity with generally accepted accounting principles, and
(2) to maintain accountability for assets
(c) access to assets is permitted only in accordance with management's general or specific authorizations; and
(d) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action was taken with respect to any difference.

Every Contractor awarded a Contract shall also file with the Awarding Authority a statement prepared and signed by an independent certified public accountant stating that he has examined the statement of management on internal accounting controls and expressing an opinion as to:

(1) whether the representations of management in response to this paragraph and paragraph (2) above are consistent with the result of management's evaluation of the system of internal accounting controls: and

(2) whether such representations of management are, in addition, reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the applicant's financial statements.

7. Every Contractor awarded a Contract by the Commonwealth or by any political subdivision thereof shall annually file with the Commissioner of Capital Asset Management and Maintenance during the term of the Contract a financial statement prepared by an independent certified public accountant on the basis of an audit by such accountant. The final statement filed shall include the date of final payment. All statements shall be accompanied by an accountant's report. Such statements shall be made available to the Awarding Authority upon request.

8. The Office of Inspector General, the Commissioner for Capital Asset Management

and Maintenance and any other Awarding Authority shall enforce the provisions of this section. The Commissioner of Capital Management and Maintenance may after providing an opportunity for the Inspector General and other interested parties to comment, promulgate pursuant to the provisions of Chapter 30A such rules, regulations and guidelines as are necessary to effectuate the purposes of this section. Such rules, regulations and guidelines may be applicable to all Awarding Authorities. A Contractor's failure to satisfy any of the requirements of this section may be grounds for debarment pursuant to section forty-four C of Chapter one hundred and forty-nine.

9. Records and statements required to be made, kept or filed under the provisions of this section shall not be public records as defined in section seven of Chapter four and shall not be open to public inspection; provided, however, that such records and statements shall be made available pursuant to the provisions of clause 2 of paragraph 5 of this Article.

ARTICLE 19- PROTECTIVE LIABILITY INSURANCE

The Contractor must maintain liability insurance coverage on all personnel and equipment which is to be used with insurance companies licensed to do business in the Commonwealth of Massachusetts. LIST ALL EXCLUSIONS TO COVERAGE ON THE FACE OF THE CERTIFICATE. Insurance shall be in the following limits.

COVERAGE	LIMIT OF LIABILITY
Worker's Compensation	Statutory
Employer's Liability	$1,000,000.00
Bodily Injury Liability	$1,000,000.00 each occurrence
Except Automobile	$2,000,000.00 aggregate
Property Damage Liability	$1,000,000.00 each occurrence
Except Automobile	$2,000,000.00 aggregate
Automobile Bodily Injury	$1,000,000.00 each person
Automobile Liability	$1,000,000.00 each occurrence
Automobile Property Damage Liability	$1,000,000.00 each occurrence
Excess Umbrella Liability	$1,000,000.00 each occurrence

Certificates of insurance shall provide for at least thirty (30) days' notice to the Awarding Authority of cancellation or material change.

Excess liability limits over and above these stated amounts are recommended. All subcontractors, where applicable, shall adhere to these limits.

The name of the Awarding Authority shall be listed as an additional insured on the certificate of insurance to be provided by the Contractor and on all certificates of insurance of subcontractors hired by the Contractor.

The Awarding Authority is not responsible for any loss or damage whatsoever to the property of the Contractor or of any subcontractor.

ARTICLE 20- EQUAL OPPORTUNITY

The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religious creed, national origin, age or sex. The aforesaid provision shall include, but not be

limited to, the following: employment upgrading, demotion or transfer; recruitment advertising, layoffs, termination, rates of pay or other forms of compensation, conditions or privileges of employment and selection for apprenticeship. The Contractor agrees to comply with all applicable federal and state statutes, rules and regulations prohibiting discrimination in employment including: Title VII of the Civil Rights Act of 1964; the Age Discrimination in Employment Act of 1967; Section 504 of The Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1991; Massachusetts General Laws Chapter 151B, Section 4 (all relevant subsections) and all relevant Administrative Orders and Executive Orders (including Executive Order No. 227).

ARTICLE 21- AUTHORIZED PERSONNEL

The Commissioner of Public Works or the Highway Superintendent as appropriate will provide the Contractor with the names of personnel who are authorized to place orders under this Contract and who will be supervising the services rendered. All deliveries shall be made in the presence of this authorized DPW representative who will sign any delivery slips. Any deliveries made without authorization shall be at the risk and expense of the Contractor.

ARTICLE 22-NON-COLLUSION WITH PUBLIC OFFICIALS

The Contractor represents that as of the date of this Contract no Town official either directly or indirectly has a financial interest in this Contract and furthermore the Contractor pledges that it shall notify the Awarding Authority in writing should any Town official acquire wither directly or indirectly a financial interest in this Contract. The Contractor further declares that, as of the date of this Contract, it has not given or donated or promised to donate, either directly or indirectly, to any Town official or employee or to anyone else, for his/her benefit, any sum of money or other thing of value for aid or assistance in obtaining this Contract. The Contractor pledges that neither it nor any other officer, agent or employee of the Contractor shall give or donate or promise to give or donate, either directly or indirectly, to any Town official or employee or to anyone else, for his/her benefit, any sum of money or other thing of value, for aid or assistance in obtaining any Contract with the Town.

ARTICLE 23- CHANGES IN AGREEMENT

The Contractor and the Awarding Authority may from time to time modify their agreement. Such modifications, including any increase or decrease in the amount of the Contractor's compensation which is mutually agreed upon shall be incorporated by written amendment to this Contract and shall become effective only upon execution of such written amendment by both the Contractor and the Awarding Authority and shall not be void for want of consideration.

ARTICLE 24- INELIGIBLE SUBCONTRACTORS

The Contractor shall not subcontract any part of the Work covered by this Contract without the Awarding Authority's prior written approval of the subcontractor. The Awarding Authority will not approve any subcontractor for work covered by this Contract who is at the time ineligible under the provisions of M.G.L. Chapter 29 Section 8B to receive an award of a Contract.

9 ARTICLE 25- ANTI-BOYCOTT COVENANT

The Contractor warrants, represents and agrees that during the time this Contract is in effect, neither it nor any affiliated company, as hereinafter defined, participates in or cooperates with an international boycott, as defined in Section 999 (b) (3) and (4) of the Internal Revenue Code of l954, as amended, or engages in conduct declared to be unlawful by Section 2 of Chapter 151E of the Massachusetts General Laws. If there shall be a breach in the warranty, representation and agreement contained in this paragraph, then without limiting such other rights as it may have, the Awarding Authority shall be

entitled to rescind this Contract. As used herein, an affiliated company shall be any business entity of which at least 51% of the ownership interests are directly or indirectly owned by the Contractor or by a person or persons or business entity or entities directly or indirectly owning at least 51% of the ownership interest of the Contractor or which directly or indirectly owns at least 51% of the ownership interest of the Contractor.

ARTICLE 26- ASSIGNMENT

The Contractor shall not assign or transfer any of its rights, duties, benefits, obligations, liabilities or responsibilities under this Contract without the written consent of the Awarding Authority; provided, however, that assignments to banks, trust companies, or other financial institutions may be made without the consent of the Awarding Authority. No assignment of this Contract shall be valid unless the assignment expressly provides that the assignment of any of the Contractor's rights and benefits under the Contract is subject to a prior lien for labor performed, services rendered, and materials, tools and equipment supplied for the performance of the work under this Contract in favor of all persons, firms or corporations rendering such labor or services or supplying such materials, tools or equipment.

ARTICLE 27- SEVERABILITY

If any provision of the Contract is found to be illegal, then both parties shall be relieved of their obligations under that provision. The remainder of the Contract shall continue in force.

ARTICLE 28- EXECUTION

This Contract may be executed in any number of counterparts, each of which shall be deemed an original and such counterparts shall constitute one and the same instrument.

ARTICLE 29- LAWS OF CONSTRUCTION

The Contractor and the Awarding Authority agree that this Contract and the performance hereunder and all suits and special proceedings resulting here from shall be governed by the laws of the Commonwealth of Massachusetts.

ARTICLE 30- COMPLETENESS

The Contractor and the Awarding Authority hereby affirm that this instrument, its attachments and appendices and the Invitation for Bid (including advertisement and Bid Specifications) contains the whole agreement of the parties; that there are no promises, terms, conditions, or obligations other than those contained herein and that this agreement shall supersede all previous communications, representations, or agreements either verbal or written between the parties.

ARTICLE 31- NOTICE

All notices which shall or may be given hereunder shall be effective only if delivered in hand or by certified mail (return receipt requested) addressed to the party to or for whom intended at the address set out below or to such other person or entity as a party may, by like notice, hereafter designate.

To the Awarding Authority: _____

_____

_____

_____ (email address)

To the Contractor _____

_____

_____

_____ (email address)

IN WITNESS WHEREOF, the parties hereto set their hands and seals the day and the year above written.

_____ by _____

Date Awarding Authority Authorized Signature

_____

Printed Name and Title

_____ by _____

Date Contractor Authorized Signature

_____

Printed Name and Title of Contractor's Authorized Agent

CERTIFICATION BY MUNICIPAL AUDITOR OR ACCOUNTANT

I,_____, certify that appropriated funds are available e to fund this Contract and that the official(s) signing on behalf of the City or Town has been authorized to do so. _____, Highway Superintendent or DPW Commissioner of the City or Town has been authorized to make decisions under this Contract, inspect services and approve invoices for payment.

_____ _____

Signature Date

_____

Printed Name and Title

ATTACHMENT 2: REMOVING SNOW FROM ROOFTOPS, SAFETY

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

MASSsafetyWorks!
Workplace Safety is No Accident

SAFETY REQUIREMENTS
Removing Snow from Rooftops on Municipal and State Property

After excessive snowfall, concerns arise about the weight of snow and the structural integrity of the roof. Workers assigned to remove snow from rooftops are at high risk of injury from falling off the roof edge or falling through skylights.

Employers must plan ahead to protect all workers from falling off the roof.

Prevent Worker Injury When Removing Snow from Roofs

- Use snow removal methods that do not involve workers going onto roofs, when possible.
- Provide Fall Protection equipment to workers who go onto roofs such as full body harnesses, shock-absorbing lanyards, lifelines, and engineered anchor points.
- Guard skylights, so workers do not fall through.
- Mark skylights, roof drains, and vents that could trip workers.
- Avoid contact with electrical power lines. Keep ladders, aerial lifts and workers at least 10 feet away from power lines.
- Evaluate weight load exerted on roof to ensure the roof can support the workers and equipment.
- Train workers to use Fall Protection harness, lifelines and anchor points correctly.

For more detailed information to prevent injury, refer to OSHA Publication 3513 "Hazard Alert: Falls and Other Hazards to Workers Removing Snow from Rooftops and Other Elevated Surfaces" available at: www.osha.gov



A method to protect workers from falling is required. One example of Fall Protection is a full-body harness with a shock-absorbing lanyard attached to a rope grab and vertical lifeline that is attached to a separate 5000-pound anchor point per worker.

Frequently Asked Questions

The roof is flat. Is Fall Protection still required?

Answer: YES. There is no exemption unless there is a railing protecting the entire perimeter.

I won't go closer than 6 feet to the edge. Is Fall Protection still required?

Answer: YES. The 6 foot rule for construction does not apply to roof maintenance.

Do I still need fall protection if I mark the skylights with spray paint?

Answer: YES. The skylight is still considered a fall hazard.

Does the Fall Protection requirement apply to public sector workers?

Answer: YES. M.G.L. chapter 149, §6 requires public sector employers to prevent workers from work-related injury such as falling off a roof. The OSHA Fall Protection requirements outline the minimum methods to keep employees safe.

February 2015

ATTACHMENT 3: PREVAILING WAGE RATES BY COUNTY

The following county minimum wage rates are applicable to all Work covered under this Contract. It is a violation of Chapter 149 Section 27 for an employer to pay less than these wages for the Contract Period. This schedule must be posted in a conspicuous place at the site of the work during the Contract Period.

Contractors are advised of their responsibility to submit weekly payroll records for all employees who work for the Awarding Authority under these Contract provisions for the period of time that these employees actually are working in the Town. Sole proprietors who perform Work under this Contract are exempt from the requirement to pay prevailing wages but still must submit the weekly payroll records for the weeks that they actually work in the Town. They should note on these payroll records that they are a sole owner/proprietor and therefore exempt.

Counties include towns/cities as follows:

BRISTOL:	DIGHTON
	EASTON
	MANSFIELD
	NORTH ATTLEBOROUGH
	NORTON
	RAYNHAM
	SWANSEA
	TAUNTON
NORFOLK:	CANTON
	FOXBOROUGH
	MEDFIELD
	MILTON
	NORFOLK
	PLAINVILLE
	SHARON
	STOUGHTON
	WRENTHAM
PLYMOUTH:	ABINGTON
	BRIDGEWATER
	EAST BRIDGEWATER
	HANSON
	LAKEVILLE
	MIDDLEBOROUGH
	WEST BRIDGEWATER

CHARLES D. BAKER
Governor

KARYN E. POLITO
Lt. Governor

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

ROSALIN ACOSTA
Secretary
MICHAEL FLANAGAN
Director

Awarding Authority: Southeastern Regional Services Group (SERSG)

Contract Number:

City/Town: NEW BEDFORD

Description of Work: Road, Sidewalk and related work

Job Location: various towns in BRISTOL COUNTY

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2021	$35.95	$13.41	$14.82	$0.00	$64.18
	12/01/2021	$35.95	$13.41	$16.01	$0.00	$65.37
(3 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2021	$36.02	$13.41	$14.82	$0.00	$64.25
	12/01/2021	$36.02	$13.41	$16.01	$0.00	$65.44
(4 & 5 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2021	$36.14	$13.41	$14.82	$0.00	$64.37
	12/01/2021	$36.14	$13.41	$16.01	$0.00	$65.56
ADS/SUBMERSIBLE PILOT *PILE DRIVER LOCAL 56 (ZONE 2)*	08/01/2020	$103.05	$9.40	$23.12	$0.00	$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR *LABORERS - ZONE 2*	06/01/2021	$35.75	$8.60	$16.64	$0.00	$60.99
	12/01/2021	$36.66	$8.60	$16.64	$0.00	$61.90
	06/01/2022	$37.56	$8.60	$16.64	$0.00	$62.80
	12/01/2022	$38.41	$8.60	$16.64	$0.00	$63.65
	06/01/2023	$39.31	$8.60	$16.64	$0.00	$64.55
	12/01/2023	$40.21	$8.60	$16.64	$0.00	$65.45
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.75	$8.60	$16.64	$0.00	$60.99
	12/01/2021	$36.66	$8.60	$16.64	$0.00	$61.90
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASBESTOS WORKER (PIPES & TANKS) *HEAT & FROST INSULATORS LOCAL 6 (SOUTHERN MASS)*	12/01/2020	$38.10	$12.80	$9.45	$0.00	$60.35
ASPHALT RAKER *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BLOCK PAVER, RAMMER / CURB SETTER *LABORERS - ZONE 2*	06/01/2021	$35.75	$8.60	$16.64	$0.00	$60.99
	12/01/2021	$36.66	$8.60	$16.64	$0.00	$61.90
	06/01/2022	$37.56	$8.60	$16.64	$0.00	$62.80
	12/01/2022	$38.41	$8.60	$16.64	$0.00	$63.65
	06/01/2023	$39.31	$8.60	$16.64	$0.00	$64.55
	12/01/2023	$40.21	$8.60	$16.64	$0.00	$65.45
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)* For apprentice rates see "Apprentice- LABORER (Heavy and Highway)	06/01/2021	$35.75	$8.60	$16.64	$0.00	$60.99
	12/01/2021	$36.66	$8.60	$16.64	$0.00	$61.90
BOILER MAKER *BOILERMAKERS LOCAL 29*	01/01/2020	$46.10	$7.07	$17.98	$0.00	$71.15

Apprentice - *BOILERMAKER - Local 29*

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	$29.97	$7.07	$11.69	$0.00	$48.73
2	65	$29.97	$7.07	$11.69	$0.00	$48.73
3	70	$32.27	$7.07	$12.59	$0.00	$51.93
4	75	$34.58	$7.07	$13.49	$0.00	$55.14
5	80	$36.88	$7.07	$14.38	$0.00	$58.33
6	85	$39.19	$7.07	$15.29	$0.00	$61.55
7	90	$41.49	$7.07	$16.18	$0.00	$64.74
8	95	$43.80	$7.07	$17.09	$0.00	$67.96

Notes:

Apprentice to Journeyworker Ratio:1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) *BRICKLAYERS LOCAL 3 (NEW BEDFORD)*	08/01/2021	$57.15	$11.39	$22.25	$0.00	$90.79
	02/01/2022	$57.74	$11.39	$22.25	$0.00	$91.38

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *BRICK/PLASTER/CEMENT MASON - Local 3 New Bedford*

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.58	$11.39	$22.25	$0.00	$62.22
2	60	$34.29	$11.39	$22.25	$0.00	$67.93
3	70	$40.01	$11.39	$22.25	$0.00	$73.65
4	80	$45.72	$11.39	$22.25	$0.00	$79.36
5	90	$51.44	$11.39	$22.25	$0.00	$85.08

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.87	$11.39	$22.25	$0.00	$62.51
2	60	$34.64	$11.39	$22.25	$0.00	$68.28
3	70	$40.42	$11.39	$22.25	$0.00	$74.06
4	80	$46.19	$11.39	$22.25	$0.00	$79.83
5	90	$51.97	$11.39	$22.25	$0.00	$85.61

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$41.82	$8.60	$17.72	$0.00	$68.14
	12/01/2021	$42.83	$8.60	$17.72	$0.00	$69.15
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$40.67	$8.60	$17.72	$0.00	$66.99
	12/01/2021	$41.68	$8.60	$17.72	$0.00	$68.00
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$40.67	$8.60	$17.72	$0.00	$66.99
	12/01/2021	$41.68	$8.60	$17.72	$0.00	$68.00
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
CARPENTER *CARPENTERS -ZONE 2 (Eastern Massachusetts)*	09/01/2021	$44.18	$8.58	$19.82	$0.00	$72.58
	03/01/2022	$44.78	$8.58	$19.82	$0.00	$73.18
	09/01/2022	$45.43	$8.58	$19.82	$0.00	$73.83
	03/01/2023	$46.03	$8.58	$19.82	$0.00	$74.43

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *CARPENTER - Zone 2 Eastern MA*

Effective Date - 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.09	$8.58	$1.73	$0.00	$32.40
2	60	$26.51	$8.58	$1.73	$0.00	$36.82
3	70	$30.93	$8.58	$14.63	$0.00	$54.14
4	75	$33.14	$8.58	$14.63	$0.00	$56.35
5	80	$35.34	$8.58	$16.36	$0.00	$60.28
6	80	$35.34	$8.58	$16.36	$0.00	$60.28
7	90	$39.76	$8.58	$18.09	$0.00	$66.43
8	90	$39.76	$8.58	$18.09	$0.00	$66.43

Effective Date - 03/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.39	$8.58	$1.73	$0.00	$32.70
2	60	$26.87	$8.58	$1.73	$0.00	$37.18
3	70	$31.35	$8.58	$14.63	$0.00	$54.56
4	75	$33.59	$8.58	$14.63	$0.00	$56.80
5	80	$35.82	$8.58	$16.36	$0.00	$60.76
6	80	$35.82	$8.58	$16.36	$0.00	$60.76
7	90	$40.30	$8.58	$18.09	$0.00	$66.97
8	90	$40.30	$8.58	$18.09	$0.00	$66.97

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 $30.19/ 3&4 $36.28/ 5&6 $55.87/ 7&8 $62.01

Apprentice to Journeyworker Ratio:1:5

CARPENTER WOOD FRAME *CARPENTERS-ZONE 3 (Wood Frame)*	04/01/2021	$23.16	$7.21	$4.80	$0.00	$35.17
	04/01/2022	$23.66	$7.21	$4.80	$0.00	$35.67
	04/01/2023	$24.16	$7.21	$4.80	$0.00	$36.17

All Aspects of New Wood Frame Work

Apprentice - *CARPENTER (Wood Frame) - Zone 3*

Effective Date - 04/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$13.90	$7.21	$0.00	$0.00	$21.11
2	60	$13.90	$7.21	$0.00	$0.00	$21.11
3	65	$15.05	$7.21	$0.00	$0.00	$22.26
4	70	$16.21	$7.21	$0.00	$0.00	$23.42
5	75	$17.37	$7.21	$3.80	$0.00	$28.38
6	80	$18.53	$7.21	$3.80	$0.00	$29.54
7	85	$19.69	$7.21	$3.80	$0.00	$30.70
8	90	$20.84	$7.21	$3.80	$0.00	$31.85

Effective Date - 04/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$14.20	$7.21	$0.00	$0.00	$21.41
2	60	$14.20	$7.21	$0.00	$0.00	$21.41
3	65	$15.38	$7.21	$0.00	$0.00	$22.59
4	70	$16.56	$7.21	$0.00	$0.00	$23.77
5	75	$17.75	$7.21	$3.80	$0.00	$28.76
6	80	$18.93	$7.21	$3.80	$0.00	$29.94
7	85	$20.11	$7.21	$3.80	$0.00	$31.12
8	90	$21.29	$7.21	$3.80	$0.00	$32.30

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 $17.63/ 3&4 $19.95/ 5&6 $27.22/ 7&8 $29.54

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING *BRICKLAYERS LOCAL 3 (NEW BEDFORD)*	01/01/2020	$49.07	$12.75	$22.41	$0.62	$84.85

Apprentice - *CEMENT MASONRY/PLASTERING - Eastern Mass (New Bedford)*

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.54	$12.75	$15.41	$0.00	$52.70
2	60	$29.44	$12.75	$17.41	$0.62	$60.22
3	65	$31.90	$12.75	$18.41	$0.62	$63.68
4	70	$34.35	$12.75	$19.41	$0.62	$67.13
5	75	$36.80	$12.75	$20.41	$0.62	$70.58
6	80	$39.26	$12.75	$21.41	$0.62	$74.04
7	90	$44.16	$12.75	$22.41	$0.62	$79.94

Notes:

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

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CHAIN SAW OPERATOR *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$51.73	$13.75	$15.80	$0.00	$81.28
	12/01/2021	$52.88	$13.75	$15.80	$0.00	$82.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$33.40	$13.75	$15.80	$0.00	$62.95
	12/01/2021	$34.19	$13.75	$15.80	$0.00	$63.74
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) *PAINTERS LOCAL 35 - ZONE 2*	07/01/2021	$52.86	$8.45	$22.90	$0.00	$84.21
	01/01/2022	$53.66	$8.65	$23.05	$0.00	$85.36
	07/01/2022	$54.86	$8.65	$23.05	$0.00	$86.56
	01/01/2023	$56.06	$8.65	$23.05	$0.00	$87.76
	07/01/2023	$57.26	$8.65	$23.05	$0.00	$88.96
	01/01/2024	$58.46	$8.65	$23.05	$0.00	$90.16
	07/01/2024	$59.66	$8.65	$23.05	$0.00	$91.36
	01/01/2025	$60.86	$8.65	$23.05	$0.00	$92.56

Apprentice - *PAINTER Local 35 - BRIDGES/TANKS*

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.43	$8.45	$0.00	$0.00	$34.88
2	55	$29.07	$8.45	$6.22	$0.00	$43.74
3	60	$31.72	$8.45	$6.78	$0.00	$46.95
4	65	$34.36	$8.45	$7.35	$0.00	$50.16
5	70	$37.00	$8.45	$19.51	$0.00	$64.96
6	75	$39.65	$8.45	$20.08	$0.00	$68.18
7	80	$42.29	$8.45	$20.64	$0.00	$71.38
8	90	$47.57	$8.45	$21.77	$0.00	$77.79

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.83	$8.65	$0.00	$0.00	$35.48
2	55	$29.51	$8.65	$6.27	$0.00	$44.43
3	60	$32.20	$8.65	$6.84	$0.00	$47.69
4	65	$34.88	$8.65	$7.41	$0.00	$50.94
5	70	$37.56	$8.65	$19.63	$0.00	$65.84
6	75	$40.25	$8.65	$20.20	$0.00	$69.10
7	80	$42.93	$8.65	$20.77	$0.00	$72.35
8	90	$48.29	$8.65	$21.91	$0.00	$78.85

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN *LABORERS - ZONE 2*	06/01/2021	$40.82	$8.60	$17.57	$0.00	$66.99
	12/01/2021	$41.83	$8.60	$17.57	$0.00	$68.00
	06/01/2022	$42.83	$8.60	$17.57	$0.00	$69.00
	12/01/2022	$43.83	$8.60	$17.57	$0.00	$70.00
	06/01/2023	$44.83	$8.60	$17.57	$0.00	$71.00
	12/01/2023	$46.08	$8.60	$17.57	$0.00	$72.25

For apprentice rates see "Apprentice- LABORER"

DEMO: BACKHOE/LOADER/HAMMER OPERATOR *LABORERS - ZONE 2*	06/01/2021	$41.82	$8.60	$17.57	$0.00	$67.99
	12/01/2021	$42.83	$8.60	$17.57	$0.00	$69.00
	06/01/2022	$43.83	$8.60	$17.57	$0.00	$70.00
	12/01/2022	$44.83	$8.60	$17.57	$0.00	$71.00
	06/01/2023	$45.83	$8.60	$17.57	$0.00	$72.00
	12/01/2023	$47.08	$8.60	$17.57	$0.00	$73.25

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: BURNERS *LABORERS - ZONE 2*	06/01/2021	$41.57	$8.60	$17.57	$0.00	$67.74
	12/01/2021	$42.58	$8.60	$17.57	$0.00	$68.75
	06/01/2022	$43.58	$8.60	$17.57	$0.00	$69.75
	12/01/2022	$44.58	$8.60	$17.57	$0.00	$70.75
	06/01/2023	$45.58	$8.60	$17.57	$0.00	$71.75
	12/01/2023	$46.83	$8.60	$17.57	$0.00	$73.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER *LABORERS - ZONE 2*	06/01/2021	$41.82	$8.60	$17.57	$0.00	$67.99
	12/01/2021	$42.83	$8.60	$17.57	$0.00	$69.00
	06/01/2022	$43.83	$8.60	$17.57	$0.00	$70.00
	12/01/2022	$44.83	$8.60	$17.57	$0.00	$71.00
	06/01/2023	$45.83	$8.60	$17.57	$0.00	$72.00
	12/01/2023	$47.08	$8.60	$17.57	$0.00	$73.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR *LABORERS - ZONE 2*	06/01/2021	$41.57	$8.60	$17.57	$0.00	$67.74
	12/01/2021	$42.58	$8.60	$17.57	$0.00	$68.75
	06/01/2022	$43.58	$8.60	$17.57	$0.00	$69.75
	12/01/2022	$44.58	$8.60	$17.57	$0.00	$70.75
	06/01/2023	$45.58	$8.60	$17.57	$0.00	$71.75
	12/01/2023	$46.83	$8.60	$17.57	$0.00	$73.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER *LABORERS - ZONE 2*	06/01/2021	$40.82	$8.60	$17.57	$0.00	$66.99
	12/01/2021	$41.83	$8.60	$17.57	$0.00	$68.00
	06/01/2022	$42.83	$8.60	$17.57	$0.00	$69.00
	12/01/2022	$43.83	$8.60	$17.57	$0.00	$70.00
	06/01/2023	$44.83	$8.60	$17.57	$0.00	$71.00
	12/01/2023	$46.08	$8.60	$17.57	$0.00	$72.25
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER *PILE DRIVER LOCAL 56 (ZONE 2)*	08/01/2020	$68.70	$9.40	$23.12	$0.00	$101.22
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER *PILE DRIVER LOCAL 56 (ZONE 2)*	08/01/2020	$49.07	$9.40	$23.12	$0.00	$81.59
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) *PILE DRIVER LOCAL 56 (ZONE 2)*	08/01/2020	$73.60	$9.40	$23.12	$0.00	$106.12
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) *PILE DRIVER LOCAL 56 (ZONE 2)*	08/01/2020	$103.05	$9.40	$23.12	$0.00	$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) *DRAWBRIDGE - SEIU LOCAL 888*	07/01/2020	$26.77	$6.67	$3.93	$0.16	$37.53
ELECTRICIAN *ELECTRICIANS LOCAL 223*	09/01/2020	$43.66	$10.90	$14.66	$0.00	$69.22

Apprentice - *ELECTRICIAN - Local 223*

Effective Date - 09/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$17.46	$10.90	$0.52	$0.00	$28.88
2	45	$19.65	$10.90	$0.59	$0.00	$31.14
3	50	$21.83	$10.90	$0.65	$0.00	$33.38
4	55	$24.01	$10.90	$6.28	$0.00	$41.19
5	60	$26.20	$10.90	$6.77	$0.00	$43.87
6	65	$28.38	$10.90	$7.24	$0.00	$46.52
7	70	$30.56	$10.90	$7.73	$0.00	$49.19
8	75	$32.75	$10.90	$8.21	$0.00	$51.86

Notes:

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR *ELEVATOR CONSTRUCTORS LOCAL 4*	01/01/2021	$63.47	$15.88	$19.31	$0.00	$98.66
	01/01/2022	$65.62	$16.03	$20.21	$0.00	$101.86

Apprentice - *ELEVATOR CONSTRUCTOR - Local 4*

Effective Date - 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$31.74	$15.88	$0.00	$0.00	$47.62
2	55	$34.91	$15.88	$19.31	$0.00	$70.10
3	65	$41.26	$15.88	$19.31	$0.00	$76.45
4	70	$44.43	$15.88	$19.31	$0.00	$79.62
5	80	$50.78	$15.88	$19.31	$0.00	$85.97

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$32.81	$16.03	$0.00	$0.00	$48.84
2	55	$36.09	$16.03	$20.21	$0.00	$72.33
3	65	$42.65	$16.03	$20.21	$0.00	$78.89
4	70	$45.93	$16.03	$20.21	$0.00	$82.17
5	80	$52.50	$16.03	$20.21	$0.00	$88.74

Notes:

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

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER *ELEVATOR CONSTRUCTORS LOCAL 4*	01/01/2021	$44.43	$15.88	$19.31	$0.00	$79.62
	01/01/2022	$45.93	$16.03	$20.21	$0.00	$82.17
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 4*	05/01/2021	$45.88	$13.50	$15.70	$0.00	$75.08
	11/01/2021	$46.88	$13.50	$15.70	$0.00	$76.08
	05/01/2022	$48.03	$13.50	$15.70	$0.00	$77.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 4*	05/01/2021	$47.40	$13.50	$15.70	$0.00	$76.60
	11/01/2021	$48.41	$13.50	$15.70	$0.00	$77.61
	05/01/2022	$49.57	$13.50	$15.70	$0.00	$78.77
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 4*	05/01/2021	$22.91	$13.50	$15.70	$0.00	$52.11
	11/01/2021	$23.51	$13.50	$15.70	$0.00	$52.71
	05/01/2022	$24.18	$13.50	$15.70	$0.00	$53.38
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER *ELECTRICIANS LOCAL 223*	09/01/2020	$43.66	$10.90	$14.66	$0.00	$69.22
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING*ELECTRICIANS LOCAL 223*	09/01/2020	$36.86	$10.90	$12.45	$0.00	$60.21
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$41.31	$13.75	$15.80	$0.00	$70.86
	12/01/2021	$42.26	$13.75	$15.80	$0.00	$71.81
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$24.50	$8.60	$16.64	$0.00	$49.74
	12/01/2021	$24.50	$8.60	$16.64	$0.00	$49.74
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
FLOORCOVERER *FLOORCOVERERS LOCAL 2168 ZONE I*	09/01/2021	$49.38	$8.58	$20.12	$0.00	$78.08
	03/01/2022	$50.18	$8.58	$20.12	$0.00	$78.88

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *FLOORCOVERER - Local 2168 Zone I*

Effective Date - 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.69	$8.58	$1.79	$0.00	$35.06
2	55	$27.16	$8.58	$1.79	$0.00	$37.53
3	60	$29.63	$8.58	$14.75	$0.00	$52.96
4	65	$32.10	$8.58	$14.75	$0.00	$55.43
5	70	$34.57	$8.58	$16.54	$0.00	$59.69
6	75	$37.04	$8.58	$16.54	$0.00	$62.16
7	80	$39.50	$8.58	$18.33	$0.00	$66.41
8	85	$41.97	$8.58	$18.33	$0.00	$68.88

Effective Date - 03/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$25.09	$8.58	$1.79	$0.00	$35.46
2	55	$27.60	$8.58	$1.79	$0.00	$37.97
3	60	$30.11	$8.58	$14.75	$0.00	$53.44
4	65	$32.62	$8.58	$14.75	$0.00	$55.95
5	70	$35.13	$8.58	$16.54	$0.00	$60.25
6	75	$37.64	$8.58	$16.54	$0.00	$62.76
7	80	$40.14	$8.58	$18.33	$0.00	$67.05
8	85	$42.65	$8.58	$18.33	$0.00	$69.56

Notes: Steps are 750 hrs.
% After 10/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)
Step 1&2 $32.59/ 3&4 $39.26/ 5&6 $59.69/ 7&8 $66.41

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATOR/LIGHTING PLANT/HEATERS *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$33.40	$13.75	$15.80	$0.00	$62.95
	12/01/2021	$34.19	$13.75	$15.80	$0.00	$63.74
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) *GLAZIERS LOCAL 1333*	06/01/2020	$39.18	$10.80	$10.45	$0.00	$60.43

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *GLAZIER - Local 1333*

Effective Date - 06/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$19.59	$10.80	$1.80	$0.00	$32.19
2	56	$22.04	$10.80	$1.80	$0.00	$34.64
3	63	$24.49	$10.80	$2.45	$0.00	$37.74
4	69	$26.94	$10.80	$2.45	$0.00	$40.19
5	75	$29.39	$10.80	$3.15	$0.00	$43.34
6	81	$31.83	$10.80	$3.15	$0.00	$45.78
7	88	$34.28	$10.80	$10.45	$0.00	$55.53
8	94	$36.73	$10.80	$10.45	$0.00	$57.98

Notes:

Apprentice to Journeyworker Ratio:1:3

HOISTING ENGINEER/CRANES/GRADALLS *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43

Apprentice - *OPERATING ENGINEERS - Local 4*

Effective Date - 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$27.90	$13.75	$0.00	$0.00	$41.65
2	60	$30.44	$13.75	$15.80	$0.00	$59.99
3	65	$32.97	$13.75	$15.80	$0.00	$62.52
4	70	$35.51	$13.75	$15.80	$0.00	$65.06
5	75	$38.05	$13.75	$15.80	$0.00	$67.60
6	80	$40.58	$13.75	$15.80	$0.00	$70.13
7	85	$43.12	$13.75	$15.80	$0.00	$72.67
8	90	$45.66	$13.75	$15.80	$0.00	$75.21

Effective Date - 12/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$28.53	$13.75	$0.00	$0.00	$42.28
2	60	$31.13	$13.75	$15.80	$0.00	$60.68
3	65	$33.72	$13.75	$15.80	$0.00	$63.27
4	70	$36.32	$13.75	$15.80	$0.00	$65.87
5	75	$38.91	$13.75	$15.80	$0.00	$68.46
6	80	$41.50	$13.75	$15.80	$0.00	$71.05
7	85	$44.10	$13.75	$15.80	$0.00	$73.65
8	90	$46.69	$13.75	$15.80	$0.00	$76.24

Notes:

Apprentice to Journeyworker Ratio:1:6

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (DUCTWORK) *SHEETMETAL WORKERS LOCAL 17 - B*	10/01/2021	$37.91	$13.65	$17.15	$2.06	$70.77
	04/01/2022	$38.91	$13.65	$17.15	$2.09	$71.80
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (ELECTRICAL CONTROLS) *ELECTRICIANS LOCAL 223*	09/01/2020	$43.66	$10.90	$14.66	$0.00	$69.22
For apprentice rates see "Apprentice- ELECTRICIAN"						
HVAC (TESTING AND BALANCING - AIR) *SHEETMETAL WORKERS LOCAL 17 - B*	10/01/2021	$37.91	$13.65	$17.15	$2.06	$70.77
	04/01/2022	$38.91	$13.65	$17.15	$2.09	$71.80
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) *PLUMBERS & PIPEFITTERS LOCAL 51*	08/30/2021	$46.49	$10.15	$19.95	$0.00	$76.59
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC *PLUMBERS & PIPEFITTERS LOCAL 51*	08/30/2021	$46.49	$10.15	$19.95	$0.00	$76.59
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HYDRAULIC DRILLS *LABORERS - ZONE 2*	06/01/2021	$35.75	$8.60	$16.64	$0.00	$60.99
	12/01/2021	$36.66	$8.60	$16.64	$0.00	$61.90
	06/01/2022	$37.56	$8.60	$16.64	$0.00	$62.80
	12/01/2022	$38.41	$8.60	$16.64	$0.00	$63.65
	06/01/2023	$39.31	$8.60	$16.64	$0.00	$64.55
	12/01/2023	$40.21	$8.60	$16.64	$0.00	$65.45
For apprentice rates see "Apprentice- LABORER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.75	$8.60	$16.64	$0.00	$60.99
	12/01/2021	$36.66	$8.60	$16.64	$0.00	$61.90
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
INSULATOR (PIPES & TANKS) *HEAT & FROST INSULATORS LOCAL 6 (SOUTHERN MASS)*	09/01/2021	$46.50	$13.80	$17.14	$0.00	$77.44
	09/01/2022	$48.95	$13.80	$17.14	$0.00	$79.89

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

Effective Date - 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$23.25	$13.80	$12.42	$0.00	$49.47
2	60	$27.90	$13.80	$13.36	$0.00	$55.06
3	70	$32.55	$13.80	$14.31	$0.00	$60.66
4	80	$37.20	$13.80	$15.25	$0.00	$66.25

Effective Date - 09/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.48	$13.80	$12.42	$0.00	$50.70
2	60	$29.37	$13.80	$13.36	$0.00	$56.53
3	70	$34.27	$13.80	$14.31	$0.00	$62.38
4	80	$39.16	$13.80	$15.25	$0.00	$68.21

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER *IRONWORKERS LOCAL 37*	03/16/2021	$42.46	$7.70	$17.10	$0.00	$67.26

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *IRONWORKER - Local 37*

Effective Date - 03/16/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	70	$29.72	$7.70	$17.10	$0.00	$54.52
2	75	$31.85	$7.70	$17.10	$0.00	$56.65
3	80	$33.97	$7.70	$17.10	$0.00	$58.77
4	85	$36.09	$7.70	$17.10	$0.00	$60.89
5	90	$38.21	$7.70	$17.10	$0.00	$63.01
6	95	$40.34	$7.70	$17.10	$0.00	$65.14

Notes:

Apprentice to Journeyworker Ratio:1:4

JACKHAMMER & PAVING BREAKER OPERATOR *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
LABORER *LABORERS - ZONE 2*	06/01/2021	$35.00	$8.60	$16.64	$0.00	$60.24
	12/01/2021	$35.91	$8.60	$16.64	$0.00	$61.15
	06/01/2022	$36.81	$8.60	$16.64	$0.00	$62.05
	12/01/2022	$37.66	$8.60	$16.64	$0.00	$62.90
	06/01/2023	$38.56	$8.60	$16.64	$0.00	$63.80
	12/01/2023	$39.46	$8.60	$16.64	$0.00	$64.70

Apprentice - *LABORER - Zone 2*

Effective Date - 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$21.00	$8.60	$16.64	$0.00	$46.24
2	70	$24.50	$8.60	$16.64	$0.00	$49.74
3	80	$28.00	$8.60	$16.64	$0.00	$53.24
4	90	$31.50	$8.60	$16.64	$0.00	$56.74

Effective Date - 12/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$21.55	$8.60	$16.64	$0.00	$46.79
2	70	$25.14	$8.60	$16.64	$0.00	$50.38
3	80	$28.73	$8.60	$16.64	$0.00	$53.97
4	90	$32.32	$8.60	$16.64	$0.00	$57.56

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.00	$8.60	$16.64	$0.00	$60.24
	12/01/2021	$35.91	$8.60	$16.64	$0.00	$61.15

Apprentice - *LABORER (Heavy & Highway) - Zone 2*

Effective Date - 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$21.00	$8.60	$16.64	$0.00	$46.24
2	70	$24.50	$8.60	$16.64	$0.00	$49.74
3	80	$28.00	$8.60	$16.64	$0.00	$53.24
4	90	$31.50	$8.60	$16.64	$0.00	$56.74

Effective Date - 12/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$21.55	$8.60	$16.64	$0.00	$46.79
2	70	$25.14	$8.60	$16.64	$0.00	$50.38
3	80	$28.73	$8.60	$16.64	$0.00	$53.97
4	90	$32.32	$8.60	$16.64	$0.00	$57.56

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER *LABORERS - ZONE 2*	06/01/2021	$35.00	$8.60	$16.64	$0.00	$60.24
	12/01/2021	$35.91	$8.60	$16.64	$0.00	$61.15
	06/01/2022	$36.81	$8.60	$16.64	$0.00	$62.05
	12/01/2022	$37.66	$8.60	$16.64	$0.00	$62.90
	06/01/2023	$38.56	$8.60	$16.64	$0.00	$63.80
	12/01/2023	$39.46	$8.60	$16.64	$0.00	$64.70
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER *LABORERS - ZONE 2*	06/01/2021	$35.00	$8.60	$16.64	$0.00	$60.24
	12/01/2021	$35.91	$8.60	$16.64	$0.00	$61.15
	06/01/2022	$36.81	$8.60	$16.64	$0.00	$62.05
	12/01/2022	$37.66	$8.60	$16.64	$0.00	$62.90
	06/01/2023	$38.56	$8.60	$16.64	$0.00	$63.80
	12/01/2023	$39.46	$8.60	$16.64	$0.00	$64.70
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER *LABORERS - ZONE 2*	06/01/2021	$35.09	$8.60	$16.70	$0.00	$60.39
	12/01/2021	$36.00	$8.60	$16.70	$0.00	$61.30
	06/01/2022	$36.90	$8.60	$16.70	$0.00	$62.20
	12/01/2022	$37.75	$8.60	$16.70	$0.00	$63.05
	06/01/2023	$38.65	$8.60	$16.70	$0.00	$63.95
	12/01/2023	$39.55	$8.60	$16.70	$0.00	$64.85
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
LABORER: MULTI-TRADE TENDER *LABORERS - ZONE 2*	06/01/2021	$35.00	$8.60	$16.64	$0.00	$60.24
	12/01/2021	$35.91	$8.60	$16.64	$0.00	$61.15
	06/01/2022	$36.81	$8.60	$16.64	$0.00	$62.05
	12/01/2022	$37.66	$8.60	$16.64	$0.00	$62.90
	06/01/2023	$38.56	$8.60	$16.64	$0.00	$63.80
	12/01/2023	$39.46	$8.60	$16.64	$0.00	$64.70
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER *LABORERS - ZONE 2*	06/01/2021	$35.00	$8.60	$16.64	$0.00	$60.24
	12/01/2021	$35.91	$8.60	$16.64	$0.00	$61.15
	06/01/2022	$36.81	$8.60	$16.64	$0.00	$62.05
	12/01/2022	$37.66	$8.60	$16.64	$0.00	$62.90
	06/01/2023	$38.56	$8.60	$16.64	$0.00	$63.80
	12/01/2023	$39.46	$8.60	$16.64	$0.00	$64.70
This classification applies to the removal of standing trees, and the trimming and removal of branches and limbs when related to public works construction or site clearance incidental to construction . For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LASER BEAM OPERATOR *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
MARBLE & TILE FINISHERS *BRICKLAYERS LOCAL 3 - MARBLE & TILE*	08/01/2021	$43.69	$11.39	$20.30	$0.00	$75.38
	02/01/2022	$44.16	$11.39	$20.30	$0.00	$75.85

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

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.85	$11.39	$20.30	$0.00	$53.54
2	60	$26.21	$11.39	$20.30	$0.00	$57.90
3	70	$30.58	$11.39	$20.30	$0.00	$62.27
4	80	$34.95	$11.39	$20.30	$0.00	$66.64
5	90	$39.32	$11.39	$20.30	$0.00	$71.01

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.08	$11.39	$20.30	$0.00	$53.77
2	60	$26.50	$11.39	$20.30	$0.00	$58.19
3	70	$30.91	$11.39	$20.30	$0.00	$62.60
4	80	$35.33	$11.39	$20.30	$0.00	$67.02
5	90	$39.74	$11.39	$20.30	$0.00	$71.43

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS,TILELAYERS & TERRAZZO MECH *BRICKLAYERS LOCAL 3 - MARBLE & TILE*	08/01/2021	$57.17	$11.39	$22.24	$0.00	$90.80
	02/01/2022	$57.74	$11.39	$22.24	$0.00	$91.37

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.59	$11.39	$22.24	$0.00	$62.22
2	60	$34.30	$11.39	$22.24	$0.00	$67.93
3	70	$40.02	$11.39	$22.24	$0.00	$73.65
4	80	$45.74	$11.39	$22.24	$0.00	$79.37
5	90	$51.45	$11.39	$22.24	$0.00	$85.08

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.87	$11.39	$22.24	$0.00	$62.50
2	60	$34.64	$11.39	$22.24	$0.00	$68.27
3	70	$40.42	$11.39	$22.24	$0.00	$74.05
4	80	$46.19	$11.39	$22.24	$0.00	$79.82
5	90	$51.97	$11.39	$22.24	$0.00	$85.60

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MECHANICS MAINTENANCE *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MILLWRIGHT (Zone 2) *MILLWRIGHTS LOCAL 1121 - Zone 2*	03/01/2021	$39.42	$8.58	$21.57	$0.00	$69.57
	01/03/2022	$40.67	$8.58	$21.57	$0.00	$70.82
	01/02/2023	$41.92	$8.58	$21.57	$0.00	$72.07

Apprentice - *MILLWRIGHT - Local 1121 Zone 2*

Effective Date - 03/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$21.68	$8.58	$5.72	$0.00	$35.98
2	65	$25.62	$8.58	$17.93	$0.00	$52.13
3	75	$29.57	$8.58	$18.98	$0.00	$57.13
4	85	$33.51	$8.58	$20.01	$0.00	$62.10

Effective Date - 01/03/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$22.37	$8.58	$5.72	$0.00	$36.67
2	65	$26.44	$8.58	$17.93	$0.00	$52.95
3	75	$30.50	$8.58	$18.98	$0.00	$58.06
4	85	$34.57	$8.58	$20.01	$0.00	$63.16

Notes: Step 1&2 Appr. indentured after 1/6/2020 receive no pension, but do receive annuity. (Step 1 $5.72, Step 2 $6.66)
Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:5

MORTAR MIXER *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
OILER (OTHER THAN TRUCK CRANES,GRADALLS) *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$23.40	$13.75	$15.80	$0.00	$52.95
	12/01/2021	$23.98	$13.75	$15.80	$0.00	$53.53
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OILER (TRUCK CRANES, GRADALLS) *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$28.26	$13.75	$15.80	$0.00	$57.81
	12/01/2021	$28.94	$13.75	$15.80	$0.00	$58.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OTHER POWER DRIVEN EQUIPMENT - CLASS II *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PAINTER (BRIDGES/TANKS) *PAINTERS LOCAL 35 - ZONE 2*	07/01/2021	$52.86	$8.45	$22.90	$0.00	$84.21
	01/01/2022	$53.66	$8.65	$23.05	$0.00	$85.36
	07/01/2022	$54.86	$8.65	$23.05	$0.00	$86.56
	01/01/2023	$56.06	$8.65	$23.05	$0.00	$87.76
	07/01/2023	$57.26	$8.65	$23.05	$0.00	$88.96
	01/01/2024	$58.46	$8.65	$23.05	$0.00	$90.16
	07/01/2024	$59.66	$8.65	$23.05	$0.00	$91.36
	01/01/2025	$60.86	$8.65	$23.05	$0.00	$92.56

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PAINTER Local 35 - BRIDGES/TANKS*

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.43	$8.45	$0.00	$0.00	$34.88
2	55	$29.07	$8.45	$6.22	$0.00	$43.74
3	60	$31.72	$8.45	$6.78	$0.00	$46.95
4	65	$34.36	$8.45	$7.35	$0.00	$50.16
5	70	$37.00	$8.45	$19.51	$0.00	$64.96
6	75	$39.65	$8.45	$20.08	$0.00	$68.18
7	80	$42.29	$8.45	$20.64	$0.00	$71.38
8	90	$47.57	$8.45	$21.77	$0.00	$77.79

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.83	$8.65	$0.00	$0.00	$35.48
2	55	$29.51	$8.65	$6.27	$0.00	$44.43
3	60	$32.20	$8.65	$6.84	$0.00	$47.69
4	65	$34.88	$8.65	$7.41	$0.00	$50.94
5	70	$37.56	$8.65	$19.63	$0.00	$65.84
6	75	$40.25	$8.65	$20.20	$0.00	$69.10
7	80	$42.93	$8.65	$20.77	$0.00	$72.35
8	90	$48.29	$8.65	$21.91	$0.00	$78.85

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) * * If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.*PAINTERS LOCAL 35 - ZONE 2*	07/01/2021	$43.76	$8.45	$22.90	$0.00	$75.11
	01/01/2022	$44.56	$8.65	$23.05	$0.00	$76.26
	07/01/2022	$45.76	$8.65	$23.05	$0.00	$77.46
	01/01/2023	$46.96	$8.65	$23.05	$0.00	$78.66
	07/01/2023	$48.16	$8.65	$23.05	$0.00	$79.86
	01/01/2024	$49.36	$8.65	$23.05	$0.00	$81.06
	07/01/2024	$50.56	$8.65	$23.05	$0.00	$82.26
	01/01/2025	$51.76	$8.65	$23.05	$0.00	$83.46

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.88	$8.45	$0.00	$0.00	$30.33
2	55	$24.07	$8.45	$6.22	$0.00	$38.74
3	60	$26.26	$8.45	$6.78	$0.00	$41.49
4	65	$28.44	$8.45	$7.35	$0.00	$44.24
5	70	$30.63	$8.45	$19.51	$0.00	$58.59
6	75	$32.82	$8.45	$20.08	$0.00	$61.35
7	80	$35.01	$8.45	$20.64	$0.00	$64.10
8	90	$39.38	$8.45	$21.77	$0.00	$69.60

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.28	$8.65	$0.00	$0.00	$30.93
2	55	$24.51	$8.65	$6.27	$0.00	$39.43
3	60	$26.74	$8.65	$6.84	$0.00	$42.23
4	65	$28.96	$8.65	$19.06	$0.00	$56.67
5	70	$31.19	$8.65	$19.63	$0.00	$59.47
6	75	$33.42	$8.65	$20.20	$0.00	$62.27
7	80	$35.65	$8.65	$20.77	$0.00	$65.07
8	90	$40.10	$8.65	$21.91	$0.00	$70.66

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT) *PAINTERS LOCAL 35 - ZONE 2*	07/01/2021	$41.82	$8.45	$22.90	$0.00	$73.17
	01/01/2022	$42.62	$8.65	$23.05	$0.00	$74.32
	07/01/2022	$43.82	$8.65	$23.05	$0.00	$75.52
	01/01/2023	$45.02	$8.65	$23.05	$0.00	$76.72
	07/01/2023	$46.22	$8.65	$23.05	$0.00	$77.92
	01/01/2024	$47.42	$8.65	$23.05	$0.00	$79.12
	07/01/2024	$48.62	$8.65	$23.05	$0.00	$80.32
	01/01/2025	$49.82	$8.65	$23.05	$0.00	$81.52

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$20.91	$8.45	$0.00	$0.00	$29.36
2	55	$23.00	$8.45	$6.22	$0.00	$37.67
3	60	$25.09	$8.45	$6.78	$0.00	$40.32
4	65	$27.18	$8.45	$7.35	$0.00	$42.98
5	70	$29.27	$8.45	$19.51	$0.00	$57.23
6	75	$31.37	$8.45	$20.08	$0.00	$59.90
7	80	$33.46	$8.45	$20.64	$0.00	$62.55
8	90	$37.64	$8.45	$21.77	$0.00	$67.86

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.31	$8.65	$0.00	$0.00	$29.96
2	55	$23.44	$8.65	$6.27	$0.00	$38.36
3	60	$25.57	$8.65	$6.84	$0.00	$41.06
4	65	$27.70	$8.65	$7.41	$0.00	$43.76
5	70	$29.83	$8.65	$19.63	$0.00	$58.11
6	75	$31.97	$8.65	$20.20	$0.00	$60.82
7	80	$34.10	$8.65	$20.77	$0.00	$63.52
8	90	$38.36	$8.65	$21.91	$0.00	$68.92

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	07/01/2021	$42.36	$8.45	$22.90	$0.00	$73.71
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.*PAINTERS LOCAL 35 - ZONE 2*	01/01/2022	$43.16	$8.65	$23.05	$0.00	$74.86
	07/01/2022	$44.36	$8.65	$23.05	$0.00	$76.06
	01/01/2023	$45.56	$8.65	$23.05	$0.00	$77.26
	07/01/2023	$46.76	$8.65	$23.05	$0.00	$78.46
	01/01/2024	$47.96	$8.65	$23.05	$0.00	$79.66
	07/01/2024	$49.16	$8.65	$23.05	$0.00	$80.86
	01/01/2025	$50.36	$8.65	$23.05	$0.00	$82.06

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PAINTER - Local 35 Zone 2 - BRUSH NEW*

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.18	$8.45	$0.00	$0.00	$29.63
2	55	$23.30	$8.45	$6.22	$0.00	$37.97
3	60	$25.42	$8.45	$6.78	$0.00	$40.65
4	65	$27.53	$8.45	$7.35	$0.00	$43.33
5	70	$29.65	$8.45	$19.51	$0.00	$57.61
6	75	$31.77	$8.45	$20.08	$0.00	$60.30
7	80	$33.89	$8.45	$20.64	$0.00	$62.98
8	90	$38.12	$8.45	$21.77	$0.00	$68.34

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.58	$8.65	$0.00	$0.00	$30.23
2	55	$23.74	$8.65	$6.27	$0.00	$38.66
3	60	$25.90	$8.65	$6.84	$0.00	$41.39
4	65	$28.05	$8.65	$7.41	$0.00	$44.11
5	70	$30.21	$8.65	$19.63	$0.00	$58.49
6	75	$32.37	$8.65	$20.20	$0.00	$61.22
7	80	$34.53	$8.65	$20.77	$0.00	$63.95
8	90	$38.84	$8.65	$21.91	$0.00	$69.40

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT) *PAINTERS LOCAL 35 - ZONE 2*	07/01/2021	$40.42	$8.45	$22.90	$0.00	$71.77
	01/01/2022	$41.22	$8.65	$23.05	$0.00	$72.92
	07/01/2022	$42.42	$8.65	$23.05	$0.00	$74.12
	01/01/2023	$43.62	$8.65	$23.05	$0.00	$75.32
	07/01/2023	$44.82	$8.65	$23.05	$0.00	$76.52
	01/01/2024	$46.02	$8.65	$23.05	$0.00	$77.72
	07/01/2024	$47.22	$8.65	$23.05	$0.00	$78.92
	01/01/2025	$48.42	$8.65	$23.05	$0.00	$80.12

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PAINTER Local 35 Zone 2 - BRUSH REPAINT*

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$20.21	$8.45	$0.00	$0.00	$28.66
2	55	$22.23	$8.45	$6.22	$0.00	$36.90
3	60	$24.25	$8.45	$6.78	$0.00	$39.48
4	65	$26.27	$8.45	$7.35	$0.00	$42.07
5	70	$28.29	$8.45	$19.51	$0.00	$56.25
6	75	$30.32	$8.45	$20.08	$0.00	$58.85
7	80	$32.34	$8.45	$20.64	$0.00	$61.43
8	90	$36.38	$8.45	$21.77	$0.00	$66.60

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$20.61	$8.65	$0.00	$0.00	$29.26
2	55	$22.67	$8.65	$6.27	$0.00	$37.59
3	60	$24.73	$8.65	$6.84	$0.00	$40.22
4	65	$26.79	$8.65	$7.41	$0.00	$42.85
5	70	$28.85	$8.65	$19.63	$0.00	$57.13
6	75	$30.92	$8.65	$20.20	$0.00	$59.77
7	80	$32.98	$8.65	$20.77	$0.00	$62.40
8	90	$37.10	$8.65	$21.91	$0.00	$67.66

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)* For apprentice rates see "Apprentice- LABORER (Heavy and Highway)	06/01/2021	$35.00	$8.60	$16.64	$0.00	$60.24
	12/01/2021	$35.91	$8.60	$16.64	$0.00	$61.15
PANEL & PICKUP TRUCKS DRIVER *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2021	$35.78	$13.41	$14.82	$0.00	$64.01
	12/01/2021	$35.78	$13.41	$16.01	$0.00	$65.20
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) *PILE DRIVER LOCAL 56 (ZONE 2)* For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2020	$46.11	$9.40	$23.12	$0.00	$78.63
PILE DRIVER *PILE DRIVER LOCAL 56 (ZONE 2)*	08/01/2020	$46.11	$9.40	$23.12	$0.00	$78.63

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PILE DRIVER - Local 56 Zone 2*

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	0	$0.00	$0.00	$0.00	$0.00	$0.00

Notes: Apprentice wages shall be no less than the following Steps;
(Same as set in Zone 1)
1$57.06/2$61.96/3$66.87/4$69.32/5$71.78/6$71.78/7$76.68/8$76.68

Apprentice to Journeyworker Ratio:1:5

PIPELAYER *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
PIPELAYER (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
PLUMBER & PIPEFITTER *PLUMBERS & PIPEFITTERS LOCAL 51*	08/30/2021	$46.49	$10.15	$19.95	$0.00	$76.59

Apprentice - *PLUMBER/PIPEFITTER - Local 51*

Effective Date - 08/30/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$18.60	$10.15	$2.50	$0.00	$31.25
2	50	$23.25	$10.15	$2.50	$0.00	$35.90
3	60	$27.89	$10.15	$8.80	$0.00	$46.84
4	70	$32.54	$10.15	$14.08	$0.00	$56.77
5	80	$37.19	$10.15	$17.60	$0.00	$64.94

Notes:
Steps 2000hrs. Prior 9/1/05; 40/40/45/50/55/60/65/75/80/85

Apprentice to Journeyworker Ratio:1:3

PNEUMATIC CONTROLS (TEMP.) *PLUMBERS & PIPEFITTERS LOCAL 51*	08/30/2021	$46.49	$10.15	$19.95	$0.00	$76.59
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
PNEUMATIC DRILL/TOOL OPERATOR *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)* For apprentice rates see "Apprentice- LABORER (Heavy and Highway)	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
POWDERMAN & BLASTER *LABORERS - ZONE 2* For apprentice rates see "Apprentice- LABORER"	06/01/2021	$36.00	$8.60	$16.64	$0.00	$61.24
	12/01/2021	$36.91	$8.60	$16.64	$0.00	$62.15
	06/01/2022	$37.81	$8.60	$16.64	$0.00	$63.05
	12/01/2022	$38.66	$8.60	$16.64	$0.00	$63.90
	06/01/2023	$39.56	$8.60	$16.64	$0.00	$64.80
	12/01/2023	$40.46	$8.60	$16.64	$0.00	$65.70
POWDERMAN & BLASTER (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)* For apprentice rates see "Apprentice- LABORER (Heavy and Highway)	06/01/2021	$36.00	$8.60	$16.64	$0.00	$61.24
	12/01/2021	$36.91	$8.60	$16.64	$0.00	$62.15
POWER SHOVEL/DERRICK/TRENCHING MACHINE *OPERATING ENGINEERS LOCAL 4* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
PUMP OPERATOR (CONCRETE) *OPERATING ENGINEERS LOCAL 4* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
PUMP OPERATOR (DEWATERING, OTHER) *OPERATING ENGINEERS LOCAL 4* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	06/01/2021	$33.40	$13.75	$15.80	$0.00	$62.95
	12/01/2021	$34.19	$13.75	$15.80	$0.00	$63.74
READY-MIX CONCRETE DRIVER *TEAMSTERS 170 - Dauphinais (Bellingham)*	01/01/2021	$25.00	$9.31	$3.20	$0.00	$37.51
	12/01/2021	$25.75	$9.76	$4.00	$0.00	$39.51
	01/01/2022	$25.75	$9.76	$4.00	$0.00	$39.51
	12/01/2022	$26.40	$10.26	$4.75	$0.00	$41.41
	01/01/2023	$26.40	$10.26	$4.75	$0.00	$41.41
	12/01/2023	$27.00	$10.76	$5.45	$0.00	$43.21
	01/01/2024	$27.00	$10.76	$5.45	$0.00	$43.21
	12/01/2024	$27.60	$11.26	$6.15	$0.00	$45.01
	01/01/2025	$27.60	$11.26	$6.15	$0.00	$45.01
RECLAIMERS *OPERATING ENGINEERS LOCAL 4* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
RIDE-ON MOTORIZED BUGGY OPERATOR *LABORERS - ZONE 2* For apprentice rates see "Apprentice- LABORER"	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
ROLLER/SPREADER/MULCHING MACHINE *OPERATING ENGINEERS LOCAL 4* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
ROOFER (Inc.Roofer Waterproofng &Roofer Damproofg) *ROOFERS LOCAL 33*	08/01/2021	$47.03	$12.28	$18.15	$0.00	$77.46
	02/01/2022	$48.46	$12.28	$18.15	$0.00	$78.89

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *ROOFER - Local 33*

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$23.52	$12.28	$4.56	$0.00	$40.36
2	60	$28.22	$12.28	$18.15	$0.00	$58.65
3	65	$30.57	$12.28	$18.15	$0.00	$61.00
4	75	$35.27	$12.28	$18.15	$0.00	$65.70
5	85	$39.98	$12.28	$18.15	$0.00	$70.41

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.23	$12.28	$4.56	$0.00	$41.07
2	60	$29.08	$12.28	$18.15	$0.00	$59.51
3	65	$31.50	$12.28	$18.15	$0.00	$61.93
4	75	$36.35	$12.28	$18.15	$0.00	$66.78
5	85	$41.19	$12.28	$18.15	$0.00	$71.62

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.
(Hot Pitch Mechanics' receive $1.00 hr. above ROOFER)

Apprentice to Journeyworker Ratio:**

ROOFER SLATE / TILE / PRECAST CONCRETE *ROOFERS LOCAL 33* For apprentice rates see "Apprentice- ROOFER"	08/01/2021	$47.28	$12.28	$18.15	$0.00	$77.71
	02/01/2022	$48.71	$12.28	$18.15	$0.00	$79.14
SHEETMETAL WORKER *SHEETMETAL WORKERS LOCAL 17 - B*	10/01/2021	$37.91	$13.65	$17.15	$2.06	$70.77
	04/01/2022	$38.91	$13.65	$17.15	$2.09	$71.80

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 10/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$15.16	$13.65	$4.02	$0.98	$33.81
2	45	$17.06	$13.65	$4.52	$1.06	$36.29
3	50	$18.96	$13.65	$11.08	$1.31	$45.00
4	55	$20.85	$13.65	$11.08	$1.37	$46.95
5	60	$22.75	$13.65	$14.12	$1.52	$52.04
6	65	$24.64	$13.65	$14.38	$1.58	$54.25
7	70	$26.54	$13.65	$14.63	$1.64	$56.46
8	75	$28.43	$13.65	$14.88	$1.71	$58.67
9	80	$30.33	$13.65	$15.14	$1.77	$60.89
10	85	$32.22	$13.65	$15.39	$1.84	$63.10

Effective Date - 04/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$15.56	$13.65	$4.02	$1.00	$34.23
2	45	$17.51	$13.65	$4.52	$1.07	$36.75
3	50	$19.46	$13.65	$11.08	$1.33	$45.52
4	55	$21.40	$13.65	$11.08	$1.38	$47.51
5	60	$23.35	$13.65	$14.12	$1.53	$52.65
6	65	$25.29	$13.65	$14.38	$1.60	$54.92
7	70	$27.24	$13.65	$14.63	$1.67	$57.19
8	75	$29.18	$13.65	$14.88	$1.73	$59.44
9	80	$31.13	$13.65	$15.14	$1.80	$61.72
10	85	$33.07	$13.65	$15.39	$1.86	$63.97

Notes:

Apprentice to Journeyworker Ratio:1:3

SPECIALIZED EARTH MOVING EQUIP < 35 TONS *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2021	$36.24	$13.41	$14.82	$0.00	$64.47
	12/01/2021	$36.24	$13.41	$16.01	$0.00	$65.66
SPECIALIZED EARTH MOVING EQUIP > 35 TONS *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2021	$36.53	$13.41	$14.82	$0.00	$64.76
	12/01/2021	$36.53	$13.41	$16.01	$0.00	$65.95
SPRINKLER FITTER *SPRINKLER FITTERS LOCAL 550 - (Section B) Zone 2*	03/01/2021	$56.21	$10.00	$21.25	$0.00	$87.46

Apprentice - *SPRINKLER FITTER - Local 550 (Section B) Zone 2*

Effective Date - 03/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	$19.67	$10.00	$11.99	$0.00	$41.66
2	40	$22.48	$10.00	$12.70	$0.00	$45.18
3	45	$25.29	$10.00	$13.41	$0.00	$48.70
4	50	$28.11	$10.00	$14.13	$0.00	$52.24
5	55	$30.92	$10.00	$14.84	$0.00	$55.76
6	60	$33.73	$10.00	$15.55	$0.00	$59.28
7	65	$36.54	$10.00	$16.26	$0.00	$62.80
8	70	$39.35	$10.00	$16.98	$0.00	$66.33
9	75	$42.16	$10.00	$17.69	$0.00	$69.85
10	80	$44.97	$10.00	$18.40	$0.00	$73.37

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 *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN *ELECTRICIANS LOCAL 223*	09/01/2020	$36.86	$10.90	$12.45	$0.00	$60.21

Apprentice - *TELECOMMUNICATION TECHNICIAN - Local 223*

Effective Date - 09/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	0	$0.00	$0.00	$0.00	$0.00	$0.00

Notes: See Electrician Apprentice Wages

Telecom Apprentice Wages shall be the same as the Electrician Apprentice Wages

Apprentice to Journeyworker Ratio:2:3***

TERRAZZO FINISHERS *BRICKLAYERS LOCAL 3 - MARBLE & TILE*	08/01/2021	$56.09	$11.39	$22.25	$0.00	$89.73
	02/01/2022	$56.68	$11.39	$22.25	$0.00	$90.32

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.05	$11.39	$22.25	$0.00	$61.69
2	60	$33.65	$11.39	$22.25	$0.00	$67.29
3	70	$39.26	$11.39	$22.25	$0.00	$72.90
4	80	$44.87	$11.39	$22.25	$0.00	$78.51
5	90	$50.48	$11.39	$22.25	$0.00	$84.12

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.34	$11.39	$22.25	$0.00	$61.98
2	60	$34.01	$11.39	$22.25	$0.00	$67.65
3	70	$39.68	$11.39	$22.25	$0.00	$73.32
4	80	$45.34	$11.39	$22.25	$0.00	$78.98
5	90	$51.01	$11.39	$22.25	$0.00	$84.65

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$42.07	$8.60	$17.72	$0.00	$68.39
	12/01/2021	$43.08	$8.60	$17.72	$0.00	$69.40
For apprentice rates see "Apprentice- LABORER"						
TEST BORING DRILLER HELPER *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$40.79	$8.60	$17.72	$0.00	$67.11
	12/01/2021	$41.80	$8.60	$17.72	$0.00	$68.12
For apprentice rates see "Apprentice- LABORER"						
TEST BORING LABORER *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$40.67	$8.60	$17.72	$0.00	$66.99
	12/01/2021	$41.68	$8.60	$17.72	$0.00	$68.00
For apprentice rates see "Apprentice- LABORER"						
TRACTORS/PORTABLE STEAM GENERATORS *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2021	$36.82	$13.41	$14.82	$0.00	$65.05
	12/01/2021	$36.82	$13.41	$16.01	$0.00	$66.24
TUNNEL WORK - COMPRESSED AIR *LABORERS (COMPRESSED AIR)*	06/01/2021	$52.90	$8.60	$18.17	$0.00	$79.67
	12/01/2021	$53.91	$8.60	$18.17	$0.00	$80.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) *LABORERS (COMPRESSED AIR)*	06/01/2021	$54.90	$8.60	$18.17	$0.00	$81.67
	12/01/2021	$55.91	$8.60	$18.17	$0.00	$82.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR *LABORERS (FREE AIR TUNNEL)*	06/01/2021	$44.97	$8.60	$18.17	$0.00	$71.74
	12/01/2021	$45.98	$8.60	$18.17	$0.00	$72.75
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) *LABORERS (FREE AIR TUNNEL)*	06/01/2021	$46.97	$8.60	$18.17	$0.00	$73.74
	12/01/2021	$47.98	$8.60	$18.17	$0.00	$74.75

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2021	$36.24	$13.41	$14.82	$0.00	$64.47
	12/01/2021	$36.24	$13.41	$16.01	$0.00	$65.66
WAGON DRILL OPERATOR *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
WASTE WATER PUMP OPERATOR *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER *PLUMBERS & PIPEFITTERS LOCAL 51*	08/30/2021	$46.49	$10.15	$19.95	$0.00	$76.59
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
Outside Electrical - East						
CABLE TECHNICIAN (Power Zone) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$29.67	$9.25	$1.89	$0.00	$40.81
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$42.03	$9.25	$10.27	$0.00	$61.55
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$34.62	$9.25	$10.07	$0.00	$53.94
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$27.20	$9.25	$1.82	$0.00	$38.27
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$42.03	$9.25	$14.35	$0.00	$65.63
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$37.09	$9.25	$10.87	$0.00	$57.21
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$27.20	$9.25	$1.82	$0.00	$38.27
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$22.25	$9.25	$1.82	$0.00	$33.32
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$49.45	$9.25	$17.48	$0.00	$76.18

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 08/30/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$29.67	$9.25	$3.39	$0.00	$42.31
2	65	$32.14	$9.25	$3.46	$0.00	$44.85
3	70	$34.62	$9.25	$3.54	$0.00	$47.41
4	75	$37.09	$9.25	$5.11	$0.00	$51.45
5	80	$39.56	$9.25	$5.19	$0.00	$54.00
6	85	$42.03	$9.25	$5.26	$0.00	$56.54
7	90	$44.51	$9.25	$7.34	$0.00	$61.10

Notes:

Apprentice to Journeyworker Ratio:1:2

TELEDATA CABLE SPLICER *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	02/04/2019	$30.73	$4.70	$3.17	$0.00	$38.60
TELEDATA LINEMAN/EQUIPMENT OPERATOR *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	02/04/2019	$28.93	$4.70	$3.14	$0.00	$36.77
TELEDATA WIREMAN/INSTALLER/TECHNICIAN *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	02/04/2019	$28.93	$4.70	$3.14	$0.00	$36.77

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.

CHARLES D. BAKER
Governor

KARYN E. POLITO
Lt. Governor

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

ROSALIN ACOSTA
Secretary
MICHAEL FLANAGAN
Director

Awarding Authority: Southeastern Regional Services Group (SERSG)

Contract Number:

City/Town: DEDHAM

Description of Work: Road, Sidewalk and related work

Job Location: various towns in NORFOLK COUNTY

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE A*	08/01/2021	$37.05	$13.41	$14.82	$0.00	$65.28
	12/01/2021	$37.05	$13.41	$16.01	$0.00	$66.47
(3 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE A*	08/01/2021	$37.12	$13.41	$14.82	$0.00	$65.35
	12/01/2021	$37.12	$13.41	$16.01	$0.00	$66.54
(4 & 5 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE A*	08/01/2021	$37.24	$13.41	$14.82	$0.00	$65.47
	12/01/2021	$37.24	$13.41	$16.01	$0.00	$66.66
ADS/SUBMERSIBLE PILOT *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2020	$103.05	$9.40	$23.12	$0.00	$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR *LABORERS - ZONE 1*	06/01/2021	$41.42	$8.60	$17.57	$0.00	$67.59
	12/01/2021	$42.43	$8.60	$17.57	$0.00	$68.60
	06/01/2022	$43.43	$8.60	$17.57	$0.00	$69.60
	12/01/2022	$44.43	$8.60	$17.57	$0.00	$70.60
	06/01/2023	$45.43	$8.60	$17.57	$0.00	$71.60
	12/01/2023	$46.68	$8.60	$17.57	$0.00	$72.85
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 1 (HEAVY & HIGHWAY)*	06/01/2021	$41.42	$8.60	$17.57	$0.00	$67.59
	12/01/2021	$42.43	$8.60	$17.57	$0.00	$68.60
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. *HEAT & FROST INSULATORS LOCAL 6 (BOSTON)*	12/01/2020	$38.10	$12.80	$9.45	$0.00	$60.35
ASPHALT RAKER *LABORERS - ZONE 1*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
	06/01/2022	$42.93	$8.60	$17.57	$0.00	$69.10
	12/01/2022	$43.93	$8.60	$17.57	$0.00	$70.10
	06/01/2023	$44.93	$8.60	$17.57	$0.00	$71.10
	12/01/2023	$46.18	$8.60	$17.57	$0.00	$72.35
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) *LABORERS - ZONE 1 (HEAVY & HIGHWAY)*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER *LABORERS - ZONE 1*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
	06/01/2022	$42.93	$8.60	$17.57	$0.00	$69.10
	12/01/2022	$43.93	$8.60	$17.57	$0.00	$70.10
	06/01/2023	$44.93	$8.60	$17.57	$0.00	$71.10
	12/01/2023	$46.18	$8.60	$17.57	$0.00	$72.35
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BLOCK PAVER, RAMMER / CURB SETTER *LABORERS - ZONE 1*	06/01/2021	$41.42	$8.60	$17.57	$0.00	$67.59
	12/01/2021	$42.43	$8.60	$17.57	$0.00	$68.60
	06/01/2022	$43.43	$8.60	$17.57	$0.00	$69.60
	12/01/2022	$44.43	$8.60	$17.57	$0.00	$70.60
	06/01/2023	$45.43	$8.60	$17.57	$0.00	$71.60
	12/01/2023	$46.68	$8.60	$17.57	$0.00	$72.85
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) *LABORERS - ZONE 1 (HEAVY & HIGHWAY)* For apprentice rates see "Apprentice- LABORER (Heavy and Highway)	06/01/2021	$41.42	$8.60	$17.57	$0.00	$67.59
	12/01/2021	$42.43	$8.60	$17.57	$0.00	$68.60
BOILER MAKER *BOILERMAKERS LOCAL 29*	01/01/2020	$46.10	$7.07	$17.98	$0.00	$71.15

Apprentice - *BOILERMAKER - Local 29*

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	$29.97	$7.07	$11.69	$0.00	$48.73
2	65	$29.97	$7.07	$11.69	$0.00	$48.73
3	70	$32.27	$7.07	$12.59	$0.00	$51.93
4	75	$34.58	$7.07	$13.49	$0.00	$55.14
5	80	$36.88	$7.07	$14.38	$0.00	$58.33
6	85	$39.19	$7.07	$15.29	$0.00	$61.55
7	90	$41.49	$7.07	$16.18	$0.00	$64.74
8	95	$43.80	$7.07	$17.09	$0.00	$67.96

Notes:

Apprentice to Journeyworker Ratio:1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) *BRICKLAYERS LOCAL 3 (FOXBORO)*	08/01/2021	$55.01	$11.39	$21.57	$0.00	$87.97
	02/01/2022	$55.59	$11.39	$21.57	$0.00	$88.55

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$27.51	$11.39	$21.57	$0.00	$60.47
2	60	$33.01	$11.39	$21.57	$0.00	$65.97
3	70	$38.51	$11.39	$21.57	$0.00	$71.47
4	80	$44.01	$11.39	$21.57	$0.00	$76.97
5	90	$49.51	$11.39	$21.57	$0.00	$82.47

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$27.80	$11.39	$21.57	$0.00	$60.76
2	60	$33.35	$11.39	$21.57	$0.00	$66.31
3	70	$38.91	$11.39	$21.57	$0.00	$71.87
4	80	$44.47	$11.39	$21.57	$0.00	$77.43
5	90	$50.03	$11.39	$21.57	$0.00	$82.99

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$41.82	$8.60	$17.72	$0.00	$68.14
	12/01/2021	$42.83	$8.60	$17.72	$0.00	$69.15
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$40.67	$8.60	$17.72	$0.00	$66.99
	12/01/2021	$41.68	$8.60	$17.72	$0.00	$68.00
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$40.67	$8.60	$17.72	$0.00	$66.99
	12/01/2021	$41.68	$8.60	$17.72	$0.00	$68.00
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR *LABORERS - ZONE 1*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
	06/01/2022	$42.93	$8.60	$17.57	$0.00	$69.10
	12/01/2022	$43.93	$8.60	$17.57	$0.00	$70.10
	06/01/2023	$44.93	$8.60	$17.57	$0.00	$71.10
	12/01/2023	$46.18	$8.60	$17.57	$0.00	$72.35
For apprentice rates see "Apprentice- LABORER"						
CARPENTER *CARPENTERS -ZONE 1 (Metro Boston)*	09/01/2021	$53.27	$8.58	$19.82	$0.00	$81.67
	03/01/2022	$54.12	$8.58	$19.82	$0.00	$82.52
	09/01/2022	$55.02	$8.58	$19.82	$0.00	$83.42
	03/01/2023	$55.87	$8.58	$19.82	$0.00	$84.27

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *CARPENTER - Zone 1 Metro Boston*

Effective Date - 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.64	$8.58	$1.73	$0.00	$36.95
2	60	$31.96	$8.58	$1.73	$0.00	$42.27
3	70	$37.29	$8.58	$14.63	$0.00	$60.50
4	75	$39.95	$8.58	$14.63	$0.00	$63.16
5	80	$42.62	$8.58	$16.36	$0.00	$67.56
6	80	$42.62	$8.58	$16.36	$0.00	$67.56
7	90	$47.94	$8.58	$18.09	$0.00	$74.61
8	90	$47.94	$8.58	$18.09	$0.00	$74.61

Effective Date - 03/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$27.06	$8.58	$1.73	$0.00	$37.37
2	60	$32.47	$8.58	$1.73	$0.00	$42.78
3	70	$37.88	$8.58	$14.63	$0.00	$61.09
4	75	$40.59	$8.58	$14.63	$0.00	$63.80
5	80	$43.30	$8.58	$16.36	$0.00	$68.24
6	80	$43.30	$8.58	$16.36	$0.00	$68.24
7	90	$48.71	$8.58	$18.09	$0.00	$75.38
8	90	$48.71	$8.58	$18.09	$0.00	$75.38

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 $34.28/ 3&4 $41.28/ 5&6 $62.23/ 7&8 $69.29

Apprentice to Journeyworker Ratio:1:5

CARPENTER WOOD FRAME *CARPENTERS -ZONE 2 (Wood Frame)*	04/01/2021	$27.87	$7.21	$5.80	$0.00	$40.88
	04/01/2022	$28.62	$7.21	$5.80	$0.00	$41.63
	04/01/2023	$28.97	$7.21	$5.80	$0.00	$41.98

All Aspects of New Wood Frame Work

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *CARPENTER (Wood Frame) - Zone 2*

Effective Date - 04/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$13.94	$7.21	$0.00	$0.00	$21.15
2	50	$13.94	$7.21	$0.00	$0.00	$21.15
3	55	$15.33	$7.21	$2.00	$0.00	$24.54
4	55	$15.33	$7.21	$2.00	$0.00	$24.54
5	70	$19.51	$7.21	$5.80	$0.00	$32.52
6	70	$19.51	$7.21	$5.80	$0.00	$32.52
7	80	$22.30	$7.21	$5.80	$0.00	$35.31
8	80	$22.30	$7.21	$5.80	$0.00	$35.31

Effective Date - 04/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$14.31	$7.21	$0.00	$0.00	$21.52
2	50	$14.31	$7.21	$0.00	$0.00	$21.52
3	55	$15.74	$7.21	$2.00	$0.00	$24.95
4	55	$15.74	$7.21	$2.00	$0.00	$24.95
5	70	$20.03	$7.21	$5.80	$0.00	$33.04
6	70	$20.03	$7.21	$5.80	$0.00	$33.04
7	80	$22.90	$7.21	$5.80	$0.00	$35.91
8	80	$22.90	$7.21	$5.80	$0.00	$35.91

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 $19.75/ 3&4 $24.54/ 5&6 $32.52/ 7&8 $35.31

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING *BRICKLAYERS LOCAL 3 (FOXBORO)*	01/01/2020	$44.67	$12.75	$22.41	$0.62	$80.45

Apprentice - *CEMENT MASONRY/PLASTERING - Foxboro*

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.34	$12.75	$15.41	$0.00	$50.50
2	60	$26.80	$12.75	$17.41	$0.62	$57.58
3	65	$29.04	$12.75	$18.41	$0.62	$60.82
4	70	$31.27	$12.75	$19.41	$0.62	$64.05
5	75	$33.50	$12.75	$20.41	$0.62	$67.28
6	80	$35.74	$12.75	$21.41	$0.62	$70.52
7	90	$40.20	$12.75	$22.41	$0.62	$75.98

Notes:

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

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CHAIN SAW OPERATOR *LABORERS - ZONE 1*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
	06/01/2022	$42.93	$8.60	$17.57	$0.00	$69.10
	12/01/2022	$43.93	$8.60	$17.57	$0.00	$70.10
	06/01/2023	$44.93	$8.60	$17.57	$0.00	$71.10
	12/01/2023	$46.18	$8.60	$17.57	$0.00	$72.35
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$51.73	$13.75	$15.80	$0.00	$81.28
	12/01/2021	$52.88	$13.75	$15.80	$0.00	$82.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$33.40	$13.75	$15.80	$0.00	$62.95
	12/01/2021	$34.19	$13.75	$15.80	$0.00	$63.74
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) *PAINTERS LOCAL 35 - ZONE 1*	07/01/2021	$52.86	$8.45	$22.90	$0.00	$84.21
	01/01/2022	$53.66	$8.65	$23.05	$0.00	$85.36
	07/01/2022	$54.86	$8.65	$23.05	$0.00	$86.56
	01/01/2023	$56.06	$8.65	$23.05	$0.00	$87.76
	07/01/2023	$57.26	$8.65	$23.05	$0.00	$88.96
	01/01/2024	$58.46	$8.65	$23.05	$0.00	$90.16
	07/01/2024	$59.66	$8.65	$23.05	$0.00	$91.36
	01/01/2025	$60.86	$8.65	$23.05	$0.00	$92.56

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PAINTER Local 35 - BRIDGES/TANKS*

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.43	$8.45	$0.00	$0.00	$34.88
2	55	$29.07	$8.45	$6.22	$0.00	$43.74
3	60	$31.72	$8.45	$6.78	$0.00	$46.95
4	65	$34.36	$8.45	$7.35	$0.00	$50.16
5	70	$37.00	$8.45	$19.51	$0.00	$64.96
6	75	$39.65	$8.45	$20.08	$0.00	$68.18
7	80	$42.29	$8.45	$20.64	$0.00	$71.38
8	90	$47.57	$8.45	$21.77	$0.00	$77.79

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.83	$8.65	$0.00	$0.00	$35.48
2	55	$29.51	$8.65	$6.27	$0.00	$44.43
3	60	$32.20	$8.65	$6.84	$0.00	$47.69
4	65	$34.88	$8.65	$7.41	$0.00	$50.94
5	70	$37.56	$8.65	$19.63	$0.00	$65.84
6	75	$40.25	$8.65	$20.20	$0.00	$69.10
7	80	$42.93	$8.65	$20.77	$0.00	$72.35
8	90	$48.29	$8.65	$21.91	$0.00	$78.85

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN *LABORERS - ZONE 1*	06/01/2021	$40.82	$8.60	$17.57	$0.00	$66.99
	12/01/2021	$41.83	$8.60	$17.57	$0.00	$68.00
	06/01/2022	$42.83	$8.60	$17.57	$0.00	$69.00
	12/01/2022	$43.83	$8.60	$17.57	$0.00	$70.00
	06/01/2023	$44.83	$8.60	$17.57	$0.00	$71.00
	12/01/2023	$46.08	$8.60	$17.57	$0.00	$72.25

For apprentice rates see "Apprentice- LABORER"

DEMO: BACKHOE/LOADER/HAMMER OPERATOR *LABORERS - ZONE 1*	06/01/2021	$41.82	$8.60	$17.57	$0.00	$67.99
	12/01/2021	$42.83	$8.60	$17.57	$0.00	$69.00
	06/01/2022	$43.83	$8.60	$17.57	$0.00	$70.00
	12/01/2022	$44.83	$8.60	$17.57	$0.00	$71.00
	06/01/2023	$45.83	$8.60	$17.57	$0.00	$72.00
	12/01/2023	$47.08	$8.60	$17.57	$0.00	$73.25

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: BURNERS *LABORERS - ZONE 1*	06/01/2021	$41.57	$8.60	$17.57	$0.00	$67.74
	12/01/2021	$42.58	$8.60	$17.57	$0.00	$68.75
	06/01/2022	$43.58	$8.60	$17.57	$0.00	$69.75
	12/01/2022	$44.58	$8.60	$17.57	$0.00	$70.75
	06/01/2023	$45.58	$8.60	$17.57	$0.00	$71.75
	12/01/2023	$46.83	$8.60	$17.57	$0.00	$73.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER *LABORERS - ZONE 1*	06/01/2021	$41.82	$8.60	$17.57	$0.00	$67.99
	12/01/2021	$42.83	$8.60	$17.57	$0.00	$69.00
	06/01/2022	$43.83	$8.60	$17.57	$0.00	$70.00
	12/01/2022	$44.83	$8.60	$17.57	$0.00	$71.00
	06/01/2023	$45.83	$8.60	$17.57	$0.00	$72.00
	12/01/2023	$47.08	$8.60	$17.57	$0.00	$73.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR *LABORERS - ZONE 1*	06/01/2021	$41.57	$8.60	$17.57	$0.00	$67.74
	12/01/2021	$42.58	$8.60	$17.57	$0.00	$68.75
	06/01/2022	$43.58	$8.60	$17.57	$0.00	$69.75
	12/01/2022	$44.58	$8.60	$17.57	$0.00	$70.75
	06/01/2023	$45.58	$8.60	$17.57	$0.00	$71.75
	12/01/2023	$46.83	$8.60	$17.57	$0.00	$73.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER *LABORERS - ZONE 1*	06/01/2021	$40.82	$8.60	$17.57	$0.00	$66.99
	12/01/2021	$41.83	$8.60	$17.57	$0.00	$68.00
	06/01/2022	$42.83	$8.60	$17.57	$0.00	$69.00
	12/01/2022	$43.83	$8.60	$17.57	$0.00	$70.00
	06/01/2023	$44.83	$8.60	$17.57	$0.00	$71.00
	12/01/2023	$46.08	$8.60	$17.57	$0.00	$72.25
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2020	$68.70	$9.40	$23.12	$0.00	$101.22
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2020	$49.07	$9.40	$23.12	$0.00	$81.59
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2020	$73.60	$9.40	$23.12	$0.00	$106.12
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2020	$103.05	$9.40	$23.12	$0.00	$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) *DRAWBRIDGE - SEIU LOCAL 888*	07/01/2020	$26.77	$6.67	$3.93	$0.16	$37.53

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ELECTRICIAN *ELECTRICIANS LOCAL 103*	09/01/2021	$56.36	$13.00	$20.54	$0.00	$89.90
	03/01/2022	$57.32	$13.00	$20.82	$0.00	$91.14
	09/01/2022	$58.76	$13.00	$20.86	$0.00	$92.62
	03/01/2023	$60.43	$13.00	$20.91	$0.00	$94.34

Apprentice - *ELECTRICIAN - Local 103*

Effective Date - 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$22.54	$13.00	$0.68	$0.00	$36.22
2	40	$22.54	$13.00	$0.68	$0.00	$36.22
3	45	$25.36	$13.00	$15.36	$0.00	$53.72
4	45	$25.36	$13.00	$15.36	$0.00	$53.72
5	50	$28.18	$13.00	$15.84	$0.00	$57.02
6	55	$31.00	$13.00	$16.31	$0.00	$60.31
7	60	$33.82	$13.00	$16.77	$0.00	$63.59
8	65	$36.63	$13.00	$17.25	$0.00	$66.88
9	70	$39.45	$13.00	$17.71	$0.00	$70.16
10	75	$42.27	$13.00	$18.19	$0.00	$73.46

Effective Date - 03/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$22.93	$13.00	$0.69	$0.00	$36.62
2	40	$22.93	$13.00	$0.69	$0.00	$36.62
3	45	$25.79	$13.00	$15.62	$0.00	$54.41
4	45	$25.79	$13.00	$15.62	$0.00	$54.41
5	50	$28.66	$13.00	$16.10	$0.00	$57.76
6	55	$31.53	$13.00	$16.58	$0.00	$61.11
7	60	$34.39	$13.00	$17.04	$0.00	$64.43
8	65	$37.26	$13.00	$17.52	$0.00	$67.78
9	70	$40.12	$13.00	$17.98	$0.00	$71.10
10	75	$42.99	$13.00	$18.46	$0.00	$74.45

Notes: :

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

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR *ELEVATOR CONSTRUCTORS LOCAL 4*	01/01/2021	$63.47	$15.88	$19.31	$0.00	$98.66
	01/01/2022	$65.62	$16.03	$20.21	$0.00	$101.86

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *ELEVATOR CONSTRUCTOR - Local 4*

Effective Date - 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$31.74	$15.88	$0.00	$0.00	$47.62
2	55	$34.91	$15.88	$19.31	$0.00	$70.10
3	65	$41.26	$15.88	$19.31	$0.00	$76.45
4	70	$44.43	$15.88	$19.31	$0.00	$79.62
5	80	$50.78	$15.88	$19.31	$0.00	$85.97

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$32.81	$16.03	$0.00	$0.00	$48.84
2	55	$36.09	$16.03	$20.21	$0.00	$72.33
3	65	$42.65	$16.03	$20.21	$0.00	$78.89
4	70	$45.93	$16.03	$20.21	$0.00	$82.17
5	80	$52.50	$16.03	$20.21	$0.00	$88.74

Notes:

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

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER *ELEVATOR CONSTRUCTORS LOCAL 4*	01/01/2021	$44.43	$15.88	$19.31	$0.00	$79.62
	01/01/2022	$45.93	$16.03	$20.21	$0.00	$82.17
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) *LABORERS - ZONE 1 (HEAVY & HIGHWAY)*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 4*	05/01/2021	$45.88	$13.50	$15.70	$0.00	$75.08
	11/01/2021	$46.88	$13.50	$15.70	$0.00	$76.08
	05/01/2022	$48.03	$13.50	$15.70	$0.00	$77.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 4*	05/01/2021	$47.40	$13.50	$15.70	$0.00	$76.60
	11/01/2021	$48.41	$13.50	$15.70	$0.00	$77.61
	05/01/2022	$49.57	$13.50	$15.70	$0.00	$78.77
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 4*	05/01/2021	$22.91	$13.50	$15.70	$0.00	$52.11
	11/01/2021	$23.51	$13.50	$15.70	$0.00	$52.71
	05/01/2022	$24.18	$13.50	$15.70	$0.00	$53.38
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER *ELECTRICIANS LOCAL 103*	09/01/2021	$56.36	$13.00	$20.54	$0.00	$89.90
	03/01/2022	$57.32	$13.00	$20.82	$0.00	$91.14
	09/01/2022	$58.76	$13.00	$20.86	$0.00	$92.62
	03/01/2023	$60.43	$13.00	$20.91	$0.00	$94.34
For apprentice rates see "Apprentice- ELECTRICIAN"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING *ELECTRICIANS LOCAL 103*	09/01/2021	$43.40	$13.00	$18.37	$0.00	$74.77
	03/01/2022	$44.71	$13.00	$18.74	$0.00	$76.45
	09/01/2022	$46.42	$13.00	$18.87	$0.00	$78.29
	03/01/2023	$48.34	$13.00	$19.01	$0.00	$80.35
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$41.31	$13.75	$15.80	$0.00	$70.86
	12/01/2021	$42.26	$13.75	$15.80	$0.00	$71.81
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER (HEAVY & HIGHWAY) *LABORERS - ZONE 1 (HEAVY & HIGHWAY)*	06/01/2021	$24.50	$8.60	$17.57	$0.00	$50.67
	12/01/2021	$24.50	$8.60	$17.57	$0.00	$50.67
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
FLOORCOVERER *FLOORCOVERERS LOCAL 2168 ZONE I*	09/01/2021	$49.38	$8.58	$20.12	$0.00	$78.08
	03/01/2022	$50.18	$8.58	$20.12	$0.00	$78.88

Apprentice - *FLOORCOVERER - Local 2168 Zone I*

Effective Date - 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.69	$8.58	$1.79	$0.00	$35.06
2	55	$27.16	$8.58	$1.79	$0.00	$37.53
3	60	$29.63	$8.58	$14.75	$0.00	$52.96
4	65	$32.10	$8.58	$14.75	$0.00	$55.43
5	70	$34.57	$8.58	$16.54	$0.00	$59.69
6	75	$37.04	$8.58	$16.54	$0.00	$62.16
7	80	$39.50	$8.58	$18.33	$0.00	$66.41
8	85	$41.97	$8.58	$18.33	$0.00	$68.88

Effective Date - 03/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$25.09	$8.58	$1.79	$0.00	$35.46
2	55	$27.60	$8.58	$1.79	$0.00	$37.97
3	60	$30.11	$8.58	$14.75	$0.00	$53.44
4	65	$32.62	$8.58	$14.75	$0.00	$55.95
5	70	$35.13	$8.58	$16.54	$0.00	$60.25
6	75	$37.64	$8.58	$16.54	$0.00	$62.76
7	80	$40.14	$8.58	$18.33	$0.00	$67.05
8	85	$42.65	$8.58	$18.33	$0.00	$69.56

Notes: Steps are 750 hrs.
% After 10/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)
Step 1&2 $32.59/ 3&4 $39.26/ 5&6 $59.69/ 7&8 $66.41

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATOR/LIGHTING PLANT/HEATERS *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$33.40	$13.75	$15.80	$0.00	$62.95
	12/01/2021	$34.19	$13.75	$15.80	$0.00	$63.74

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) *GLAZIERS LOCAL 35 (ZONE 1)*	07/01/2021	$48.15	$8.45	$22.90	$0.00	$79.50
	01/01/2022	$48.95	$8.65	$23.05	$0.00	$80.65
	07/01/2022	$50.15	$8.65	$23.05	$0.00	$81.85
	01/01/2023	$51.35	$8.65	$23.05	$0.00	$83.05
	07/01/2023	$52.55	$8.65	$23.05	$0.00	$84.25
	01/01/2024	$53.75	$8.65	$23.05	$0.00	$85.45
	07/01/2024	$54.95	$8.65	$23.05	$0.00	$86.65
	01/01/2025	$56.15	$8.65	$23.05	$0.00	$87.85

Apprentice - *GLAZIER - Local 35 Zone 1*

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.08	$8.45	$0.00	$0.00	$32.53
2	55	$26.48	$8.45	$6.22	$0.00	$41.15
3	60	$28.89	$8.45	$6.78	$0.00	$44.12
4	65	$31.30	$8.45	$7.35	$0.00	$47.10
5	70	$33.71	$8.45	$19.51	$0.00	$61.67
6	75	$36.11	$8.45	$20.08	$0.00	$64.64
7	80	$38.52	$8.45	$20.64	$0.00	$67.61
8	90	$43.34	$8.45	$21.77	$0.00	$73.56

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.48	$8.65	$0.00	$0.00	$33.13
2	55	$26.92	$8.65	$6.27	$0.00	$41.84
3	60	$29.37	$8.65	$6.84	$0.00	$44.86
4	65	$31.82	$8.65	$7.41	$0.00	$47.88
5	70	$34.27	$8.65	$19.63	$0.00	$62.55
6	75	$36.71	$8.65	$20.20	$0.00	$65.56
7	80	$39.16	$8.65	$20.77	$0.00	$68.58
8	90	$44.06	$8.65	$21.91	$0.00	$74.62

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *OPERATING ENGINEERS - Local 4*

Effective Date - 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$27.90	$13.75	$0.00	$0.00	$41.65
2	60	$30.44	$13.75	$15.80	$0.00	$59.99
3	65	$32.97	$13.75	$15.80	$0.00	$62.52
4	70	$35.51	$13.75	$15.80	$0.00	$65.06
5	75	$38.05	$13.75	$15.80	$0.00	$67.60
6	80	$40.58	$13.75	$15.80	$0.00	$70.13
7	85	$43.12	$13.75	$15.80	$0.00	$72.67
8	90	$45.66	$13.75	$15.80	$0.00	$75.21

Effective Date - 12/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$28.53	$13.75	$0.00	$0.00	$42.28
2	60	$31.13	$13.75	$15.80	$0.00	$60.68
3	65	$33.72	$13.75	$15.80	$0.00	$63.27
4	70	$36.32	$13.75	$15.80	$0.00	$65.87
5	75	$38.91	$13.75	$15.80	$0.00	$68.46
6	80	$41.50	$13.75	$15.80	$0.00	$71.05
7	85	$44.10	$13.75	$15.80	$0.00	$73.65
8	90	$46.69	$13.75	$15.80	$0.00	$76.24

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) *SHEETMETAL WORKERS LOCAL 17 - A*	08/01/2021	$51.95	$13.80	$25.60	$2.74	$94.09
	02/01/2022	$53.70	$13.80	$25.60	$2.79	$95.89
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (ELECTRICAL CONTROLS) *ELECTRICIANS LOCAL 103*	09/01/2021	$56.36	$13.00	$20.54	$0.00	$89.90
	03/01/2022	$57.32	$13.00	$20.82	$0.00	$91.14
	09/01/2022	$58.76	$13.00	$20.86	$0.00	$92.62
	03/01/2023	$60.43	$13.00	$20.91	$0.00	$94.34
For apprentice rates see "Apprentice- ELECTRICIAN"						
HVAC (TESTING AND BALANCING - AIR) *SHEETMETAL WORKERS LOCAL 17 - A*	08/01/2021	$51.95	$13.80	$25.60	$2.74	$94.09
	02/01/2022	$53.70	$13.80	$25.60	$2.79	$95.89
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) *PIPEFITTERS LOCAL 537*	03/01/2021	$57.94	$11.70	$20.24	$0.00	$89.88
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC *PIPEFITTERS LOCAL 537*	03/01/2021	$57.94	$11.70	$20.24	$0.00	$89.88
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HYDRAULIC DRILLS *LABORERS - ZONE 1*	06/01/2021	$41.42	$8.60	$17.57	$0.00	$67.59
	12/01/2021	$42.43	$8.60	$17.57	$0.00	$68.60
	06/01/2022	$43.43	$8.60	$17.57	$0.00	$69.60
	12/01/2022	$44.43	$8.60	$17.57	$0.00	$70.60
	06/01/2023	$45.43	$8.60	$17.57	$0.00	$71.60
	12/01/2023	$46.68	$8.60	$17.57	$0.00	$72.85
For apprentice rates see "Apprentice- LABORER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) *LABORERS - ZONE 1 (HEAVY & HIGHWAY)*	06/01/2021	$41.42	$8.60	$17.57	$0.00	$67.59
	12/01/2021	$42.43	$8.60	$17.57	$0.00	$68.60
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
INSULATOR (PIPES & TANKS) *HEAT & FROST INSULATORS LOCAL 6 (BOSTON)*	09/01/2021	$51.40	$13.80	$17.14	$0.00	$82.34
	09/01/2022	$53.85	$13.80	$17.14	$0.00	$84.79

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

Effective Date - 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$25.70	$13.80	$12.42	$0.00	$51.92
2	60	$30.84	$13.80	$13.36	$0.00	$58.00
3	70	$35.98	$13.80	$14.31	$0.00	$64.09
4	80	$41.12	$13.80	$15.25	$0.00	$70.17

Effective Date - 09/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.93	$13.80	$12.42	$0.00	$53.15
2	60	$32.31	$13.80	$13.36	$0.00	$59.47
3	70	$37.70	$13.80	$14.31	$0.00	$65.81
4	80	$43.08	$13.80	$15.25	$0.00	$72.13

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER *IRONWORKERS LOCAL 7 (BOSTON AREA)*	09/16/2020	$48.66	$8.10	$25.10	$0.00	$81.86

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *IRONWORKER - Local 7 Boston*

Effective Date - 09/16/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$29.20	$8.10	$25.10	$0.00	$62.40
2	70	$34.06	$8.10	$25.10	$0.00	$67.26
3	75	$36.50	$8.10	$25.10	$0.00	$69.70
4	80	$38.93	$8.10	$25.10	$0.00	$72.13
5	85	$41.36	$8.10	$25.10	$0.00	$74.56
6	90	$43.79	$8.10	$25.10	$0.00	$76.99

Notes:

** Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:**

JACKHAMMER & PAVING BREAKER OPERATOR *LABORERS - ZONE 1*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
	06/01/2022	$42.93	$8.60	$17.57	$0.00	$69.10
	12/01/2022	$43.93	$8.60	$17.57	$0.00	$70.10
	06/01/2023	$44.93	$8.60	$17.57	$0.00	$71.10
	12/01/2023	$46.18	$8.60	$17.57	$0.00	$72.35
For apprentice rates see "Apprentice- LABORER"						
LABORER *LABORERS - ZONE 1*	06/01/2021	$40.67	$8.60	$17.57	$0.00	$66.84
	12/01/2021	$41.68	$8.60	$17.57	$0.00	$67.85
	06/01/2022	$42.68	$8.60	$17.57	$0.00	$68.85
	12/01/2022	$43.68	$8.60	$17.57	$0.00	$69.85
	06/01/2023	$44.68	$8.60	$17.57	$0.00	$70.85
	12/01/2023	$45.93	$8.60	$17.57	$0.00	$72.10

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *LABORER - Zone 1*

Effective Date - 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$24.40	$8.60	$17.57	$0.00	$50.57
2	70	$28.47	$8.60	$17.57	$0.00	$54.64
3	80	$32.54	$8.60	$17.57	$0.00	$58.71
4	90	$36.60	$8.60	$17.57	$0.00	$62.77

Effective Date - 12/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$25.01	$8.60	$17.57	$0.00	$51.18
2	70	$29.18	$8.60	$17.57	$0.00	$55.35
3	80	$33.34	$8.60	$17.57	$0.00	$59.51
4	90	$37.51	$8.60	$17.57	$0.00	$63.68

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER (HEAVY & HIGHWAY) *LABORERS - ZONE 1 (HEAVY & HIGHWAY)*	06/01/2021	$40.67	$8.60	$17.57	$0.00	$66.84
	12/01/2021	$41.68	$8.60	$17.57	$0.00	$67.85

Apprentice - *LABORER (Heavy & Highway) - Zone 1*

Effective Date - 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$24.40	$8.60	$17.57	$0.00	$50.57
2	70	$28.47	$8.60	$17.57	$0.00	$54.64
3	80	$32.54	$8.60	$17.57	$0.00	$58.71
4	90	$36.60	$8.60	$17.57	$0.00	$62.77

Effective Date - 12/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$25.01	$8.60	$17.57	$0.00	$51.18
2	70	$29.18	$8.60	$17.57	$0.00	$55.35
3	80	$33.34	$8.60	$17.57	$0.00	$59.51
4	90	$37.51	$8.60	$17.57	$0.00	$63.68

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER *LABORERS - ZONE 1*	06/01/2021	$40.67	$8.60	$17.57	$0.00	$66.84
	12/01/2021	$41.68	$8.60	$17.57	$0.00	$67.85
	06/01/2022	$42.68	$8.60	$17.57	$0.00	$68.85
	12/01/2022	$43.68	$8.60	$17.57	$0.00	$69.85
	06/01/2023	$44.68	$8.60	$17.57	$0.00	$70.85
	12/01/2023	$45.93	$8.60	$17.57	$0.00	$72.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER *LABORERS - ZONE 1*	06/01/2021	$40.67	$8.60	$17.57	$0.00	$66.84
	12/01/2021	$41.68	$8.60	$17.57	$0.00	$67.85
	06/01/2022	$42.68	$8.60	$17.57	$0.00	$68.85
	12/01/2022	$43.68	$8.60	$17.57	$0.00	$69.85
	06/01/2023	$44.68	$8.60	$17.57	$0.00	$70.85
	12/01/2023	$45.93	$8.60	$17.57	$0.00	$72.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER *LABORERS - ZONE 1*	06/01/2021	$40.82	$8.60	$17.57	$0.00	$66.99
	12/01/2021	$41.83	$8.60	$17.57	$0.00	$68.00
	06/01/2022	$42.83	$8.60	$17.57	$0.00	$69.00
	12/01/2022	$43.83	$8.60	$17.57	$0.00	$70.00
	06/01/2023	$44.83	$8.60	$17.57	$0.00	$71.00
	12/01/2023	$46.08	$8.60	$17.57	$0.00	$72.25
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER *LABORERS - ZONE 1*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
	06/01/2022	$42.93	$8.60	$17.57	$0.00	$69.10
	12/01/2022	$43.93	$8.60	$17.57	$0.00	$70.10
	06/01/2023	$44.93	$8.60	$17.57	$0.00	$71.10
	06/01/2024	$46.18	$8.60	$17.57	$0.00	$72.35
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY) *LABORERS - ZONE 1 (HEAVY & HIGHWAY)*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
LABORER: MULTI-TRADE TENDER *LABORERS - ZONE 1*	06/01/2021	$40.67	$8.60	$17.57	$0.00	$66.84
	12/01/2021	$41.68	$8.60	$17.57	$0.00	$67.85
	06/01/2022	$42.68	$8.60	$17.57	$0.00	$68.85
	12/01/2022	$43.68	$8.60	$17.57	$0.00	$69.85
	06/01/2023	$44.68	$8.60	$17.57	$0.00	$70.85
	12/01/2023	$45.93	$8.60	$17.57	$0.00	$72.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER *LABORERS - ZONE 1*	06/01/2021	$40.67	$8.60	$17.57	$0.00	$66.84
	12/01/2021	$41.68	$8.60	$17.57	$0.00	$67.85
	06/01/2022	$42.68	$8.60	$17.57	$0.00	$68.85
	12/01/2022	$43.68	$8.60	$17.57	$0.00	$69.85
	06/01/2023	$44.68	$8.60	$17.57	$0.00	$70.85
	12/01/2023	$45.93	$8.60	$17.57	$0.00	$72.10
This classification applies to the removal of standing trees, and the trimming and removal of branches and limbs when related to public works construction or site clearance incidental to construction . For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LASER BEAM OPERATOR *LABORERS - ZONE 1*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
	06/01/2022	$42.93	$8.60	$17.57	$0.00	$69.10
	12/01/2022	$43.93	$8.60	$17.57	$0.00	$70.10
	06/01/2023	$44.93	$8.60	$17.57	$0.00	$71.10
	12/01/2023	$46.18	$8.60	$17.57	$0.00	$72.35
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 1 (HEAVY & HIGHWAY)*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
MARBLE & TILE FINISHERS *BRICKLAYERS LOCAL 3 - MARBLE & TILE*	08/01/2021	$43.69	$11.39	$20.30	$0.00	$75.38
	02/01/2022	$44.16	$11.39	$20.30	$0.00	$75.85

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

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.85	$11.39	$20.30	$0.00	$53.54
2	60	$26.21	$11.39	$20.30	$0.00	$57.90
3	70	$30.58	$11.39	$20.30	$0.00	$62.27
4	80	$34.95	$11.39	$20.30	$0.00	$66.64
5	90	$39.32	$11.39	$20.30	$0.00	$71.01

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.08	$11.39	$20.30	$0.00	$53.77
2	60	$26.50	$11.39	$20.30	$0.00	$58.19
3	70	$30.91	$11.39	$20.30	$0.00	$62.60
4	80	$35.33	$11.39	$20.30	$0.00	$67.02
5	90	$39.74	$11.39	$20.30	$0.00	$71.43

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS,TILELAYERS & TERRAZZO MECH *BRICKLAYERS LOCAL 3 - MARBLE & TILE*	08/01/2021	$57.17	$11.39	$22.24	$0.00	$90.80
	02/01/2022	$57.74	$11.39	$22.24	$0.00	$91.37

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

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.59	$11.39	$22.24	$0.00	$62.22
2	60	$34.30	$11.39	$22.24	$0.00	$67.93
3	70	$40.02	$11.39	$22.24	$0.00	$73.65
4	80	$45.74	$11.39	$22.24	$0.00	$79.37
5	90	$51.45	$11.39	$22.24	$0.00	$85.08

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.87	$11.39	$22.24	$0.00	$62.50
2	60	$34.64	$11.39	$22.24	$0.00	$68.27
3	70	$40.42	$11.39	$22.24	$0.00	$74.05
4	80	$46.19	$11.39	$22.24	$0.00	$79.82
5	90	$51.97	$11.39	$22.24	$0.00	$85.60

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MECHANICS MAINTENANCE *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MILLWRIGHT (Zone 1) *MILLWRIGHTS LOCAL 1121 - Zone 1*	03/01/2021	$43.77	$8.58	$21.57	$0.00	$73.92
	01/03/2022	$45.52	$8.58	$21.57	$0.00	$75.67
	01/02/2023	$47.27	$8.58	$21.57	$0.00	$77.42

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *MILLWRIGHT - Local 1121 Zone 1*

Effective Date - 03/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$24.07	$8.58	$5.72	$0.00	$38.37
2	65	$28.45	$8.58	$17.93	$0.00	$54.96
3	75	$32.83	$8.58	$18.98	$0.00	$60.39
4	85	$37.20	$8.58	$20.01	$0.00	$65.79

Effective Date - 01/03/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$25.04	$8.58	$5.72	$0.00	$39.34
2	65	$29.59	$8.58	$17.93	$0.00	$56.10
3	75	$34.14	$8.58	$18.98	$0.00	$61.70
4	85	$38.69	$8.58	$20.01	$0.00	$67.28

Notes: Step 1&2 Appr. indentured after 1/6/2020 receive no pension, but do receive annuity. (Step 1 $5.72, Step 2 $6.66)
Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:5

MORTAR MIXER *LABORERS - ZONE 1*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
	06/01/2022	$42.93	$8.60	$17.57	$0.00	$69.10
	12/01/2022	$43.93	$8.60	$17.57	$0.00	$70.10
	06/01/2023	$44.93	$8.60	$17.57	$0.00	$71.10
	12/01/2023	$46.18	$8.60	$17.57	$0.00	$72.35
For apprentice rates see "Apprentice- LABORER"						
OILER (OTHER THAN TRUCK CRANES,GRADALLS) *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$23.40	$13.75	$15.80	$0.00	$52.95
	12/01/2021	$23.98	$13.75	$15.80	$0.00	$53.53
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OILER (TRUCK CRANES, GRADALLS) *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$28.26	$13.75	$15.80	$0.00	$57.81
	12/01/2021	$28.94	$13.75	$15.80	$0.00	$58.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OTHER POWER DRIVEN EQUIPMENT - CLASS II *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PAINTER (BRIDGES/TANKS) *PAINTERS LOCAL 35 - ZONE 1*	07/01/2021	$52.86	$8.45	$22.90	$0.00	$84.21
	01/01/2022	$53.66	$8.65	$23.05	$0.00	$85.36
	07/01/2022	$54.86	$8.65	$23.05	$0.00	$86.56
	01/01/2023	$56.06	$8.65	$23.05	$0.00	$87.76
	07/01/2023	$57.26	$8.65	$23.05	$0.00	$88.96
	01/01/2024	$58.46	$8.65	$23.05	$0.00	$90.16
	07/01/2024	$59.66	$8.65	$23.05	$0.00	$91.36
	01/01/2025	$60.86	$8.65	$23.05	$0.00	$92.56

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PAINTER Local 35 - BRIDGES/TANKS*

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.43	$8.45	$0.00	$0.00	$34.88
2	55	$29.07	$8.45	$6.22	$0.00	$43.74
3	60	$31.72	$8.45	$6.78	$0.00	$46.95
4	65	$34.36	$8.45	$7.35	$0.00	$50.16
5	70	$37.00	$8.45	$19.51	$0.00	$64.96
6	75	$39.65	$8.45	$20.08	$0.00	$68.18
7	80	$42.29	$8.45	$20.64	$0.00	$71.38
8	90	$47.57	$8.45	$21.77	$0.00	$77.79

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.83	$8.65	$0.00	$0.00	$35.48
2	55	$29.51	$8.65	$6.27	$0.00	$44.43
3	60	$32.20	$8.65	$6.84	$0.00	$47.69
4	65	$34.88	$8.65	$7.41	$0.00	$50.94
5	70	$37.56	$8.65	$19.63	$0.00	$65.84
6	75	$40.25	$8.65	$20.20	$0.00	$69.10
7	80	$42.93	$8.65	$20.77	$0.00	$72.35
8	90	$48.29	$8.65	$21.91	$0.00	$78.85

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) * * If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.*PAINTERS LOCAL 35 - ZONE 1*	07/01/2021	$49.55	$8.45	$22.90	$0.00	$80.90
	01/01/2022	$50.35	$8.65	$23.05	$0.00	$82.05
	07/01/2022	$51.55	$8.65	$23.05	$0.00	$83.25
	01/01/2023	$52.75	$8.65	$23.05	$0.00	$84.45
	07/01/2023	$53.95	$8.65	$23.05	$0.00	$85.65
	01/01/2024	$55.15	$8.65	$23.05	$0.00	$86.85
	07/01/2024	$56.35	$8.65	$23.05	$0.00	$88.05
	01/01/2025	$57.55	$8.65	$23.05	$0.00	$89.25

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.78	$8.45	$0.00	$0.00	$33.23
2	55	$27.25	$8.45	$6.22	$0.00	$41.92
3	60	$29.73	$8.45	$6.78	$0.00	$44.96
4	65	$32.21	$8.45	$7.35	$0.00	$48.01
5	70	$34.69	$8.45	$19.51	$0.00	$62.65
6	75	$37.16	$8.45	$20.08	$0.00	$65.69
7	80	$39.64	$8.45	$20.64	$0.00	$68.73
8	90	$44.60	$8.45	$21.77	$0.00	$74.82

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$25.18	$8.65	$0.00	$0.00	$33.83
2	55	$27.69	$8.65	$6.27	$0.00	$42.61
3	60	$30.21	$8.65	$6.84	$0.00	$45.70
4	65	$32.73	$8.65	$7.41	$0.00	$48.79
5	70	$35.25	$8.65	$19.63	$0.00	$63.53
6	75	$37.76	$8.65	$20.20	$0.00	$66.61
7	80	$40.28	$8.65	$20.77	$0.00	$69.70
8	90	$45.32	$8.65	$21.91	$0.00	$75.88

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT) *PAINTERS LOCAL 35 - ZONE 1*	07/01/2021	$47.21	$8.45	$22.90	$0.00	$78.56
	01/01/2022	$48.41	$8.65	$23.05	$0.00	$80.11
	07/01/2022	$49.61	$8.65	$23.05	$0.00	$81.31
	01/01/2023	$50.81	$8.65	$23.05	$0.00	$82.51
	07/01/2023	$52.01	$8.65	$23.05	$0.00	$83.71
	01/01/2024	$53.21	$8.65	$23.05	$0.00	$84.91
	01/01/2025	$55.61	$8.65	$23.05	$0.00	$87.31
	07/01/2025	$54.41	$8.65	$23.05	$0.00	$86.11

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$23.61	$8.45	$0.00	$0.00	$32.06
2	55	$25.97	$8.45	$6.22	$0.00	$40.64
3	60	$28.33	$8.45	$6.78	$0.00	$43.56
4	65	$30.69	$8.45	$7.35	$0.00	$46.49
5	70	$33.05	$8.45	$19.51	$0.00	$61.01
6	75	$35.41	$8.45	$20.08	$0.00	$63.94
7	80	$37.77	$8.45	$20.64	$0.00	$66.86
8	90	$42.49	$8.45	$21.77	$0.00	$72.71

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.21	$8.65	$0.00	$0.00	$32.86
2	55	$26.63	$8.65	$6.27	$0.00	$41.55
3	60	$29.05	$8.65	$6.84	$0.00	$44.54
4	65	$31.47	$8.65	$7.41	$0.00	$47.53
5	70	$33.89	$8.65	$19.63	$0.00	$62.17
6	75	$36.31	$8.65	$20.20	$0.00	$65.16
7	80	$38.73	$8.65	$20.77	$0.00	$68.15
8	90	$43.57	$8.65	$21.91	$0.00	$74.13

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	07/01/2021	$48.15	$8.45	$22.90	$0.00	$79.50
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.*PAINTERS LOCAL 35 - ZONE 1*	01/01/2022	$48.95	$8.65	$23.05	$0.00	$80.65
	07/01/2022	$50.15	$8.65	$23.05	$0.00	$81.85
	01/01/2023	$51.35	$8.65	$23.05	$0.00	$83.05
	07/01/2023	$52.55	$8.65	$23.05	$0.00	$84.25
	01/01/2024	$53.75	$8.65	$23.05	$0.00	$85.45
	07/01/2024	$54.95	$8.65	$23.05	$0.00	$86.65
	01/01/2025	$56.15	$8.65	$23.05	$0.00	$87.85

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

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.08	$8.45	$0.00	$0.00	$32.53
2	55	$26.48	$8.45	$6.22	$0.00	$41.15
3	60	$28.89	$8.45	$6.78	$0.00	$44.12
4	65	$31.30	$8.45	$7.35	$0.00	$47.10
5	70	$33.71	$8.45	$19.51	$0.00	$61.67
6	75	$36.11	$8.45	$20.08	$0.00	$64.64
7	80	$38.52	$8.45	$20.64	$0.00	$67.61
8	90	$43.34	$8.45	$21.77	$0.00	$73.56

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.48	$8.65	$0.00	$0.00	$33.13
2	55	$26.92	$8.65	$6.27	$0.00	$41.84
3	60	$29.37	$8.65	$6.84	$0.00	$44.86
4	65	$31.82	$8.65	$7.41	$0.00	$47.88
5	70	$34.27	$8.65	$19.63	$0.00	$62.55
6	75	$36.71	$8.65	$20.20	$0.00	$65.56
7	80	$39.16	$8.65	$20.77	$0.00	$68.58
8	90	$44.06	$8.65	$21.91	$0.00	$74.62

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT) *PAINTERS LOCAL 35 - ZONE 1*	07/01/2021	$46.21	$8.45	$22.90	$0.00	$77.56
	01/01/2022	$47.01	$8.65	$23.05	$0.00	$78.71
	07/01/2022	$48.21	$8.65	$23.05	$0.00	$79.91
	01/01/2023	$49.41	$8.65	$23.05	$0.00	$81.11
	07/01/2023	$50.61	$8.65	$23.05	$0.00	$82.31
	01/01/2024	$51.81	$8.65	$23.05	$0.00	$83.51
	07/01/2024	$53.01	$8.65	$23.05	$0.00	$84.71
	01/01/2025	$54.21	$8.65	$23.05	$0.00	$85.91

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$23.11	$8.45	$0.00	$0.00	$31.56
2	55	$25.42	$8.45	$6.22	$0.00	$40.09
3	60	$27.73	$8.45	$6.78	$0.00	$42.96
4	65	$30.04	$8.45	$7.35	$0.00	$45.84
5	70	$32.35	$8.45	$19.51	$0.00	$60.31
6	75	$34.66	$8.45	$20.08	$0.00	$63.19
7	80	$36.97	$8.45	$20.64	$0.00	$66.06
8	90	$41.59	$8.45	$21.77	$0.00	$71.81

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$23.51	$8.65	$0.00	$0.00	$32.16
2	55	$25.86	$8.65	$6.27	$0.00	$40.78
3	60	$28.21	$8.65	$6.84	$0.00	$43.70
4	65	$30.56	$8.65	$7.41	$0.00	$46.62
5	70	$32.91	$8.65	$19.63	$0.00	$61.19
6	75	$35.26	$8.65	$20.20	$0.00	$64.11
7	80	$37.61	$8.65	$20.77	$0.00	$67.03
8	90	$42.31	$8.65	$21.91	$0.00	$72.87

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY) *LABORERS - ZONE 1 (HEAVY & HIGHWAY)*	06/01/2021	$40.67	$8.60	$17.57	$0.00	$66.84
	12/01/2021	$41.68	$8.60	$17.57	$0.00	$67.85
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
PANEL & PICKUP TRUCKS DRIVER *TEAMSTERS JOINT COUNCIL NO. 10 ZONE A*	08/01/2021	$36.88	$13.41	$14.82	$0.00	$65.11
	12/01/2021	$36.88	$13.41	$16.01	$0.00	$66.30
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2020	$49.07	$9.40	$23.12	$0.00	$81.59
For apprentice rates see "Apprentice- PILE DRIVER"						
PILE DRIVER *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2020	$49.07	$9.40	$23.12	$0.00	$81.59

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PILE DRIVER - Local 56 Zone 1*

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.54	$9.40	$23.12	$0.00	$57.06
2	60	$29.44	$9.40	$23.12	$0.00	$61.96
3	70	$34.35	$9.40	$23.12	$0.00	$66.87
4	75	$36.80	$9.40	$23.12	$0.00	$69.32
5	80	$39.26	$9.40	$23.12	$0.00	$71.78
6	80	$39.26	$9.40	$23.12	$0.00	$71.78
7	90	$44.16	$9.40	$23.12	$0.00	$76.68
8	90	$44.16	$9.40	$23.12	$0.00	$76.68

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 $34.01/ 3&4 $41.46/ 5&6 $62.80/ 7&8 $69.25

Apprentice to Journeyworker Ratio:1:5

PIPEFITTER & STEAMFITTER *PIPEFITTERS LOCAL 537*	03/01/2021	$57.94	$11.70	$20.24	$0.00	$89.88

Apprentice - *PIPEFITTER - Local 537*

Effective Date - 03/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$23.18	$11.70	$8.25	$0.00	$43.13
2	45	$26.07	$11.70	$20.24	$0.00	$58.01
3	60	$34.76	$11.70	$20.24	$0.00	$66.70
4	70	$40.56	$11.70	$20.24	$0.00	$72.50
5	80	$46.35	$11.70	$20.24	$0.00	$78.29

Notes:

** 1:3; 3:15; 1:10 thereafter / Steps are 1 yr.
Refrig/AC Mechanic **1:1;1:2;2:4;3:6;4:8;5:10;6:12;7:14;8:17;9:20;10:23(Max)

Apprentice to Journeyworker Ratio:**

PIPELAYER *LABORERS - ZONE 1*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
	06/01/2022	$42.93	$8.60	$17.57	$0.00	$69.10
	12/01/2022	$43.93	$8.60	$17.57	$0.00	$70.10
	06/01/2023	$44.93	$8.60	$17.57	$0.00	$71.10
	12/01/2023	$46.18	$8.60	$17.57	$0.00	$72.35
For apprentice rates see "Apprentice- LABORER"						
PIPELAYER (HEAVY & HIGHWAY) *LABORERS - ZONE 1 (HEAVY & HIGHWAY)*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
PLUMBERS & GASFITTERS *PLUMBERS & GASFITTERS LOCAL 12*	03/01/2021	$60.19	$13.57	$17.26	$0.00	$91.02

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PLUMBER/GASFITTER - Local 12*

Effective Date - 03/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	$21.07	$13.57	$6.24	$0.00	$40.88
2	40	$24.08	$13.57	$7.08	$0.00	$44.73
3	55	$33.10	$13.57	$9.63	$0.00	$56.30
4	65	$39.12	$13.57	$11.33	$0.00	$64.02
5	75	$45.14	$13.57	$13.03	$0.00	$71.74

Notes:
** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr
Step4 with lic$67.89, Step5 with lic$75.59

Apprentice to Journeyworker Ratio:**

PNEUMATIC CONTROLS (TEMP.) *PIPEFITTERS LOCAL 537*	03/01/2021	$57.94	$11.70	$20.24	$0.00	$89.88
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
PNEUMATIC DRILL/TOOL OPERATOR *LABORERS - ZONE 1*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
	06/01/2022	$42.93	$8.60	$17.57	$0.00	$69.10
	12/01/2022	$43.93	$8.60	$17.57	$0.00	$70.10
	06/01/2023	$44.93	$8.60	$17.57	$0.00	$71.10
	12/01/2023	$46.18	$8.60	$17.57	$0.00	$72.35
For apprentice rates see "Apprentice- LABORER"						
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 1 (HEAVY & HIGHWAY)*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWDERMAN & BLASTER *LABORERS - ZONE 1*	06/01/2021	$41.67	$8.60	$17.57	$0.00	$67.84
	12/01/2021	$42.68	$8.60	$17.57	$0.00	$68.85
	06/01/2022	$43.68	$8.60	$17.57	$0.00	$69.85
	12/01/2022	$44.68	$8.60	$17.57	$0.00	$70.85
	06/01/2023	$45.68	$8.60	$17.57	$0.00	$71.85
	12/01/2023	$46.93	$8.60	$17.57	$0.00	$73.10
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER (HEAVY & HIGHWAY) *LABORERS - ZONE 1 (HEAVY & HIGHWAY)*	06/01/2021	$41.67	$8.60	$17.57	$0.00	$67.84
	12/01/2021	$42.68	$8.60	$17.57	$0.00	$68.85
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$33.40	$13.75	$15.80	$0.00	$62.95
	12/01/2021	$34.19	$13.75	$15.80	$0.00	$63.74
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
READY-MIX CONCRETE DRIVER *TEAMSTERS 170 - Rosenfeld (Walpole)*	05/01/2021	$25.00	$11.51	$8.00	$0.00	$44.51
	01/01/2022	$25.00	$11.96	$8.00	$0.00	$44.96
	05/01/2022	$25.75	$11.96	$8.00	$0.00	$45.71
	01/01/2023	$25.75	$12.46	$8.00	$0.00	$46.21
	05/01/2023	$26.40	$12.46	$8.00	$0.00	$46.86
	01/01/2024	$26.40	$12.96	$8.00	$0.00	$47.36
	05/01/2024	$27.00	$12.96	$8.00	$0.00	$47.96
	01/01/2025	$27.00	$13.46	$8.00	$0.00	$48.46
	05/01/2025	$27.60	$13.46	$8.25	$0.00	$49.31
	01/01/2026	$27.60	$13.96	$8.25	$0.00	$49.81
RECLAIMERS *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR *LABORERS - ZONE 1*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
	06/01/2022	$42.93	$8.60	$17.57	$0.00	$69.10
	12/01/2022	$43.93	$8.60	$17.57	$0.00	$70.10
	06/01/2023	$44.93	$8.60	$17.57	$0.00	$71.10
	12/01/2023	$46.18	$8.60	$17.57	$0.00	$72.35
For apprentice rates see "Apprentice- LABORER"						
ROLLER/SPREADER/MULCHING MACHINE *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Inc.Roofer Waterproofng &Roofer Damproofg) *ROOFERS LOCAL 33*	08/01/2021	$47.03	$12.28	$18.15	$0.00	$77.46
	02/01/2022	$48.46	$12.28	$18.15	$0.00	$78.89

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *ROOFER - Local 33*

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$23.52	$12.28	$4.56	$0.00	$40.36
2	60	$28.22	$12.28	$18.15	$0.00	$58.65
3	65	$30.57	$12.28	$18.15	$0.00	$61.00
4	75	$35.27	$12.28	$18.15	$0.00	$65.70
5	85	$39.98	$12.28	$18.15	$0.00	$70.41

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.23	$12.28	$4.56	$0.00	$41.07
2	60	$29.08	$12.28	$18.15	$0.00	$59.51
3	65	$31.50	$12.28	$18.15	$0.00	$61.93
4	75	$36.35	$12.28	$18.15	$0.00	$66.78
5	85	$41.19	$12.28	$18.15	$0.00	$71.62

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.
(Hot Pitch Mechanics' receive $1.00 hr. above ROOFER)

Apprentice to Journeyworker Ratio:**

ROOFER SLATE / TILE / PRECAST CONCRETE *ROOFERS LOCAL 33*	08/01/2021	$47.28	$12.28	$18.15	$0.00	$77.71
	02/01/2022	$48.71	$12.28	$18.15	$0.00	$79.14
For apprentice rates see "Apprentice- ROOFER"						
SHEETMETAL WORKER *SHEETMETAL WORKERS LOCAL 17 - A*	08/01/2021	$51.95	$13.80	$25.60	$2.74	$94.09
	02/01/2022	$53.70	$13.80	$25.60	$2.79	$95.89

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	$21.82	$13.80	$6.01	$0.00	$41.63
2	42	$21.82	$13.80	$6.01	$0.00	$41.63
3	47	$24.42	$13.80	$11.26	$1.48	$50.96
4	47	$24.42	$13.80	$11.26	$1.48	$50.96
5	52	$27.01	$13.80	$12.23	$1.59	$54.63
6	52	$27.01	$13.80	$12.48	$1.60	$54.89
7	60	$31.17	$13.80	$13.87	$1.77	$60.61
8	65	$33.77	$13.80	$14.84	$1.87	$64.28
9	75	$38.96	$13.80	$16.77	$2.09	$71.62
10	85	$44.16	$13.80	$18.20	$2.28	$78.44

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	$22.55	$13.80	$6.01	$0.00	$42.36
2	42	$22.55	$13.80	$6.01	$0.00	$42.36
3	47	$25.24	$13.80	$11.26	$1.51	$51.81
4	47	$25.24	$13.80	$11.26	$1.51	$51.81
5	52	$27.92	$13.80	$12.23	$1.62	$55.57
6	52	$27.92	$13.80	$12.48	$1.63	$55.83
7	60	$32.22	$13.80	$13.87	$1.80	$61.69
8	65	$34.91	$13.80	$14.84	$1.91	$65.46
9	75	$40.28	$13.80	$16.77	$2.13	$72.98
10	85	$45.65	$13.80	$18.20	$2.33	$79.98

Notes:

Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

SPECIALIZED EARTH MOVING EQUIP < 35 TONS *TEAMSTERS JOINT COUNCIL NO. 10 ZONE A*	08/01/2021	$37.34	$13.41	$14.82	$0.00	$65.57
	12/01/2021	$37.34	$13.41	$16.01	$0.00	$66.76
SPECIALIZED EARTH MOVING EQUIP > 35 TONS *TEAMSTERS JOINT COUNCIL NO. 10 ZONE A*	08/01/2021	$37.63	$13.41	$14.82	$0.00	$65.86
	12/01/2021	$37.63	$13.41	$16.01	$0.00	$67.05
SPRINKLER FITTER *SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1*	03/01/2021	$62.45	$10.00	$21.25	$0.00	$93.70

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

Effective Date - 03/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	$21.86	$10.00	$11.99	$0.00	$43.85
2	40	$24.98	$10.00	$12.70	$0.00	$47.68
3	45	$28.10	$10.00	$13.41	$0.00	$51.51
4	50	$31.23	$10.00	$14.13	$0.00	$55.36
5	55	$34.35	$10.00	$14.84	$0.00	$59.19
6	60	$37.47	$10.00	$15.55	$0.00	$63.02
7	65	$40.59	$10.00	$16.26	$0.00	$66.85
8	70	$43.72	$10.00	$16.98	$0.00	$70.70
9	75	$46.84	$10.00	$17.69	$0.00	$74.53
10	80	$49.96	$10.00	$18.40	$0.00	$78.36

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 *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN *ELECTRICIANS LOCAL 103*	09/01/2021	$43.40	$13.00	$18.37	$0.00	$74.77
	03/01/2022	$44.71	$13.00	$18.74	$0.00	$76.45
	09/01/2022	$46.42	$13.00	$18.87	$0.00	$78.29
	03/01/2023	$48.34	$13.00	$19.01	$0.00	$80.35

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *TELECOMMUNICATION TECHNICIAN - Local 103*

Effective Date - 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	$19.53	$13.00	$0.59	$0.00	$33.12
2	45	$19.53	$13.00	$0.59	$0.00	$33.12
3	50	$21.70	$13.00	$14.75	$0.00	$49.45
4	50	$21.70	$13.00	$14.75	$0.00	$49.45
5	55	$23.87	$13.00	$15.12	$0.00	$51.99
6	60	$26.04	$13.00	$15.47	$0.00	$54.51
7	65	$28.21	$13.00	$15.84	$0.00	$57.05
8	70	$30.38	$13.00	$16.20	$0.00	$59.58
9	75	$32.55	$13.00	$16.57	$0.00	$62.12
10	80	$34.72	$13.00	$16.92	$0.00	$64.64

Effective Date - 03/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	$20.12	$13.00	$0.60	$0.00	$33.72
2	45	$20.12	$13.00	$0.60	$0.00	$33.72
3	50	$22.36	$13.00	$15.02	$0.00	$50.38
4	50	$22.36	$13.00	$15.02	$0.00	$50.38
5	55	$24.59	$13.00	$15.39	$0.00	$52.98
6	60	$26.83	$13.00	$15.74	$0.00	$55.57
7	65	$29.06	$13.00	$16.11	$0.00	$58.17
8	70	$31.30	$13.00	$16.48	$0.00	$60.78
9	75	$33.53	$13.00	$16.85	$0.00	$63.38
10	80	$35.77	$13.00	$17.20	$0.00	$65.97

Notes:

Apprentice to Journeyworker Ratio:1:1

TERRAZZO FINISHERS *BRICKLAYERS LOCAL 3 - MARBLE & TILE*	08/01/2021	$56.09	$11.39	$22.25	$0.00	$89.73
	02/01/2022	$56.68	$11.39	$22.25	$0.00	$90.32

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.05	$11.39	$22.25	$0.00	$61.69
2	60	$33.65	$11.39	$22.25	$0.00	$67.29
3	70	$39.26	$11.39	$22.25	$0.00	$72.90
4	80	$44.87	$11.39	$22.25	$0.00	$78.51
5	90	$50.48	$11.39	$22.25	$0.00	$84.12

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.34	$11.39	$22.25	$0.00	$61.98
2	60	$34.01	$11.39	$22.25	$0.00	$67.65
3	70	$39.68	$11.39	$22.25	$0.00	$73.32
4	80	$45.34	$11.39	$22.25	$0.00	$78.98
5	90	$51.01	$11.39	$22.25	$0.00	$84.65

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$42.07	$8.60	$17.72	$0.00	$68.39
	12/01/2021	$43.08	$8.60	$17.72	$0.00	$69.40
For apprentice rates see "Apprentice- LABORER"						
TEST BORING DRILLER HELPER *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$40.79	$8.60	$17.72	$0.00	$67.11
	12/01/2021	$41.80	$8.60	$17.72	$0.00	$68.12
For apprentice rates see "Apprentice- LABORER"						
TEST BORING LABORER *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$40.67	$8.60	$17.72	$0.00	$66.99
	12/01/2021	$41.68	$8.60	$17.72	$0.00	$68.00
For apprentice rates see "Apprentice- LABORER"						
TRACTORS/PORTABLE STEAM GENERATORS *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE A*	08/01/2021	$37.92	$13.41	$14.82	$0.00	$66.15
	12/01/2021	$37.92	$13.41	$16.01	$0.00	$67.34
TUNNEL WORK - COMPRESSED AIR *LABORERS (COMPRESSED AIR)*	06/01/2021	$52.90	$8.60	$18.17	$0.00	$79.67
	12/01/2021	$53.91	$8.60	$18.17	$0.00	$80.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) *LABORERS (COMPRESSED AIR)*	06/01/2021	$54.90	$8.60	$18.17	$0.00	$81.67
	12/01/2021	$55.91	$8.60	$18.17	$0.00	$82.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR *LABORERS (FREE AIR TUNNEL)*	06/01/2021	$44.97	$8.60	$18.17	$0.00	$71.74
	12/01/2021	$45.98	$8.60	$18.17	$0.00	$72.75
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) *LABORERS (FREE AIR TUNNEL)*	06/01/2021	$46.97	$8.60	$18.17	$0.00	$73.74
	12/01/2021	$47.98	$8.60	$18.17	$0.00	$74.75

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL *TEAMSTERS JOINT COUNCIL NO. 10 ZONE A*	08/01/2021	$37.34	$13.41	$14.82	$0.00	$65.57
	12/01/2021	$37.34	$13.41	$16.01	$0.00	$66.76
WAGON DRILL OPERATOR *LABORERS - ZONE 1*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
	06/01/2022	$42.93	$8.60	$17.57	$0.00	$69.10
	12/01/2022	$43.93	$8.60	$17.57	$0.00	$70.10
	06/01/2023	$44.93	$8.60	$17.57	$0.00	$71.10
	12/01/2023	$46.18	$8.60	$17.57	$0.00	$72.35
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 1 (HEAVY & HIGHWAY)*	06/01/2021	$40.92	$8.60	$17.57	$0.00	$67.09
	12/01/2021	$41.93	$8.60	$17.57	$0.00	$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
WASTE WATER PUMP OPERATOR *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER *PLUMBERS & GASFITTERS LOCAL 12*	03/01/2021	$60.19	$13.57	$17.26	$0.00	$91.02
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
Outside Electrical - East						
CABLE TECHNICIAN (Power Zone) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$29.67	$9.25	$1.89	$0.00	$40.81
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$42.03	$9.25	$10.27	$0.00	$61.55
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$34.62	$9.25	$10.07	$0.00	$53.94
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$27.20	$9.25	$1.82	$0.00	$38.27
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$42.03	$9.25	$14.35	$0.00	$65.63
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$37.09	$9.25	$10.87	$0.00	$57.21
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$27.20	$9.25	$1.82	$0.00	$38.27
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$22.25	$9.25	$1.82	$0.00	$33.32
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$49.45	$9.25	$17.48	$0.00	$76.18

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 08/30/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$29.67	$9.25	$3.39	$0.00	$42.31
2	65	$32.14	$9.25	$3.46	$0.00	$44.85
3	70	$34.62	$9.25	$3.54	$0.00	$47.41
4	75	$37.09	$9.25	$5.11	$0.00	$51.45
5	80	$39.56	$9.25	$5.19	$0.00	$54.00
6	85	$42.03	$9.25	$5.26	$0.00	$56.54
7	90	$44.51	$9.25	$7.34	$0.00	$61.10

Notes:

Apprentice to Journeyworker Ratio:1:2

TELEDATA CABLE SPLICER *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	02/04/2019	$30.73	$4.70	$3.17	$0.00	$38.60
TELEDATA LINEMAN/EQUIPMENT OPERATOR *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	02/04/2019	$28.93	$4.70	$3.14	$0.00	$36.77
TELEDATA WIREMAN/INSTALLER/TECHNICIAN *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	02/04/2019	$28.93	$4.70	$3.14	$0.00	$36.77

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.

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

Prevailing Wage Rates

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

CHARLES D. BAKER
Governor

KARYN E. POLITO
Lt. Governor

ROSALIN ACOSTA
Secretary
MICHAEL FLANAGAN
Director

Awarding Authority: Southeastern Regional Services Group (SERSG)

Contract Number:

City/Town: BROCKTON

Description of Work: Road, Sidewalk and related work

Job Location: various towns in PLYMOUTH COUNTY

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2021	$35.95	$13.41	$14.82	$0.00	$64.18
	12/01/2021	$35.95	$13.41	$16.01	$0.00	$65.37
(3 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2021	$36.02	$13.41	$14.82	$0.00	$64.25
	12/01/2021	$36.02	$13.41	$16.01	$0.00	$65.44
(4 & 5 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2021	$36.14	$13.41	$14.82	$0.00	$64.37
	12/01/2021	$36.14	$13.41	$16.01	$0.00	$65.56
ADS/SUBMERSIBLE PILOT *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2020	$103.05	$9.40	$23.12	$0.00	$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR *LABORERS - ZONE 2*	06/01/2021	$35.75	$8.60	$16.64	$0.00	$60.99
	12/01/2021	$36.66	$8.60	$16.64	$0.00	$61.90
	06/01/2022	$37.56	$8.60	$16.64	$0.00	$62.80
	12/01/2022	$38.41	$8.60	$16.64	$0.00	$63.65
	06/01/2023	$39.31	$8.60	$16.64	$0.00	$64.55
	12/01/2023	$40.21	$8.60	$16.64	$0.00	$65.45
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.75	$8.60	$16.64	$0.00	$60.99
	12/01/2021	$36.66	$8.60	$16.64	$0.00	$61.90
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. *HEAT & FROST INSULATORS LOCAL 6 (BOSTON)*	12/01/2020	$38.10	$12.80	$9.45	$0.00	$60.35
ASPHALT RAKER *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BLOCK PAVER, RAMMER / CURB SETTER *LABORERS - ZONE 2*	06/01/2021	$35.75	$8.60	$16.64	$0.00	$60.99
	12/01/2021	$36.66	$8.60	$16.64	$0.00	$61.90
	06/01/2022	$37.56	$8.60	$16.64	$0.00	$62.80
	12/01/2022	$38.41	$8.60	$16.64	$0.00	$63.65
	06/01/2023	$39.31	$8.60	$16.64	$0.00	$64.55
	12/01/2023	$40.21	$8.60	$16.64	$0.00	$65.45
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)* For apprentice rates see "Apprentice- LABORER (Heavy and Highway)	06/01/2021	$35.75	$8.60	$16.64	$0.00	$60.99
	12/01/2021	$36.66	$8.60	$16.64	$0.00	$61.90
BOILER MAKER *BOILERMAKERS LOCAL 29*	01/01/2020	$46.10	$7.07	$17.98	$0.00	$71.15

Apprentice - *BOILERMAKER - Local 29*

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	$29.97	$7.07	$11.69	$0.00	$48.73
2	65	$29.97	$7.07	$11.69	$0.00	$48.73
3	70	$32.27	$7.07	$12.59	$0.00	$51.93
4	75	$34.58	$7.07	$13.49	$0.00	$55.14
5	80	$36.88	$7.07	$14.38	$0.00	$58.33
6	85	$39.19	$7.07	$15.29	$0.00	$61.55
7	90	$41.49	$7.07	$16.18	$0.00	$64.74
8	95	$43.80	$7.07	$17.09	$0.00	$67.96

Notes:

Apprentice to Journeyworker Ratio:1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) *BRICKLAYERS LOCAL 3 (QUINCY)*	08/01/2021	$57.15	$11.39	$22.25	$0.00	$90.79
	02/01/2022	$57.74	$11.39	$22.25	$0.00	$91.38

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.58	$11.39	$22.25	$0.00	$62.22
2	60	$34.29	$11.39	$22.25	$0.00	$67.93
3	70	$40.01	$11.39	$22.25	$0.00	$73.65
4	80	$45.72	$11.39	$22.25	$0.00	$79.36
5	90	$51.44	$11.39	$22.25	$0.00	$85.08

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.87	$11.39	$22.25	$0.00	$62.51
2	60	$34.64	$11.39	$22.25	$0.00	$68.28
3	70	$40.42	$11.39	$22.25	$0.00	$74.06
4	80	$46.19	$11.39	$22.25	$0.00	$79.83
5	90	$51.97	$11.39	$22.25	$0.00	$85.61

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$41.82	$8.60	$17.72	$0.00	$68.14
	12/01/2021	$42.83	$8.60	$17.72	$0.00	$69.15
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$40.67	$8.60	$17.72	$0.00	$66.99
	12/01/2021	$41.68	$8.60	$17.72	$0.00	$68.00
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$40.67	$8.60	$17.72	$0.00	$66.99
	12/01/2021	$41.68	$8.60	$17.72	$0.00	$68.00
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
CARPENTER *CARPENTERS -ZONE 2 (Eastern Massachusetts)*	09/01/2021	$44.18	$8.58	$19.82	$0.00	$72.58
	03/01/2022	$44.78	$8.58	$19.82	$0.00	$73.18
	09/01/2022	$45.43	$8.58	$19.82	$0.00	$73.83
	03/01/2023	$46.03	$8.58	$19.82	$0.00	$74.43

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *CARPENTER - Zone 2 Eastern MA*

Effective Date - 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.09	$8.58	$1.73	$0.00	$32.40
2	60	$26.51	$8.58	$1.73	$0.00	$36.82
3	70	$30.93	$8.58	$14.63	$0.00	$54.14
4	75	$33.14	$8.58	$14.63	$0.00	$56.35
5	80	$35.34	$8.58	$16.36	$0.00	$60.28
6	80	$35.34	$8.58	$16.36	$0.00	$60.28
7	90	$39.76	$8.58	$18.09	$0.00	$66.43
8	90	$39.76	$8.58	$18.09	$0.00	$66.43

Effective Date - 03/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.39	$8.58	$1.73	$0.00	$32.70
2	60	$26.87	$8.58	$1.73	$0.00	$37.18
3	70	$31.35	$8.58	$14.63	$0.00	$54.56
4	75	$33.59	$8.58	$14.63	$0.00	$56.80
5	80	$35.82	$8.58	$16.36	$0.00	$60.76
6	80	$35.82	$8.58	$16.36	$0.00	$60.76
7	90	$40.30	$8.58	$18.09	$0.00	$66.97
8	90	$40.30	$8.58	$18.09	$0.00	$66.97

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 $30.19/ 3&4 $36.28/ 5&6 $55.87/ 7&8 $62.01

Apprentice to Journeyworker Ratio:1:5

CARPENTER WOOD FRAME *CARPENTERS-ZONE 3 (Wood Frame)*	04/01/2021	$23.16	$7.21	$4.80	$0.00	$35.17
	04/01/2022	$23.66	$7.21	$4.80	$0.00	$35.67
	04/01/2023	$24.16	$7.21	$4.80	$0.00	$36.17

All Aspects of New Wood Frame Work

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *CARPENTER (Wood Frame) - Zone 3*

Effective Date - 04/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$13.90	$7.21	$0.00	$0.00	$21.11
2	60	$13.90	$7.21	$0.00	$0.00	$21.11
3	65	$15.05	$7.21	$0.00	$0.00	$22.26
4	70	$16.21	$7.21	$0.00	$0.00	$23.42
5	75	$17.37	$7.21	$3.80	$0.00	$28.38
6	80	$18.53	$7.21	$3.80	$0.00	$29.54
7	85	$19.69	$7.21	$3.80	$0.00	$30.70
8	90	$20.84	$7.21	$3.80	$0.00	$31.85

Effective Date - 04/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$14.20	$7.21	$0.00	$0.00	$21.41
2	60	$14.20	$7.21	$0.00	$0.00	$21.41
3	65	$15.38	$7.21	$0.00	$0.00	$22.59
4	70	$16.56	$7.21	$0.00	$0.00	$23.77
5	75	$17.75	$7.21	$3.80	$0.00	$28.76
6	80	$18.93	$7.21	$3.80	$0.00	$29.94
7	85	$20.11	$7.21	$3.80	$0.00	$31.12
8	90	$21.29	$7.21	$3.80	$0.00	$32.30

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 $17.63/ 3&4 $19.95/ 5&6 $27.22/ 7&8 $29.54

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING *BRICKLAYERS LOCAL 3 (QUINCY)*	01/01/2020	$49.07	$12.75	$22.41	$0.62	$84.85

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

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.54	$12.75	$15.41	$0.00	$52.70
2	60	$29.44	$12.75	$17.41	$0.62	$60.22
3	65	$31.90	$12.75	$18.41	$0.62	$63.68
4	70	$34.35	$12.75	$19.41	$0.62	$67.13
5	75	$36.80	$12.75	$20.41	$0.62	$70.58
6	80	$39.26	$12.75	$21.41	$0.62	$74.04
7	90	$44.16	$12.75	$22.41	$0.62	$79.94

Notes:

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

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CHAIN SAW OPERATOR *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$51.73	$13.75	$15.80	$0.00	$81.28
	12/01/2021	$52.88	$13.75	$15.80	$0.00	$82.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$33.40	$13.75	$15.80	$0.00	$62.95
	12/01/2021	$34.19	$13.75	$15.80	$0.00	$63.74
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) *PAINTERS LOCAL 35 - ZONE 2*	07/01/2021	$52.86	$8.45	$22.90	$0.00	$84.21
	01/01/2022	$53.66	$8.65	$23.05	$0.00	$85.36
	07/01/2022	$54.86	$8.65	$23.05	$0.00	$86.56
	01/01/2023	$56.06	$8.65	$23.05	$0.00	$87.76
	07/01/2023	$57.26	$8.65	$23.05	$0.00	$88.96
	01/01/2024	$58.46	$8.65	$23.05	$0.00	$90.16
	07/01/2024	$59.66	$8.65	$23.05	$0.00	$91.36
	01/01/2025	$60.86	$8.65	$23.05	$0.00	$92.56

Apprentice - *PAINTER Local 35 - BRIDGES/TANKS*

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.43	$8.45	$0.00	$0.00	$34.88
2	55	$29.07	$8.45	$6.22	$0.00	$43.74
3	60	$31.72	$8.45	$6.78	$0.00	$46.95
4	65	$34.36	$8.45	$7.35	$0.00	$50.16
5	70	$37.00	$8.45	$19.51	$0.00	$64.96
6	75	$39.65	$8.45	$20.08	$0.00	$68.18
7	80	$42.29	$8.45	$20.64	$0.00	$71.38
8	90	$47.57	$8.45	$21.77	$0.00	$77.79

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.83	$8.65	$0.00	$0.00	$35.48
2	55	$29.51	$8.65	$6.27	$0.00	$44.43
3	60	$32.20	$8.65	$6.84	$0.00	$47.69
4	65	$34.88	$8.65	$7.41	$0.00	$50.94
5	70	$37.56	$8.65	$19.63	$0.00	$65.84
6	75	$40.25	$8.65	$20.20	$0.00	$69.10
7	80	$42.93	$8.65	$20.77	$0.00	$72.35
8	90	$48.29	$8.65	$21.91	$0.00	$78.85

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN *LABORERS - ZONE 2*	06/01/2021	$40.82	$8.60	$17.57	$0.00	$66.99
	12/01/2021	$41.83	$8.60	$17.57	$0.00	$68.00
	06/01/2022	$42.83	$8.60	$17.57	$0.00	$69.00
	12/01/2022	$43.83	$8.60	$17.57	$0.00	$70.00
	06/01/2023	$44.83	$8.60	$17.57	$0.00	$71.00
	12/01/2023	$46.08	$8.60	$17.57	$0.00	$72.25

For apprentice rates see "Apprentice- LABORER"

DEMO: BACKHOE/LOADER/HAMMER OPERATOR *LABORERS - ZONE 2*	06/01/2021	$41.82	$8.60	$17.57	$0.00	$67.99
	12/01/2021	$42.83	$8.60	$17.57	$0.00	$69.00
	06/01/2022	$43.83	$8.60	$17.57	$0.00	$70.00
	12/01/2022	$44.83	$8.60	$17.57	$0.00	$71.00
	06/01/2023	$45.83	$8.60	$17.57	$0.00	$72.00
	12/01/2023	$47.08	$8.60	$17.57	$0.00	$73.25

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: BURNERS *LABORERS - ZONE 2*	06/01/2021	$41.57	$8.60	$17.57	$0.00	$67.74
	12/01/2021	$42.58	$8.60	$17.57	$0.00	$68.75
	06/01/2022	$43.58	$8.60	$17.57	$0.00	$69.75
	12/01/2022	$44.58	$8.60	$17.57	$0.00	$70.75
	06/01/2023	$45.58	$8.60	$17.57	$0.00	$71.75
	12/01/2023	$46.83	$8.60	$17.57	$0.00	$73.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER *LABORERS - ZONE 2*	06/01/2021	$41.82	$8.60	$17.57	$0.00	$67.99
	12/01/2021	$42.83	$8.60	$17.57	$0.00	$69.00
	06/01/2022	$43.83	$8.60	$17.57	$0.00	$70.00
	12/01/2022	$44.83	$8.60	$17.57	$0.00	$71.00
	06/01/2023	$45.83	$8.60	$17.57	$0.00	$72.00
	12/01/2023	$47.08	$8.60	$17.57	$0.00	$73.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR *LABORERS - ZONE 2*	06/01/2021	$41.57	$8.60	$17.57	$0.00	$67.74
	12/01/2021	$42.58	$8.60	$17.57	$0.00	$68.75
	06/01/2022	$43.58	$8.60	$17.57	$0.00	$69.75
	12/01/2022	$44.58	$8.60	$17.57	$0.00	$70.75
	06/01/2023	$45.58	$8.60	$17.57	$0.00	$71.75
	12/01/2023	$46.83	$8.60	$17.57	$0.00	$73.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER *LABORERS - ZONE 2*	06/01/2021	$40.82	$8.60	$17.57	$0.00	$66.99
	12/01/2021	$41.83	$8.60	$17.57	$0.00	$68.00
	06/01/2022	$42.83	$8.60	$17.57	$0.00	$69.00
	12/01/2022	$43.83	$8.60	$17.57	$0.00	$70.00
	06/01/2023	$44.83	$8.60	$17.57	$0.00	$71.00
	12/01/2023	$46.08	$8.60	$17.57	$0.00	$72.25
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2020	$68.70	$9.40	$23.12	$0.00	$101.22
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2020	$49.07	$9.40	$23.12	$0.00	$81.59
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2020	$73.60	$9.40	$23.12	$0.00	$106.12
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2020	$103.05	$9.40	$23.12	$0.00	$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) *DRAWBRIDGE - SEIU LOCAL 888*	07/01/2020	$26.77	$6.67	$3.93	$0.16	$37.53
ELECTRICIAN *ELECTRICIANS LOCAL 223*	09/01/2020	$43.66	$10.90	$14.66	$0.00	$69.22

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *ELECTRICIAN - Local 223*

Effective Date - 09/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$17.46	$10.90	$0.52	$0.00	$28.88
2	45	$19.65	$10.90	$0.59	$0.00	$31.14
3	50	$21.83	$10.90	$0.65	$0.00	$33.38
4	55	$24.01	$10.90	$6.28	$0.00	$41.19
5	60	$26.20	$10.90	$6.77	$0.00	$43.87
6	65	$28.38	$10.90	$7.24	$0.00	$46.52
7	70	$30.56	$10.90	$7.73	$0.00	$49.19
8	75	$32.75	$10.90	$8.21	$0.00	$51.86

Notes:

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR *ELEVATOR CONSTRUCTORS LOCAL 4*	01/01/2021	$63.47	$15.88	$19.31	$0.00	$98.66
	01/01/2022	$65.62	$16.03	$20.21	$0.00	$101.86

Apprentice - *ELEVATOR CONSTRUCTOR - Local 4*

Effective Date - 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$31.74	$15.88	$0.00	$0.00	$47.62
2	55	$34.91	$15.88	$19.31	$0.00	$70.10
3	65	$41.26	$15.88	$19.31	$0.00	$76.45
4	70	$44.43	$15.88	$19.31	$0.00	$79.62
5	80	$50.78	$15.88	$19.31	$0.00	$85.97

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$32.81	$16.03	$0.00	$0.00	$48.84
2	55	$36.09	$16.03	$20.21	$0.00	$72.33
3	65	$42.65	$16.03	$20.21	$0.00	$78.89
4	70	$45.93	$16.03	$20.21	$0.00	$82.17
5	80	$52.50	$16.03	$20.21	$0.00	$88.74

Notes:

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

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER *ELEVATOR CONSTRUCTORS LOCAL 4*	01/01/2021	$44.43	$15.88	$19.31	$0.00	$79.62
	01/01/2022	$45.93	$16.03	$20.21	$0.00	$82.17
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 4*	05/01/2021	$45.88	$13.50	$15.70	$0.00	$75.08
	11/01/2021	$46.88	$13.50	$15.70	$0.00	$76.08
	05/01/2022	$48.03	$13.50	$15.70	$0.00	$77.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 4*	05/01/2021	$47.40	$13.50	$15.70	$0.00	$76.60
	11/01/2021	$48.41	$13.50	$15.70	$0.00	$77.61
	05/01/2022	$49.57	$13.50	$15.70	$0.00	$78.77
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 4*	05/01/2021	$22.91	$13.50	$15.70	$0.00	$52.11
	11/01/2021	$23.51	$13.50	$15.70	$0.00	$52.71
	05/01/2022	$24.18	$13.50	$15.70	$0.00	$53.38
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER *ELECTRICIANS LOCAL 223*	09/01/2020	$43.66	$10.90	$14.66	$0.00	$69.22
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING*ELECTRICIANS LOCAL 223*	09/01/2020	$36.86	$10.90	$12.45	$0.00	$60.21
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$41.31	$13.75	$15.80	$0.00	$70.86
	12/01/2021	$42.26	$13.75	$15.80	$0.00	$71.81
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$24.50	$8.60	$16.64	$0.00	$49.74
	12/01/2021	$24.50	$8.60	$16.64	$0.00	$49.74
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
FLOORCOVERER *FLOORCOVERERS LOCAL 2168 ZONE I*	09/01/2021	$49.38	$8.58	$20.12	$0.00	$78.08
	03/01/2022	$50.18	$8.58	$20.12	$0.00	$78.88

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *FLOORCOVERER - Local 2168 Zone I*

Effective Date - 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.69	$8.58	$1.79	$0.00	$35.06
2	55	$27.16	$8.58	$1.79	$0.00	$37.53
3	60	$29.63	$8.58	$14.75	$0.00	$52.96
4	65	$32.10	$8.58	$14.75	$0.00	$55.43
5	70	$34.57	$8.58	$16.54	$0.00	$59.69
6	75	$37.04	$8.58	$16.54	$0.00	$62.16
7	80	$39.50	$8.58	$18.33	$0.00	$66.41
8	85	$41.97	$8.58	$18.33	$0.00	$68.88

Effective Date - 03/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$25.09	$8.58	$1.79	$0.00	$35.46
2	55	$27.60	$8.58	$1.79	$0.00	$37.97
3	60	$30.11	$8.58	$14.75	$0.00	$53.44
4	65	$32.62	$8.58	$14.75	$0.00	$55.95
5	70	$35.13	$8.58	$16.54	$0.00	$60.25
6	75	$37.64	$8.58	$16.54	$0.00	$62.76
7	80	$40.14	$8.58	$18.33	$0.00	$67.05
8	85	$42.65	$8.58	$18.33	$0.00	$69.56

Notes: Steps are 750 hrs.
% After 10/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)
Step 1&2 $32.59/ 3&4 $39.26/ 5&6 $59.69/ 7&8 $66.41

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER *OPERATING ENGINEERS LOCAL 4* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
GENERATOR/LIGHTING PLANT/HEATERS *OPERATING ENGINEERS LOCAL 4* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	06/01/2021	$33.40	$13.75	$15.80	$0.00	$62.95
	12/01/2021	$34.19	$13.75	$15.80	$0.00	$63.74
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) *GLAZIERS LOCAL 35 (ZONE 2)*	07/01/2021	$42.36	$8.45	$22.90	$0.00	$73.71
	01/01/2022	$43.16	$8.65	$23.05	$0.00	$74.86
	07/01/2022	$44.36	$8.65	$23.05	$0.00	$76.06
	01/01/2023	$45.56	$8.65	$23.05	$0.00	$77.26
	07/01/2023	$46.76	$8.65	$23.05	$0.00	$78.46
	01/01/2024	$47.96	$8.65	$23.05	$0.00	$79.66
	07/01/2024	$49.16	$8.65	$23.05	$0.00	$80.86
	01/01/2025	$50.36	$8.65	$23.05	$0.00	$82.06

Apprentice - *GLAZIER - Local 35 Zone 2*

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.18	$8.45	$0.00	$0.00	$29.63
2	55	$23.30	$8.45	$6.22	$0.00	$37.97
3	60	$25.42	$8.45	$6.78	$0.00	$40.65
4	65	$27.53	$8.45	$7.35	$0.00	$43.33
5	70	$29.65	$8.45	$19.51	$0.00	$57.61
6	75	$31.77	$8.45	$20.08	$0.00	$60.30
7	80	$33.89	$8.45	$20.64	$0.00	$62.98
8	90	$38.12	$8.45	$21.77	$0.00	$68.34

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.58	$8.65	$0.00	$0.00	$30.23
2	55	$23.74	$8.65	$6.27	$0.00	$38.66
3	60	$25.90	$8.65	$6.84	$0.00	$41.39
4	65	$28.05	$8.65	$7.41	$0.00	$44.11
5	70	$30.21	$8.65	$19.63	$0.00	$58.49
6	75	$32.37	$8.65	$20.20	$0.00	$61.22
7	80	$34.53	$8.65	$20.77	$0.00	$63.95
8	90	$38.84	$8.65	$21.91	$0.00	$69.40

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *OPERATING ENGINEERS - Local 4*

Effective Date - 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$27.90	$13.75	$0.00	$0.00	$41.65
2	60	$30.44	$13.75	$15.80	$0.00	$59.99
3	65	$32.97	$13.75	$15.80	$0.00	$62.52
4	70	$35.51	$13.75	$15.80	$0.00	$65.06
5	75	$38.05	$13.75	$15.80	$0.00	$67.60
6	80	$40.58	$13.75	$15.80	$0.00	$70.13
7	85	$43.12	$13.75	$15.80	$0.00	$72.67
8	90	$45.66	$13.75	$15.80	$0.00	$75.21

Effective Date - 12/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$28.53	$13.75	$0.00	$0.00	$42.28
2	60	$31.13	$13.75	$15.80	$0.00	$60.68
3	65	$33.72	$13.75	$15.80	$0.00	$63.27
4	70	$36.32	$13.75	$15.80	$0.00	$65.87
5	75	$38.91	$13.75	$15.80	$0.00	$68.46
6	80	$41.50	$13.75	$15.80	$0.00	$71.05
7	85	$44.10	$13.75	$15.80	$0.00	$73.65
8	90	$46.69	$13.75	$15.80	$0.00	$76.24

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) *SHEETMETAL WORKERS LOCAL 17 - A*	08/01/2021	$51.95	$13.80	$25.60	$2.74	$94.09
	02/01/2022	$53.70	$13.80	$25.60	$2.79	$95.89
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (ELECTRICAL CONTROLS) *ELECTRICIANS LOCAL 223*	09/01/2020	$43.66	$10.90	$14.66	$0.00	$69.22
For apprentice rates see "Apprentice- ELECTRICIAN"						
HVAC (TESTING AND BALANCING - AIR) *SHEETMETAL WORKERS LOCAL 17 - A*	08/01/2021	$51.95	$13.80	$25.60	$2.74	$94.09
	02/01/2022	$53.70	$13.80	$25.60	$2.79	$95.89
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) *PLUMBERS & PIPEFITTERS LOCAL 51*	08/30/2021	$46.49	$10.15	$19.95	$0.00	$76.59
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC *PLUMBERS & PIPEFITTERS LOCAL 51*	08/30/2021	$46.49	$10.15	$19.95	$0.00	$76.59
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HYDRAULIC DRILLS *LABORERS - ZONE 2*	06/01/2021	$35.75	$8.60	$16.64	$0.00	$60.99
	12/01/2021	$36.66	$8.60	$16.64	$0.00	$61.90
	06/01/2022	$37.56	$8.60	$16.64	$0.00	$62.80
	12/01/2022	$38.41	$8.60	$16.64	$0.00	$63.65
	06/01/2023	$39.31	$8.60	$16.64	$0.00	$64.55
	12/01/2023	$40.21	$8.60	$16.64	$0.00	$65.45
For apprentice rates see "Apprentice- LABORER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.75	$8.60	$16.64	$0.00	$60.99
	12/01/2021	$36.66	$8.60	$16.64	$0.00	$61.90
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
INSULATOR (PIPES & TANKS) *HEAT & FROST INSULATORS LOCAL 6 (BOSTON)*	09/01/2021	$51.40	$13.80	$17.14	$0.00	$82.34
	09/01/2022	$53.85	$13.80	$17.14	$0.00	$84.79

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

Effective Date - 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$25.70	$13.80	$12.42	$0.00	$51.92
2	60	$30.84	$13.80	$13.36	$0.00	$58.00
3	70	$35.98	$13.80	$14.31	$0.00	$64.09
4	80	$41.12	$13.80	$15.25	$0.00	$70.17

Effective Date - 09/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.93	$13.80	$12.42	$0.00	$53.15
2	60	$32.31	$13.80	$13.36	$0.00	$59.47
3	70	$37.70	$13.80	$14.31	$0.00	$65.81
4	80	$43.08	$13.80	$15.25	$0.00	$72.13

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER *IRONWORKERS LOCAL 7 (BOSTON AREA)*	09/16/2020	$48.66	$8.10	$25.10	$0.00	$81.86

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *IRONWORKER - Local 7 Boston*

Effective Date - 09/16/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$29.20	$8.10	$25.10	$0.00	$62.40
2	70	$34.06	$8.10	$25.10	$0.00	$67.26
3	75	$36.50	$8.10	$25.10	$0.00	$69.70
4	80	$38.93	$8.10	$25.10	$0.00	$72.13
5	85	$41.36	$8.10	$25.10	$0.00	$74.56
6	90	$43.79	$8.10	$25.10	$0.00	$76.99

Notes:

** Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:**

JACKHAMMER & PAVING BREAKER OPERATOR *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95

For apprentice rates see "Apprentice- LABORER"

LABORER *LABORERS - ZONE 2*	06/01/2021	$35.00	$8.60	$16.64	$0.00	$60.24
	12/01/2021	$35.91	$8.60	$16.64	$0.00	$61.15
	06/01/2022	$36.81	$8.60	$16.64	$0.00	$62.05
	12/01/2022	$37.66	$8.60	$16.64	$0.00	$62.90
	06/01/2023	$38.56	$8.60	$16.64	$0.00	$63.80
	12/01/2023	$39.46	$8.60	$16.64	$0.00	$64.70

Apprentice - *LABORER - Zone 2*

Effective Date - 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$21.00	$8.60	$16.64	$0.00	$46.24
2	70	$24.50	$8.60	$16.64	$0.00	$49.74
3	80	$28.00	$8.60	$16.64	$0.00	$53.24
4	90	$31.50	$8.60	$16.64	$0.00	$56.74

Effective Date - 12/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$21.55	$8.60	$16.64	$0.00	$46.79
2	70	$25.14	$8.60	$16.64	$0.00	$50.38
3	80	$28.73	$8.60	$16.64	$0.00	$53.97
4	90	$32.32	$8.60	$16.64	$0.00	$57.56

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.00	$8.60	$16.64	$0.00	$60.24
	12/01/2021	$35.91	$8.60	$16.64	$0.00	$61.15

Apprentice - *LABORER (Heavy & Highway) - Zone 2*

Effective Date - 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$21.00	$8.60	$16.64	$0.00	$46.24
2	70	$24.50	$8.60	$16.64	$0.00	$49.74
3	80	$28.00	$8.60	$16.64	$0.00	$53.24
4	90	$31.50	$8.60	$16.64	$0.00	$56.74

Effective Date - 12/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$21.55	$8.60	$16.64	$0.00	$46.79
2	70	$25.14	$8.60	$16.64	$0.00	$50.38
3	80	$28.73	$8.60	$16.64	$0.00	$53.97
4	90	$32.32	$8.60	$16.64	$0.00	$57.56

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER *LABORERS - ZONE 2*	06/01/2021	$35.00	$8.60	$16.64	$0.00	$60.24
	12/01/2021	$35.91	$8.60	$16.64	$0.00	$61.15
	06/01/2022	$36.81	$8.60	$16.64	$0.00	$62.05
	12/01/2022	$37.66	$8.60	$16.64	$0.00	$62.90
	06/01/2023	$38.56	$8.60	$16.64	$0.00	$63.80
	12/01/2023	$39.46	$8.60	$16.64	$0.00	$64.70
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER *LABORERS - ZONE 2*	06/01/2021	$35.00	$8.60	$16.64	$0.00	$60.24
	12/01/2021	$35.91	$8.60	$16.64	$0.00	$61.15
	06/01/2022	$36.81	$8.60	$16.64	$0.00	$62.05
	12/01/2022	$37.66	$8.60	$16.64	$0.00	$62.90
	06/01/2023	$38.56	$8.60	$16.64	$0.00	$63.80
	12/01/2023	$39.46	$8.60	$16.64	$0.00	$64.70
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER *LABORERS - ZONE 2*	06/01/2021	$35.09	$8.60	$16.70	$0.00	$60.39
	12/01/2021	$36.00	$8.60	$16.70	$0.00	$61.30
	06/01/2022	$36.90	$8.60	$16.70	$0.00	$62.20
	12/01/2022	$37.75	$8.60	$16.70	$0.00	$63.05
	06/01/2023	$38.65	$8.60	$16.70	$0.00	$63.95
	12/01/2023	$39.55	$8.60	$16.70	$0.00	$64.85
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
LABORER: MULTI-TRADE TENDER *LABORERS - ZONE 2*	06/01/2021	$35.00	$8.60	$16.64	$0.00	$60.24
	12/01/2021	$35.91	$8.60	$16.64	$0.00	$61.15
	06/01/2022	$36.81	$8.60	$16.64	$0.00	$62.05
	12/01/2022	$37.66	$8.60	$16.64	$0.00	$62.90
	06/01/2023	$38.56	$8.60	$16.64	$0.00	$63.80
	12/01/2023	$39.46	$8.60	$16.64	$0.00	$64.70
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER *LABORERS - ZONE 2*	06/01/2021	$35.00	$8.60	$16.64	$0.00	$60.24
	12/01/2021	$35.91	$8.60	$16.64	$0.00	$61.15
	06/01/2022	$36.81	$8.60	$16.64	$0.00	$62.05
	12/01/2022	$37.66	$8.60	$16.64	$0.00	$62.90
	06/01/2023	$38.56	$8.60	$16.64	$0.00	$63.80
	12/01/2023	$39.46	$8.60	$16.64	$0.00	$64.70
This classification applies to the removal of standing trees, and the trimming and removal of branches and limbs when related to public works construction or site clearance incidental to construction . For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LASER BEAM OPERATOR *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
MARBLE & TILE FINISHERS *BRICKLAYERS LOCAL 3 - MARBLE & TILE*	08/01/2021	$43.69	$11.39	$20.30	$0.00	$75.38
	02/01/2022	$44.16	$11.39	$20.30	$0.00	$75.85

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

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.85	$11.39	$20.30	$0.00	$53.54
2	60	$26.21	$11.39	$20.30	$0.00	$57.90
3	70	$30.58	$11.39	$20.30	$0.00	$62.27
4	80	$34.95	$11.39	$20.30	$0.00	$66.64
5	90	$39.32	$11.39	$20.30	$0.00	$71.01

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.08	$11.39	$20.30	$0.00	$53.77
2	60	$26.50	$11.39	$20.30	$0.00	$58.19
3	70	$30.91	$11.39	$20.30	$0.00	$62.60
4	80	$35.33	$11.39	$20.30	$0.00	$67.02
5	90	$39.74	$11.39	$20.30	$0.00	$71.43

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS,TILELAYERS & TERRAZZO MECH *BRICKLAYERS LOCAL 3 - MARBLE & TILE*	08/01/2021	$57.17	$11.39	$22.24	$0.00	$90.80
	02/01/2022	$57.74	$11.39	$22.24	$0.00	$91.37

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.59	$11.39	$22.24	$0.00	$62.22
2	60	$34.30	$11.39	$22.24	$0.00	$67.93
3	70	$40.02	$11.39	$22.24	$0.00	$73.65
4	80	$45.74	$11.39	$22.24	$0.00	$79.37
5	90	$51.45	$11.39	$22.24	$0.00	$85.08

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.87	$11.39	$22.24	$0.00	$62.50
2	60	$34.64	$11.39	$22.24	$0.00	$68.27
3	70	$40.42	$11.39	$22.24	$0.00	$74.05
4	80	$46.19	$11.39	$22.24	$0.00	$79.82
5	90	$51.97	$11.39	$22.24	$0.00	$85.60

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MECHANICS MAINTENANCE *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MILLWRIGHT (Zone 2) *MILLWRIGHTS LOCAL 1121 - Zone 2*	03/01/2021	$39.42	$8.58	$21.57	$0.00	$69.57
	01/03/2022	$40.67	$8.58	$21.57	$0.00	$70.82
	01/02/2023	$41.92	$8.58	$21.57	$0.00	$72.07

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *MILLWRIGHT - Local 1121 Zone 2*

Effective Date - 03/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$21.68	$8.58	$5.72	$0.00	$35.98
2	65	$25.62	$8.58	$17.93	$0.00	$52.13
3	75	$29.57	$8.58	$18.98	$0.00	$57.13
4	85	$33.51	$8.58	$20.01	$0.00	$62.10

Effective Date - 01/03/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$22.37	$8.58	$5.72	$0.00	$36.67
2	65	$26.44	$8.58	$17.93	$0.00	$52.95
3	75	$30.50	$8.58	$18.98	$0.00	$58.06
4	85	$34.57	$8.58	$20.01	$0.00	$63.16

Notes: Step 1&2 Appr. indentured after 1/6/2020 receive no pension, but do receive annuity. (Step 1 $5.72, Step 2 $6.66)
Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:5

MORTAR MIXER *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
OILER (OTHER THAN TRUCK CRANES,GRADALLS) *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$23.40	$13.75	$15.80	$0.00	$52.95
	12/01/2021	$23.98	$13.75	$15.80	$0.00	$53.53
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OILER (TRUCK CRANES, GRADALLS) *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$28.26	$13.75	$15.80	$0.00	$57.81
	12/01/2021	$28.94	$13.75	$15.80	$0.00	$58.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OTHER POWER DRIVEN EQUIPMENT - CLASS II *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PAINTER (BRIDGES/TANKS) *PAINTERS LOCAL 35 - ZONE 2*	07/01/2021	$52.86	$8.45	$22.90	$0.00	$84.21
	01/01/2022	$53.66	$8.65	$23.05	$0.00	$85.36
	07/01/2022	$54.86	$8.65	$23.05	$0.00	$86.56
	01/01/2023	$56.06	$8.65	$23.05	$0.00	$87.76
	07/01/2023	$57.26	$8.65	$23.05	$0.00	$88.96
	01/01/2024	$58.46	$8.65	$23.05	$0.00	$90.16
	07/01/2024	$59.66	$8.65	$23.05	$0.00	$91.36
	01/01/2025	$60.86	$8.65	$23.05	$0.00	$92.56

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PAINTER Local 35 - BRIDGES/TANKS*

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.43	$8.45	$0.00	$0.00	$34.88
2	55	$29.07	$8.45	$6.22	$0.00	$43.74
3	60	$31.72	$8.45	$6.78	$0.00	$46.95
4	65	$34.36	$8.45	$7.35	$0.00	$50.16
5	70	$37.00	$8.45	$19.51	$0.00	$64.96
6	75	$39.65	$8.45	$20.08	$0.00	$68.18
7	80	$42.29	$8.45	$20.64	$0.00	$71.38
8	90	$47.57	$8.45	$21.77	$0.00	$77.79

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.83	$8.65	$0.00	$0.00	$35.48
2	55	$29.51	$8.65	$6.27	$0.00	$44.43
3	60	$32.20	$8.65	$6.84	$0.00	$47.69
4	65	$34.88	$8.65	$7.41	$0.00	$50.94
5	70	$37.56	$8.65	$19.63	$0.00	$65.84
6	75	$40.25	$8.65	$20.20	$0.00	$69.10
7	80	$42.93	$8.65	$20.77	$0.00	$72.35
8	90	$48.29	$8.65	$21.91	$0.00	$78.85

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) * * If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.*PAINTERS LOCAL 35 - ZONE 2*	07/01/2021	$43.76	$8.45	$22.90	$0.00	$75.11
	01/01/2022	$44.56	$8.65	$23.05	$0.00	$76.26
	07/01/2022	$45.76	$8.65	$23.05	$0.00	$77.46
	01/01/2023	$46.96	$8.65	$23.05	$0.00	$78.66
	07/01/2023	$48.16	$8.65	$23.05	$0.00	$79.86
	01/01/2024	$49.36	$8.65	$23.05	$0.00	$81.06
	07/01/2024	$50.56	$8.65	$23.05	$0.00	$82.26
	01/01/2025	$51.76	$8.65	$23.05	$0.00	$83.46

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.88	$8.45	$0.00	$0.00	$30.33
2	55	$24.07	$8.45	$6.22	$0.00	$38.74
3	60	$26.26	$8.45	$6.78	$0.00	$41.49
4	65	$28.44	$8.45	$7.35	$0.00	$44.24
5	70	$30.63	$8.45	$19.51	$0.00	$58.59
6	75	$32.82	$8.45	$20.08	$0.00	$61.35
7	80	$35.01	$8.45	$20.64	$0.00	$64.10
8	90	$39.38	$8.45	$21.77	$0.00	$69.60

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.28	$8.65	$0.00	$0.00	$30.93
2	55	$24.51	$8.65	$6.27	$0.00	$39.43
3	60	$26.74	$8.65	$6.84	$0.00	$42.23
4	65	$28.96	$8.65	$19.06	$0.00	$56.67
5	70	$31.19	$8.65	$19.63	$0.00	$59.47
6	75	$33.42	$8.65	$20.20	$0.00	$62.27
7	80	$35.65	$8.65	$20.77	$0.00	$65.07
8	90	$40.10	$8.65	$21.91	$0.00	$70.66

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT) *PAINTERS LOCAL 35 - ZONE 2*	07/01/2021	$41.82	$8.45	$22.90	$0.00	$73.17
	01/01/2022	$42.62	$8.65	$23.05	$0.00	$74.32
	07/01/2022	$43.82	$8.65	$23.05	$0.00	$75.52
	01/01/2023	$45.02	$8.65	$23.05	$0.00	$76.72
	07/01/2023	$46.22	$8.65	$23.05	$0.00	$77.92
	01/01/2024	$47.42	$8.65	$23.05	$0.00	$79.12
	07/01/2024	$48.62	$8.65	$23.05	$0.00	$80.32
	01/01/2025	$49.82	$8.65	$23.05	$0.00	$81.52

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$20.91	$8.45	$0.00	$0.00	$29.36
2	55	$23.00	$8.45	$6.22	$0.00	$37.67
3	60	$25.09	$8.45	$6.78	$0.00	$40.32
4	65	$27.18	$8.45	$7.35	$0.00	$42.98
5	70	$29.27	$8.45	$19.51	$0.00	$57.23
6	75	$31.37	$8.45	$20.08	$0.00	$59.90
7	80	$33.46	$8.45	$20.64	$0.00	$62.55
8	90	$37.64	$8.45	$21.77	$0.00	$67.86

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.31	$8.65	$0.00	$0.00	$29.96
2	55	$23.44	$8.65	$6.27	$0.00	$38.36
3	60	$25.57	$8.65	$6.84	$0.00	$41.06
4	65	$27.70	$8.65	$7.41	$0.00	$43.76
5	70	$29.83	$8.65	$19.63	$0.00	$58.11
6	75	$31.97	$8.65	$20.20	$0.00	$60.82
7	80	$34.10	$8.65	$20.77	$0.00	$63.52
8	90	$38.36	$8.65	$21.91	$0.00	$68.92

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	07/01/2021	$42.36	$8.45	$22.90	$0.00	$73.71
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.*PAINTERS LOCAL 35 - ZONE 2*	01/01/2022	$43.16	$8.65	$23.05	$0.00	$74.86
	07/01/2022	$44.36	$8.65	$23.05	$0.00	$76.06
	01/01/2023	$45.56	$8.65	$23.05	$0.00	$77.26
	07/01/2023	$46.76	$8.65	$23.05	$0.00	$78.46
	01/01/2024	$47.96	$8.65	$23.05	$0.00	$79.66
	07/01/2024	$49.16	$8.65	$23.05	$0.00	$80.86
	01/01/2025	$50.36	$8.65	$23.05	$0.00	$82.06

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PAINTER - Local 35 Zone 2 - BRUSH NEW*

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.18	$8.45	$0.00	$0.00	$29.63
2	55	$23.30	$8.45	$6.22	$0.00	$37.97
3	60	$25.42	$8.45	$6.78	$0.00	$40.65
4	65	$27.53	$8.45	$7.35	$0.00	$43.33
5	70	$29.65	$8.45	$19.51	$0.00	$57.61
6	75	$31.77	$8.45	$20.08	$0.00	$60.30
7	80	$33.89	$8.45	$20.64	$0.00	$62.98
8	90	$38.12	$8.45	$21.77	$0.00	$68.34

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.58	$8.65	$0.00	$0.00	$30.23
2	55	$23.74	$8.65	$6.27	$0.00	$38.66
3	60	$25.90	$8.65	$6.84	$0.00	$41.39
4	65	$28.05	$8.65	$7.41	$0.00	$44.11
5	70	$30.21	$8.65	$19.63	$0.00	$58.49
6	75	$32.37	$8.65	$20.20	$0.00	$61.22
7	80	$34.53	$8.65	$20.77	$0.00	$63.95
8	90	$38.84	$8.65	$21.91	$0.00	$69.40

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT) *PAINTERS LOCAL 35 - ZONE 2*	07/01/2021	$40.42	$8.45	$22.90	$0.00	$71.77
	01/01/2022	$41.22	$8.65	$23.05	$0.00	$72.92
	07/01/2022	$42.42	$8.65	$23.05	$0.00	$74.12
	01/01/2023	$43.62	$8.65	$23.05	$0.00	$75.32
	07/01/2023	$44.82	$8.65	$23.05	$0.00	$76.52
	01/01/2024	$46.02	$8.65	$23.05	$0.00	$77.72
	07/01/2024	$47.22	$8.65	$23.05	$0.00	$78.92
	01/01/2025	$48.42	$8.65	$23.05	$0.00	$80.12

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PAINTER Local 35 Zone 2 - BRUSH REPAINT*

Effective Date - 07/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$20.21	$8.45	$0.00	$0.00	$28.66
2	55	$22.23	$8.45	$6.22	$0.00	$36.90
3	60	$24.25	$8.45	$6.78	$0.00	$39.48
4	65	$26.27	$8.45	$7.35	$0.00	$42.07
5	70	$28.29	$8.45	$19.51	$0.00	$56.25
6	75	$30.32	$8.45	$20.08	$0.00	$58.85
7	80	$32.34	$8.45	$20.64	$0.00	$61.43
8	90	$36.38	$8.45	$21.77	$0.00	$66.60

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$20.61	$8.65	$0.00	$0.00	$29.26
2	55	$22.67	$8.65	$6.27	$0.00	$37.59
3	60	$24.73	$8.65	$6.84	$0.00	$40.22
4	65	$26.79	$8.65	$7.41	$0.00	$42.85
5	70	$28.85	$8.65	$19.63	$0.00	$57.13
6	75	$30.92	$8.65	$20.20	$0.00	$59.77
7	80	$32.98	$8.65	$20.77	$0.00	$62.40
8	90	$37.10	$8.65	$21.91	$0.00	$67.66

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)* For apprentice rates see "Apprentice- LABORER (Heavy and Highway)	06/01/2021	$35.00	$8.60	$16.64	$0.00	$60.24
	12/01/2021	$35.91	$8.60	$16.64	$0.00	$61.15
PANEL & PICKUP TRUCKS DRIVER *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2021	$35.78	$13.41	$14.82	$0.00	$64.01
	12/01/2021	$35.78	$13.41	$16.01	$0.00	$65.20
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) *PILE DRIVER LOCAL 56 (ZONE 1)* For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2020	$49.07	$9.40	$23.12	$0.00	$81.59
PILE DRIVER *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2020	$49.07	$9.40	$23.12	$0.00	$81.59

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PILE DRIVER - Local 56 Zone 1*

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.54	$9.40	$23.12	$0.00	$57.06
2	60	$29.44	$9.40	$23.12	$0.00	$61.96
3	70	$34.35	$9.40	$23.12	$0.00	$66.87
4	75	$36.80	$9.40	$23.12	$0.00	$69.32
5	80	$39.26	$9.40	$23.12	$0.00	$71.78
6	80	$39.26	$9.40	$23.12	$0.00	$71.78
7	90	$44.16	$9.40	$23.12	$0.00	$76.68
8	90	$44.16	$9.40	$23.12	$0.00	$76.68

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 $34.01/ 3&4 $41.46/ 5&6 $62.80/ 7&8 $69.25

Apprentice to Journeyworker Ratio:1:5

PIPELAYER *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
PIPELAYER (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
PLUMBER & PIPEFITTER *PLUMBERS & PIPEFITTERS LOCAL 51*	08/30/2021	$46.49	$10.15	$19.95	$0.00	$76.59

Apprentice - *PLUMBER/PIPEFITTER - Local 51*

Effective Date - 08/30/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$18.60	$10.15	$2.50	$0.00	$31.25
2	50	$23.25	$10.15	$2.50	$0.00	$35.90
3	60	$27.89	$10.15	$8.80	$0.00	$46.84
4	70	$32.54	$10.15	$14.08	$0.00	$56.77
5	80	$37.19	$10.15	$17.60	$0.00	$64.94

Notes:

Steps 2000hrs. Prior 9/1/05; 40/40/45/50/55/60/65/75/80/85

Apprentice to Journeyworker Ratio:1:3

PNEUMATIC CONTROLS (TEMP.) *PLUMBERS & PIPEFITTERS LOCAL 51*	08/30/2021	$46.49	$10.15	$19.95	$0.00	$76.59
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PNEUMATIC DRILL/TOOL OPERATOR *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWDERMAN & BLASTER *LABORERS - ZONE 2*	06/01/2021	$36.00	$8.60	$16.64	$0.00	$61.24
	12/01/2021	$36.91	$8.60	$16.64	$0.00	$62.15
	06/01/2022	$37.81	$8.60	$16.64	$0.00	$63.05
	12/01/2022	$38.66	$8.60	$16.64	$0.00	$63.90
	06/01/2023	$39.56	$8.60	$16.64	$0.00	$64.80
	12/01/2023	$40.46	$8.60	$16.64	$0.00	$65.70
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$36.00	$8.60	$16.64	$0.00	$61.24
	12/01/2021	$36.91	$8.60	$16.64	$0.00	$62.15
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$33.40	$13.75	$15.80	$0.00	$62.95
	12/01/2021	$34.19	$13.75	$15.80	$0.00	$63.74
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER *TEAMSTERS 653 - Southeastern Concrete (Weymouth)*	08/01/2021	$24.00	$12.91	$6.90	$0.00	$43.81
	05/01/2022	$24.50	$12.91	$6.90	$0.00	$44.31
	08/01/2022	$24.50	$13.41	$6.90	$0.00	$44.81
	05/01/2023	$25.00	$13.41	$6.90	$0.00	$45.31
	08/01/2023	$25.00	$13.91	$6.90	$0.00	$45.81
RECLAIMERS *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
ROLLER/SPREADER/MULCHING MACHINE *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ROOFER (Inc.Roofer Waterproofng &Roofer Damproofg) *ROOFERS LOCAL 33*	08/01/2021	$47.03	$12.28	$18.15	$0.00	$77.46
	02/01/2022	$48.46	$12.28	$18.15	$0.00	$78.89

Apprentice - *ROOFER - Local 33*

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$23.52	$12.28	$4.56	$0.00	$40.36
2	60	$28.22	$12.28	$18.15	$0.00	$58.65
3	65	$30.57	$12.28	$18.15	$0.00	$61.00
4	75	$35.27	$12.28	$18.15	$0.00	$65.70
5	85	$39.98	$12.28	$18.15	$0.00	$70.41

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.23	$12.28	$4.56	$0.00	$41.07
2	60	$29.08	$12.28	$18.15	$0.00	$59.51
3	65	$31.50	$12.28	$18.15	$0.00	$61.93
4	75	$36.35	$12.28	$18.15	$0.00	$66.78
5	85	$41.19	$12.28	$18.15	$0.00	$71.62

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.
(Hot Pitch Mechanics' receive $1.00 hr. above ROOFER)

Apprentice to Journeyworker Ratio:**

ROOFER SLATE / TILE / PRECAST CONCRETE *ROOFERS LOCAL 33* For apprentice rates see "Apprentice- ROOFER"	08/01/2021	$47.28	$12.28	$18.15	$0.00	$77.71
	02/01/2022	$48.71	$12.28	$18.15	$0.00	$79.14
SHEETMETAL WORKER *SHEETMETAL WORKERS LOCAL 17 - A*	08/01/2021	$51.95	$13.80	$25.60	$2.74	$94.09
	02/01/2022	$53.70	$13.80	$25.60	$2.79	$95.89

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	$21.82	$13.80	$6.01	$0.00	$41.63
2	42	$21.82	$13.80	$6.01	$0.00	$41.63
3	47	$24.42	$13.80	$11.26	$1.48	$50.96
4	47	$24.42	$13.80	$11.26	$1.48	$50.96
5	52	$27.01	$13.80	$12.23	$1.59	$54.63
6	52	$27.01	$13.80	$12.48	$1.60	$54.89
7	60	$31.17	$13.80	$13.87	$1.77	$60.61
8	65	$33.77	$13.80	$14.84	$1.87	$64.28
9	75	$38.96	$13.80	$16.77	$2.09	$71.62
10	85	$44.16	$13.80	$18.20	$2.28	$78.44

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	$22.55	$13.80	$6.01	$0.00	$42.36
2	42	$22.55	$13.80	$6.01	$0.00	$42.36
3	47	$25.24	$13.80	$11.26	$1.51	$51.81
4	47	$25.24	$13.80	$11.26	$1.51	$51.81
5	52	$27.92	$13.80	$12.23	$1.62	$55.57
6	52	$27.92	$13.80	$12.48	$1.63	$55.83
7	60	$32.22	$13.80	$13.87	$1.80	$61.69
8	65	$34.91	$13.80	$14.84	$1.91	$65.46
9	75	$40.28	$13.80	$16.77	$2.13	$72.98
10	85	$45.65	$13.80	$18.20	$2.33	$79.98

Notes:

Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

SPECIALIZED EARTH MOVING EQUIP < 35 TONS *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2021	$36.24	$13.41	$14.82	$0.00	$64.47
	12/01/2021	$36.24	$13.41	$16.01	$0.00	$65.66
SPECIALIZED EARTH MOVING EQUIP > 35 TONS *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2021	$36.53	$13.41	$14.82	$0.00	$64.76
	12/01/2021	$36.53	$13.41	$16.01	$0.00	$65.95
SPRINKLER FITTER *SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1*	03/01/2021	$62.45	$10.00	$21.25	$0.00	$93.70

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

Effective Date - 03/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	$21.86	$10.00	$11.99	$0.00	$43.85
2	40	$24.98	$10.00	$12.70	$0.00	$47.68
3	45	$28.10	$10.00	$13.41	$0.00	$51.51
4	50	$31.23	$10.00	$14.13	$0.00	$55.36
5	55	$34.35	$10.00	$14.84	$0.00	$59.19
6	60	$37.47	$10.00	$15.55	$0.00	$63.02
7	65	$40.59	$10.00	$16.26	$0.00	$66.85
8	70	$43.72	$10.00	$16.98	$0.00	$70.70
9	75	$46.84	$10.00	$17.69	$0.00	$74.53
10	80	$49.96	$10.00	$18.40	$0.00	$78.36

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 *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN *ELECTRICIANS LOCAL 223*	09/01/2020	$36.86	$10.90	$12.45	$0.00	$60.21

Apprentice - *TELECOMMUNICATION TECHNICIAN - Local 223*

Effective Date - 09/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	0	$0.00	$0.00	$0.00	$0.00	$0.00

Notes: See Electrician Apprentice Wages

Telecom Apprentice Wages shall be the same as the Electrician Apprentice Wages

Apprentice to Journeyworker Ratio:2:3***

TERRAZZO FINISHERS *BRICKLAYERS LOCAL 3 - MARBLE & TILE*	08/01/2021	$56.09	$11.39	$22.25	$0.00	$89.73
	02/01/2022	$56.68	$11.39	$22.25	$0.00	$90.32

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.05	$11.39	$22.25	$0.00	$61.69
2	60	$33.65	$11.39	$22.25	$0.00	$67.29
3	70	$39.26	$11.39	$22.25	$0.00	$72.90
4	80	$44.87	$11.39	$22.25	$0.00	$78.51
5	90	$50.48	$11.39	$22.25	$0.00	$84.12

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$28.34	$11.39	$22.25	$0.00	$61.98
2	60	$34.01	$11.39	$22.25	$0.00	$67.65
3	70	$39.68	$11.39	$22.25	$0.00	$73.32
4	80	$45.34	$11.39	$22.25	$0.00	$78.98
5	90	$51.01	$11.39	$22.25	$0.00	$84.65

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$42.07	$8.60	$17.72	$0.00	$68.39
	12/01/2021	$43.08	$8.60	$17.72	$0.00	$69.40
For apprentice rates see "Apprentice- LABORER"						
TEST BORING DRILLER HELPER *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$40.79	$8.60	$17.72	$0.00	$67.11
	12/01/2021	$41.80	$8.60	$17.72	$0.00	$68.12
For apprentice rates see "Apprentice- LABORER"						
TEST BORING LABORER *LABORERS - FOUNDATION AND MARINE*	06/01/2021	$40.67	$8.60	$17.72	$0.00	$66.99
	12/01/2021	$41.68	$8.60	$17.72	$0.00	$68.00
For apprentice rates see "Apprentice- LABORER"						
TRACTORS/PORTABLE STEAM GENERATORS *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.19	$13.75	$15.80	$0.00	$79.74
	12/01/2021	$51.33	$13.75	$15.80	$0.00	$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2021	$36.82	$13.41	$14.82	$0.00	$65.05
	12/01/2021	$36.82	$13.41	$16.01	$0.00	$66.24
TUNNEL WORK - COMPRESSED AIR *LABORERS (COMPRESSED AIR)*	06/01/2021	$52.90	$8.60	$18.17	$0.00	$79.67
	12/01/2021	$53.91	$8.60	$18.17	$0.00	$80.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) *LABORERS (COMPRESSED AIR)*	06/01/2021	$54.90	$8.60	$18.17	$0.00	$81.67
	12/01/2021	$55.91	$8.60	$18.17	$0.00	$82.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR *LABORERS (FREE AIR TUNNEL)*	06/01/2021	$44.97	$8.60	$18.17	$0.00	$71.74
	12/01/2021	$45.98	$8.60	$18.17	$0.00	$72.75
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) *LABORERS (FREE AIR TUNNEL)*	06/01/2021	$46.97	$8.60	$18.17	$0.00	$73.74
	12/01/2021	$47.98	$8.60	$18.17	$0.00	$74.75

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	08/01/2021	$36.24	$13.41	$14.82	$0.00	$64.47
	12/01/2021	$36.24	$13.41	$16.01	$0.00	$65.66
WAGON DRILL OPERATOR *LABORERS - ZONE 2*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
	06/01/2022	$37.06	$8.60	$16.64	$0.00	$62.30
	12/01/2022	$37.91	$8.60	$16.64	$0.00	$63.15
	06/01/2023	$38.81	$8.60	$16.64	$0.00	$64.05
	12/01/2023	$39.71	$8.60	$16.64	$0.00	$64.95
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 2 (HEAVY & HIGHWAY)*	06/01/2021	$35.25	$8.60	$16.64	$0.00	$60.49
	12/01/2021	$36.16	$8.60	$16.64	$0.00	$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
WASTE WATER PUMP OPERATOR *OPERATING ENGINEERS LOCAL 4*	06/01/2021	$50.73	$13.75	$15.80	$0.00	$80.28
	12/01/2021	$51.88	$13.75	$15.80	$0.00	$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER *PLUMBERS & PIPEFITTERS LOCAL 51*	08/30/2021	$46.49	$10.15	$19.95	$0.00	$76.59
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
Outside Electrical - East						
CABLE TECHNICIAN (Power Zone) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$29.67	$9.25	$1.89	$0.00	$40.81
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$42.03	$9.25	$10.27	$0.00	$61.55
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$34.62	$9.25	$10.07	$0.00	$53.94
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$27.20	$9.25	$1.82	$0.00	$38.27
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$42.03	$9.25	$14.35	$0.00	$65.63
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$37.09	$9.25	$10.87	$0.00	$57.21
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$27.20	$9.25	$1.82	$0.00	$38.27
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$22.25	$9.25	$1.82	$0.00	$33.32
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	08/30/2020	$49.45	$9.25	$17.48	$0.00	$76.18

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

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

Effective Date - 08/30/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$29.67	$9.25	$3.39	$0.00	$42.31
2	65	$32.14	$9.25	$3.46	$0.00	$44.85
3	70	$34.62	$9.25	$3.54	$0.00	$47.41
4	75	$37.09	$9.25	$5.11	$0.00	$51.45
5	80	$39.56	$9.25	$5.19	$0.00	$54.00
6	85	$42.03	$9.25	$5.26	$0.00	$56.54
7	90	$44.51	$9.25	$7.34	$0.00	$61.10

Notes:

Apprentice to Journeyworker Ratio:1:2

TELEDATA CABLE SPLICER *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	02/04/2019	$30.73	$4.70	$3.17	$0.00	$38.60
TELEDATA LINEMAN/EQUIPMENT OPERATOR *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	02/04/2019	$28.93	$4.70	$3.14	$0.00	$36.77
TELEDATA WIREMAN/INSTALLER/TECHNICIAN *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	02/04/2019	$28.93	$4.70	$3.14	$0.00	$36.77

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.

Southeastern Regional Services Group

ADDENDUM ONE – issued 11/5/2021 for DPW SERVICES
with Bid Opening 11/17/21

All Bidders must to acknowledge this Amendment and submit it with bid

Change specifications for item #10 Bonded Wearing Course as follows. Strike the last sentence of the *Performance* paragraph on page 90 of the IFB, "It will be the responsibility of each bidder to visit the job site with the Awarding Authority. The awarding authority can reject any bid of a contractor who has not visited the work site."

SERSG DPW SERVICES IFB for 2/1/2022 – 1/31/2023

Addendum One Received & Acknowledged:

Signature _____ Date _____

6 Park Row • Mansfield, MA 02048
Tel: (508) 851-6441 • SERSG@sersg.org • www.sersg.org

SERSG DPW SERVICES PLAN HOLDER LIST for contracts 2/1/22-1/31/23 **BID OPENING Nov. 17, 2021**

COMPANY	EMAIL	PHONE	ADDRESS	City	St	zip
Aggregate Industries	mark.welch@aggregate-us.com	781-307-4057	1715 Broadway	Saugus	MA	01906
All States Construction, Inc.	whittier@asmg.com	413-397-8448	PO Box 91 / 325 Amherst Rd	Sunderland	MA	01375
Allen & Major Associates Inc	scroteau@allenmajor.com, Lirzyk@allenmajor.com	603-627-5505	100 Commerce Way	Woburn	MA	01801
Allied Solutions	contracts@alliedsolutionenterprise.com	877-328-4432	300 Veterans Way	Carmel	IN	
asdfg	santoshi.meshram6@gmail.com	4255235632 123	sdf	sd	ID	
Atlantic Pavement Marking	office@atlpavemarking.com	203-758-0800	15 Industrial Road	Prospect	CT	06712
Black & Boucher LLC	blackandboucher@earthlink.net	860-274-4162	158 Cutler Street	Watertown	CT	06795
Blue Diamond Equipment Co	bluediamondcc@comcast.net	508-543-3711	73 E. Belcher Rd	Foxboro	MA	02035
Cain's Mechanical	john@cainsmechanical.com	413-896-1612				
Classic Tractor LLC	bill@classictractorllc.com	781-585-2050 of	201 Grove St.	Kingston	MA	02364
Comer Contracting	bravickas@comercontracting.com	860 250 6441 cel	1112 Farmington Ave	Farmington	CT	06032
Construct Connect	Jonathan.Ditter@constructconnect.com	513-458-5951	3825 Edwards Rd, Suite 800	Cincinnati	OH	45209
Construction Journal	AHernandez@constructionjournal.com	(800) 785-5165 Phone x 521, and x 721				
Cosco Inc.	doc@coscofence.com, sande@coscofence.com	401-765-0009	707 Park East Drive	Woonsocket	RI	02895
D & R General Contracting, Inc.	ricka@drpaving.com	781-321-7772 x1	732 Newburyport Turnpike	Melrose	MA	02176
D'Allessandro Corp	Tparlato@dallessandro.com	508-559-6440	41 Ledin Drive	Avon	MA	02322
Deltek	JacquelineSessa@deltek.com					
DeLucca Fence	lmartineau@deluccafence.com	978-688-2877 x2	Five Old Ferry Rd	Methuen	MA	01844
Dodge Data & Analytics	projectdata@construction.com,					
G Lopes Construction	MNereu@GLopes.com	508-813-1278	480 Winthrop St	Taunton	MA	02780
Garrity Asphalt Reclaiming	todd@garrityasphalt.com,	860-243-2300	22 Peters Rd	Bloomfield	CT	06002
Geotree Solutions	SNAIVA@CS-NRI.COM	610-971-0362	707 Old Eagle School Rd	Wayne	PA	
Gibson Roofs, Inc.	Calmeida@GibsonRoofs.com	781-826-6344	369 Winter Street	Hanover	MA	02339
Gorman Bros Inc	mryan@gormanroads.com	518-462-5401	200 Church St	Albany	NY	12202
Green Mountain Pipeline Services Inc.	info@greenmountainpipe.com	802-763-7022	244 Waterman Road	Royalton	VT	
GVC Construction, Inc	chrisv@gvcconstruction.com	978-840-9700 10	375 Harvard Street Unit C	Leominster	MA	
Insituform Technologies	ckoller@aegion.com	6365308610	244 Waterman Road	Royalton	VT	
J H Lynch & Sons	kvalidzic@jhlynch.com, kdrolet@jhlynch.com	401-333-4300	50 Lynch Place	Cumberland	RI	02864
K5 Corp	kdelong@K5Corporation.com,	781-982-9229	9 Rockview Way	Rockland	MA	02370
Kiewit Infrastructure Co.	tess.balagtas@kiewit.com	(602) 309-5759	470 Chestnut Ridge Road	Woodcliff Lake	NJ	
LAL Construction	Bianca@lalconstruction.com	508-676-3962	P.O. Box 1349	Fall River	MA	02722
Lorusso Corp.	SORourke@LorussoCorp.com	508-695-3252; Ja	320 South St	Plainville	MA	02762
Malec Tree Service, Inc.	frank.mts@verizon.net	4015975988	101 Nasonville Road	Harrisville	RI	
Markings Inc.	monique@markingsinc.com	781-826-5171	30 Riverside Dr	Pembroke	MA	02359
MRB Group	twales@mrbgroup.com	5187012973 246	18 Division Street	Saratoga Springs	NY	
Murray Paving & Reclamation	stevemurraypave@gmail.com	508-326-5217	55 Whitney St	Holliston	MA	01746
New England Asphalt Services	Brandon@newenglandasphalt.com	203-710-3659	508 Forest Road	Northford	CT	06472
New England Recycling	pwolski@glopes.com, pdesousa@glopes.com	508-822-4345	490 Winthrop St	Taunton	MA	02780
Newport Construction	j.allen@newportconstruct.com	603-882-1700	145 Temple Street	Nashua	NH	03060
North American Procurement Council	bidnet@napc.me	302-450-1923	PO Box 40445	Grand Junction	CO	81504

SERSG DPW SERVICES PLAN HOLDER LIST for contracts 2/1/22-1/31/23 **BID OPENING Nov. 17, 2021**

COMPANY	EMAIL	PHONE	ADDRESS	City	St	zip
North-Eastern Tree Service, Inc.	marisa@northeasterntree.com	401-941-7204	1000 Pontiac Avenue	Cranston	RI	02920
Office Partners 360	deteam@officepartners360.com	412-267-1529	7500 Brooktree Road, Suite 100	Pittsburgh	PA	15090
P A Landers	LHall@palanders.com, mlyons@palanders.com	781-826-8818	351 Winter St	Hanover	MA	02339
P J Keating	rpavao@pjkeating.com, bwoodhouse@pjkeating.com	508-992-3542; R	998 Reservoir Rd	Lunenburg	MA	01462
Pawtucket Hot Mix Asphalt, Inc.	pete@pawtuckethma.com	401-722-4488	25 Concord Street	Pawtucket	RI	02860
Premier Fence	fence.com, clairel@premier-fence.com	781-821-5900	1010 Turnpike St	Canton	MA	02021
Prime Vendor, Inc.	primevendor124@gmail.com	910-805-9630	4622 Cedar Ave. Suite 124	Wilmington	NC	28403
ProFinishLines Co.	sabrina@profinishlinesco.com	508-809-3142, 5(	170 Halfway Pond Road	Plymouth	MA	02360
Projectdog	Addenda@projectdog.com					
Proshot Concrete, Inc.	danae@proshotconcrete.com	256-764-5941	4158 Musgrove Drive	Florence	AL	
R J Gabriel	ddagabriel@gmail.com	508-697-6779	785 Bedford St	Bridgewater	MA	02324
Rafferty Fine Grading	rhonda@raffertyfinegrading.com	860-763-0100, 8(	57 South Rd	Enfield	CT	06082
Richard D'Ambrosia Inc	richarddambrosiainc@gmail.com	781-689-5767	166 White St	Weymouth	Ma	02190
Riley Brothers	sgoldstein@rileyBrothers.net	617-908-2303	84 Tosca Drive	Stoughton	MA	02072
Rochester Bituminous Products Inc	bonnie@rochesterbit.com	508-295-8045, 6	83 Kings Highway	West Wareham	MA	02576
Sealcoating Inc dba indus	susan.bruce@indusinc.com (contracts:	781-428-3427 di	825 Granite St	Braintree	MA	02184
Superior Sealcoat	Jocelyn@superiorsealcoat.com,	978-988-5555	236 Andover St	Wilmington	MA	01887
Supply Partner	gabp@supplypartnerllc.com	760-378-7829	1255 Stone Drive Unit A	San Marcos	CA	
T L Edwards	lstewart@tledwards.net	508-583-2029	PO Box 507 / 100 Wales Ave Rear	Avon	MA	02322
T Miozzi Inc.	tmiozzi@tmiozziinc.com, sales@tmiozziinc.com	401-295-7283, Je	80 Compass Circle	N. Kingston	RI	02852
Tasco Construction Inc	jonathan.desjar@gmail.com	617-799-2723	92 Stony Brook Rd	Belmont	MA	02478
Toter, LLC	toterbids@toter.com	800-424-0422 09	841 Meacham Road	Statesville	NC	
Tree Tech	andyfelix@treetechinc.net	508-543-5644 x.1	8 Spring Brook Rd, P.O. Box 302	Foxborough	MA	02035
Underwater Solutions Inc.	uws@underwatersolutionsinc.com	5087586126	P.O. Box 208	Mattapoisett	MA	
W L French Excavating Corp	lkelley@wlfrench.com	978-600-2130	3 Survey Circle	North Billerica	MA	01862
Walsh Contracting	robcrear@walshcontractingcorp.com	Bill cell 508-665-	82 North Ave	Attleborough	MA	02703
Wicklow Wood	wicklowwood07@gmail.com		27 Ash St	Northbridge	MA	01534
67	**#Plan Holders**					

	Bid Price	Unit	Quantity	Total Bid
1. Pavement Reclamation				

Garrity Asphalt Reclaiming

Bidder's Name

Pavement Reclamation	$ 12.00	per sq yd	10,900 sq yds	**130,800.00**
Adjust Catch Basins	$ 1,000.00	each	30 structures	**30,000.00**
Excess Loading Recld Matrl	$ 30.00	per cubic yd	900 cub yds	**27,000.00**
Lower/Raise Manhole	$ 1,500.00	each	30 manholes	**45,000.00**
Trucking	$ 125.00	per hour	100 hours	**12,500.00**
			TOTAL BID PRICE	**$ 245,300.00**

Murray Paving & Reclamation

Bidder's Name

Pavement Reclamation	$ 2.25	per sq yd	10,900 sq yds	**24,525.00**
Adjust Catch Basins	$ 300.00	each	30 structures	**9,000.00**
Excess Loading Recld Matrl	$ 12.00	per cubic yd	900 cub yds	**10,800.00**
Lower/Raise Manhole	$ 600.00	each	30 manholes	**18,000.00**
Trucking	$ 100.00	per hour	100 hours	**10,000.00**
			TOTAL BID PRICE	**$ 72,325.00**

Pawtucket Hot Mix Asphalt, Inc.

Bidder's Name

Pavement Reclamation	$ 3.83	per sq yd	10,900 sq yds	**41,747.00**
Adjust Catch Basins	$ 1.00	each	30 structures	**30.00**
Excess Loading Recld Matrl	$ 4.00	per cubic yd	900 cub yds	**3,600.00**
Lower/Raise Manhole	$ 1.00	each	30 manholes	**30.00**
Trucking	$ 100.00	per hour	100 hours	**10,000.00**
			TOTAL BID PRICE	**$ 55,407.00**

P J Keating

Bidder's Name

Pavement Reclamation	$ 2.45	per sq yd	10,900 sq yds	**26,705.00**
Adjust Catch Basins	$ 250.00	each	30 structures	**7,500.00**
Excess Loading Recld Matrl	$ 6.00	per cubic yd	900 cub yds	**5,400.00**
Lower/Raise Manhole	$ 550.00	each	30 manholes	**16,500.00**
Trucking	$ 95.00	per hour	100 hours	**9,500.00**
			TOTAL BID PRICE	**$ 65,605.00**

Signature of Witness _____

2. Cold In-Place Recycling

Sealcoating Inc dba indus

Bidder's Name

	Bid Price	Unit	Quantity	Total Bid
CIP	$ 5.25	per sq yd	113,760 sq yds	**597,240.00**
Core Sampling	$ 3,535.00	per day	8 days	**28,280.00**
Mix Design	$ 5,525.00	each	8 designs	**44,200.00**
Portld Cemt Agent/Min Fill	$ 235.00	per ton	547 tons	**128,545.00**
Liq Aspht Stabilizing Agent	$ 3.74	per gallon	98,200 gallons	**367,268.00**
Pave RAP or Aggregate	$ 2.45	per sq yd	51,000 sq yds	**124,950.00**
Pre-Milling Pavement	$ 2.15	per sq yd	51,000 sq yds	**109,650.00**
Gravel for Base Repair	$ 42.00	per cubic yd	260 cubic yds	**10,920.00**
Hot Mix Asphalt, Base Repair	$ 397.00	per ton	699 tons	**277,503.00**
Lower&Raise Structures	$ 1,025.00	each	159 structures	**162,975.00**
Structure Rebuild	$ 350.00	per vert ft	40 vert fts	**14,000.00**
Adjust Gates/small structrs	$ 725.00	each	94 structures	**68,150.00**
			TOTAL BID PRICE	**1,933,681.00**

3. Permanent Trench Patch Repairs

Pawtucket Hot Mix Asphalt, Inc.

Bidder's Name

	Bid Price	Unit	Quantity	Total Bid
4" grind & inlay	$ 96.00	per sq yd	1,100 sq yds	**105,600.00**
1.5" grind & inlay	$ 39.00	per sq yd	11,840 sq yds	**461,760.00**
			TOTAL BID PRICE	**567,360.00**

Lorusso Corp.

Bidder's Name

	Bid Price	Unit	Quantity	Total Bid
4" grind & inlay	$ 57.00	per sq yd	1,100 sq yds	**62,700.00**
1.5" grind & inlay	$ 27.00	per sq yd	11,840 sq yds	**319,680.00**
			TOTAL BID PRICE	**382,380.00**

5. Superpave Hot Mix Asphalt

Pawtucket Hot Mix Asphalt, Inc.

Bidder's Name

	Bid Price	Unit	Quantity	Total Bid
Superpave HMA	$ 73.00	per ton	4,825 tons	**352,225.00**
Bitumen Tack Coat	$ 6.00	per gallon	1,027 gallons	**6,162.00**
Hot Poured Rubrzd. Sealer		per lin ft	0 lin ft	-
Warm Mix Additive		per gallon	0 gallons	-
Cold Planing	$ 2.30	sq yd	45,000 sq yds	**103,500.00**
Structure Adjustments	$ 1.00	each	100 each	**100.00**
Structure Remodel		each	0 each	-
Structures Rebuilt		per vertical ft	0 vert ft	-

Signature of Witness M. Imbaro

	Bid Price	Unit	Quantity	Total Bid
Hand Work	$ 125.00	per ton	125 tons	**15,625.00**
Unclassified Excavation		per cubic yd	0 cub yds	-
Sawcutting	$ 2.00	per lin ft	110 lin ft	**220.00**
Playgrounds/Parking Lots		per ton	0 tons	
			TOTAL BID PRICE	**$ 477,832.00**

P J Keating

Bidder's Name

	Bid Price	Unit	Quantity	Total Bid
Superpave HMA	$ 92.00	per ton	4,825 tons	**443,900.00**
Bitumen Tack Coat	$ 9.00	per gallon	1,027 gallons	**9,243.00**
Hot Poured Rubrzd. Sealer	$ 3.00	per lin ft	0 lin ft	-
Warm Mix Additive	$ 8.00	per gallon	0 gallons	-
Cold Planing	$ 1.95	sq yd	45,000 sq yds	**87,750.00**
Structure Adjustments	$ 250.00	each	100 each	**25,000.00**
Structure Remodel	$ 600.00	each	0 each	-
Structures Rebuilt	$ 500.00	per vertical ft	0 vert ft	-
Hand Work	$ 100.00	per ton	125 tons	**12,500.00**
Unclassified Excavation	$ 90.00	per cubic yd	0 cub yds	-
Sawcutting	$ 3.00	per lin ft	110 lin ft	**330.00**
Playgrounds/Parking Lots	$ 170.00	per ton	0 tons	-
			TOTAL BID PRICE	**$ 578,723.00**

Lorusso Corp.

Bidder's Name

	Bid Price	Unit	Quantity	Total Bid
Superpave HMA	$ 98.00	per ton	4,825 tons	**472,850.00**
Bitumen Tack Coat	$ 5.00	per gallon	1,027 gallons	**5,135.00**
Hot Poured Rubrzd. Sealer	$ 5.00	per lin ft	0 lin ft	-
Warm Mix Additive	$ 5.00	per gallon	0 gallons	-
Cold Planing	$ 3.25	sq yd	45,000 sq yds	**146,250.00**
Structure Adjustments	$ 350.00	each	100 each	**35,000.00**
Structure Remodel	$ 450.00	each	0 each	-
Structures Rebuilt	$ 375.00	per vertical ft	0 vert ft	-
Hand Work	$ 150.00	per ton	125 tons	**18,750.00**
Unclassified Excavation	$ 50.00	per cubic yd	0 cub yds	-
Sawcutting	$ 5.00	per lin ft	110 lin ft	**550.00**
Playgrounds/Parking Lots	$ 140.00	per ton	0 tons	-
			TOTAL BID PRICE	**$ 678,535.00**

Signature of Witness M. Sullivan

	Bid Price	Unit	Quantity	Total Bid
Aggregate Industries				
Bidder's Name				
Superpave HMA	$ 91.30	per ton	4,825 tons	**440,522.50**
Bitumen Tack Coat	$ 5.60	per gallon	1,027 gallons	**5,751.20**
Hot Poured Rubrzd. Sealer		per lin ft	0 lin ft	-
Warm Mix Additive		per gallon	0 gallons	-
Cold Planing	$ 3.65	sq yd	45,000 sq yds	**164,250.00**
Structure Adjustments	$ 440.00	each	100 each	**44,000.00**
Structure Remodel		each	0 each	-
Structures Rebuilt		per vertical ft	0 vert ft	-
Hand Work	$ 146.00	per ton	125 tons	**18,250.00**
Unclassified Excavation		per cubic yd	0 cub yds	-
Sawcutting	$ 5.00	per lin ft	110 lin ft	**550.00**
Playgrounds/Parking Lots		per ton	0 tons	
			TOTAL BID PRICE	**$ 673,323.70**
J H Lynch & Sons				
Bidder's Name				
Superpave HMA	$ 80.00	per ton	4,825 tons	**386,000.00**
Bitumen Tack Coat	$ 8.00	per gallon	1,027 gallons	**8,216.00**
Hot Poured Rubrzd. Sealer		per lin ft	0 lin ft	-
Warm Mix Additive		per gallon	0 gallons	-
Cold Planing	$ 3.00	sq yd	45,000 sq yds	**135,000.00**
Structure Adjustments	$ 0.01	each	100 each	**1.00**
Structure Remodel		each	0 each	-
Structures Rebuilt		per vertical ft	0 vert ft	-
Hand Work	$ 150.00	per ton	125 tons	**18,750.00**
Unclassified Excavation		per cubic yd	0 cub yds	-
Sawcutting	$ 5.00	per lin ft	110 lin ft	**550.00**
Playgrounds/Parking Lots		per ton	0 tons	
			TOTAL BID PRICE	**$ 548,517.00**
Rochester Bituminous Products Inc				
Bidder's Name				
Superpave HMA	$ 82.89	per ton	4,825 tons	**399,944.25**
Bitumen Tack Coat	$ 4.00	per gallon	1,027 gallons	**4,108.00**
Hot Poured Rubrzd. Sealer		per lin ft	0 lin ft	-
Warm Mix Additive		per gallon	0 gallons	-
Cold Planing	$ 2.10	sq yd	45,000 sq yds	**94,500.00**
Structure Adjustments	$ 225.00	each	100 each	**22,500.00**
Structure Remodel		each	0 each	-
Structures Rebuilt		per vertical ft	0 vert ft	-

Signature of Witness _____

	Bid Price	Unit	Quantity	Total Bid
Hand Work	$ 135.00	per ton	125 tons	**16,875.00**
Unclassified Excavation		per cubic yd	0 cub yds	-
Sawcutting	$ 3.00	per lin ft	110 lin ft	**330.00**
Playgrounds/Parking Lots		per ton	0 tons	
			TOTAL BID PRICE	**$ 538,257.25**

T Miozzi Inc.

Bidder's Name

Superpave HMA	$ 73.00	per ton	4,825 tons	**352,225.00**
Bitumen Tack Coat	$ 3.00	per gallon	1,027 gallons	**3,081.00**
Hot Poured Rubrzd. Sealer	$ 1.25	per lin ft	0 lin ft	-
Warm Mix Additive	$ 0.01	per gallon	0 gallons	-
Cold Planing	$ 2.50	sq yd	45,000 sq yds	**112,500.00**
Structure Adjustments	$ 0.01	each	100 each	**1.00**
Structure Remodel	$ 800.00	each	0 each	-
Structures Rebuilt	$ 400.00	per vertical ft	0 vert ft	-
Hand Work	$ 75.00	per ton	125 tons	**9,375.00**
Unclassified Excavation	$ 8.00	per cubic yd	0 cub yds	-
Sawcutting	$ 2.50	per lin ft	110 lin ft	**275.00**
Playgrounds/Parking Lots	$ 80.00	per ton	0 tons	-
			TOTAL BID PRICE	**$ 477,457.00**

6. Chip Seal, Hot Mix Asphalt with Stone, Sand or Double-Stone

All States Construction, Inc.

Bidder's Name

Leveling/ShimCourse	$ 160.00	per ton	2,220 tons	**355,200.00**
Stone Chip Sealing	$ 3.05	per sq yd	34,300 sq yds	**104,615.00**
Double Chip Seal	$ 5.25	per sq yd	51,200 sq yds	**268,800.00**
			TOTAL BID PRICE	**728,615.00**

7. Rubber Chip Seal

All States Construction, Inc.

Bidder's Name

Rubber Chip Seal	$ 5.25	per sq yd	182,250 sq yds	**956,812.50**
Leveling Course	$ 160.00	per ton	3,625 tons	**580,000.00**
			TOTAL BID PRICE	**1,536,812.50**

Signature of Witness _____

	Bid Price	Unit	Quantity	Total Bid
8. Micro Paving				
Sealcoating Inc dba indus				
Bidder's Name				
Surface Course, 1 lift	$ 3.40	per sq yd	31,600 sq yds	**107,440.00**
Leveling Course & Surface Course (2 lifts)	$ 5.43	per sq yd	2,100 sq yds	**11,403.00**
Leveling Course & Surface Course, w/Crack Repair (2 lifts)	$ 6.07	per sq yd	18,350 sq yds	**111,384.50**
			TOTAL BID PRICE	**230,227.50**
9. Cape Sealing				
Sealcoating Inc dba indus				
Bidder's Name				
Cape Sealing	$ 8.35	per sq yd	23,100 sq yds	**192,885.00**
Cape Sealing w/Crack Repair	$ 8.87	per sq yd	3,100 sq yds	**27,497.00**
			TOTAL BID PRICE	**220,382.00**
10. Bonded Wearing Course				
All States Construction, Inc.				
Bidder's Name				
Bonded Wearing Course	$ 7.75	per sq yd	83,100 sq yds	**644,025.00**
Leveling Course	$ 160.00	per ton	800 tons	**128,000.00**
Structure **Adjustments**	$ 400.00	per structure	104 structures	**41,600.00**
Structure **Remodels**	$ 520.00	per structure	18 structures	**9,360.00**
Structure **Rebuilds**	$ 325.00	per vert ft	18 vert ft	**5,850.00**
			TOTAL BID PRICE	**828,835.00**
11. Random Crack Sealing				
Sealcoating Inc dba indus				
Bidder's Name				
	$ 5,980.00	per day	81 days	**484,380.00**
	$ 9.13	per gallon	59,500 gallons	**543,235.00**
			TOTAL BID PRICE	**1,027,615.00**
12. Polymer-Modified Crack Sealing/Hot Asphaltic Filler				
Sealcoating Inc dba indus				
Bidder's Name				
	$ 6,195.00	per day	77 days	**477,015.00**
	$ 10.87	per gallon	66,400 gallons	**721,768.00**
			TOTAL BID PRICE	**1,198,783.00**

Signature of Witness _____

	Bid Price	Unit	Quantity	Total Bid
13. Chlorinated Rubber Traffic Line Painting				

K5 Corp

Bidder's Name

4" White or Yellow Lines	0.054	per lin ft	6,583,500 lin ft	**355,509.00**
4" Yellow Hatch Line	0.250	per lin ft	36,940 lin ft	**9,235.00**
12" White Crosswalks	0.540	per lin ft	33,060 lin ft	**17,852.40**
12" White Stopline	0.540	per lin ft	18,372 lin ft	**9,920.88**
Stop Words	5.000	each	212 each	**1,060.00**
Parking Lines	0.290	per lin ft	17,350 lin ft	**5,031.50**
4" Parking Lines - Ts & Ls	2.000	each	2,990 lines	**5,980.00**
Directional Arrows (federal)	24.000	each	457 arrows	**10,968.00**
8' "only"	36.000	each	83 words	**2,988.00**
3' "only"	10.000	each	73 words	**730.00**
8' "school"	50.000	each	92 words	**4,600.00**
Traffic Islands	15.000	each	58 islands	**870.00**
Railroad Crossing	75.000	each	55 rr crossings	**4,125.00**
Removal of Existing PntLines	1.000	per sq ft	19,610 sq ft	**19,610.00**
Grinding for Inlay	0.200	per sq ft	2,010 sq ft	**402.00**
			TOTAL BID PRICE	**448,881.78**

Markings Inc.

Bidder's Name

4" White or Yellow Lines	0.060	per lin ft	6,583,500 lin ft	**395,010.00**
4" Yellow Hatch Line	0.280	per lin ft	36,940 lin ft	**10,343.20**
12" White Crosswalks	0.580	per lin ft	33,060 lin ft	**19,174.80**
12" White Stopline	0.580	per lin ft	18,372 lin ft	**10,655.76**
Stop Words	19.250	each	212 each	**4,081.00**
Parking Lines	0.280	per lin ft	17,350 lin ft	**4,858.00**
4" Parking Lines - Ts & Ls	5.750	each	2,990 lines	**17,192.50**
Directional Arrows (federal)	24.950	each	457 arrows	**11,402.15**
8' "only"	37.250	each	83 words	**3,091.75**
3' "only"	19.500	each	73 words	**1,423.50**
8' "school"	51.750	each	92 words	**4,761.00**
Traffic Islands	10.000	each	58 islands	**580.00**
Railroad Crossing	78.500	each	55 rr crossings	**4,317.50**
Removal of Existing PntLines	1.250	per sq ft	19,610 sq ft	**24,512.50**
Grinding for Inlay	0.950	per sq ft	2,010 sq ft	**1,909.50**

Signature of Witness M. Smedes

	Bid Price	Unit	Quantity	Total Bid
			TOTAL BID PRICE	513,313.16

14. Thermoplastic Traffic Line Painting

K5 Corp

Bidder's Name

4" white or yellow line	0.500	per lin ft	269,560 lin ft	134,780.00
12" white line	2.650	per lin ft	6,290 lin ft	16,668.50
8' "only"	75.000	each	584 words	43,800.00
3' Only	10.000	each	84 words	840.00
8' School	160.000	each	67 words	10,720.00
Removal of Therm PntLines	1.000	per sq ft	5,550 sq ft	5,550.00
Grinding for Inlay	0.200	per sq ft	6,850 sq ft	1,370.00
			TOTAL BID PRICE	213,728.50

Markings Inc.

Bidder's Name

4" white or yellow line	0.480	per lin ft	269,560 lin ft	129,388.80
12" white line	2.950	per lin ft	6,290 lin ft	18,555.50
8' "only"	$ 165.00	each	584 words	96,360.00
3' Only	35.000	each	84 words	2,940.00
8' School	205.000	each	67 words	13,735.00
Removal of Therm PntLines	1.250	per sq ft	5,550 sq ft	6,937.50
Grinding for Inlay	0.950	per sq ft	6,850 sq ft	6,507.50
			TOTAL BID PRICE	274,424.30

15. Epoxy Traffic Line Painting

K5 Corp

Bidder's Name

4" white or yellow line	0.350	per lin ft	334,650 lin ft	117,127.50
12" white line	2.450	per lin ft	25,300 lin ft	61,985.00
8' "only"	100.000	each	59 words	5,900.00
3' "only"	10.000	each	59 sq ft	590.00
8' School	195.000	each	60 sq ft	11,700.00
Removal of Existing Pnt Lns	1.000	per sq ft	12,800 sq ft	12,800.00
Grinding for Inlay	0.200	per sq ft	11,500 sq ft	2,300.00
			TOTAL BID PRICE	212,402.50

Markings Inc.

Bidder's Name

4" white or yellow line	0.345	per lin ft	334,650 lin ft	115,454.25
12" white line	2.250	per lin ft	25,300 lin ft	56,925.00
8' "only"	165.000	each	59 words	9,735.00
3' "only"	38.500	each	59 sq ft	2,271.50
8' School	215.000	each	60 sq ft	12,900.00

Signature of Witness _____

	Bid Price	Unit	Quantity	Total Bid
Removal of Existing Pnt Lns	1.250	per sq ft	12,800 sq ft	**16,000.00**
Grinding for Inlay	0.950	per sq ft	11,500 sq ft	**10,925.00**
			TOTAL BID PRICE	**224,210.75**

16. Installation of Steel Beam Guard Rails - Type SS

Premier Fence

Bidder's Name

Straight (galv metal posts)	$ 36.00	per foot	5,942 feet		**213,912.00**
Straight (galv wooden posts)	$ 32.00	per foot	1,943 feet		**62,176.00**
Straight ("rust" wooden)	$ 35.00	per foot	2,013 feet		**70,455.00**
Curved (galvanized)	$ 25.00	per foot	1,511 feet		**37,775.00**
Curved ("rust")	$ 25.00	per foot	621 feet		**15,525.00**
End pieces (galvanized)	$ 88.00	each	187 pieces		**16,456.00**
End pieces ("rust")	$ 88.00	each	119 pieces		**10,472.00**
			TOTAL BID PRICE		**426,771.00**

17. Structure Work

Tasco Construction Inc

Bidder's Name

Structures **Adjusted** (1-5 structures per mobilization)	$ 650.00	each	
Structures Adjusted(6-10 structures per mobilization)	$ 635.00	each	
Structures Adjusted (11-20 structures per mobilization)	$ 583.00	each	
Structures Adjusted (20+ structures per mobilization)	$ 515.00	each	
AVERAGE FOR ADJUSTMENT	**$**		**595.75**
Structures **Remodeled** (1-5 structures per mobilization)	$ 650.00	each	
Structures Remodeled (6-10 structures per mobilization)	$ 635.00	each	
Structures Remodeled (11-20 structures per mobilization)	$ 583.00	each	
Structures Remodeled (20+ structures per mobilization)	$ 515.00	each	
AVERAGE FOR REMODEL	**$**		**595.75**
Structures **Rebuilt** (1-5 structures per mobilization)	$ 650.00	each	
Structures Rebuilt (6-10 structures per mobilization)	$ 635.00	each	
Structures Rebuilt (11-20 structures per mobilization)	$ 583.00	each	
Structures Rebuilt (20+ structures per mobilization)	$ 515.00	each	
AVERAGE FOR REBUILD	**$**		**595.75**

Tasco Construction Inc	structr ADJ	**214**	**needed x**	**$ 595.75**	$	127,490.50
	structr RBLD	**113**	**needed x**	**$ 595.75**	$	67,319.75
	structr REMDL	**128**	**needed x**	**$ 595.75**	$	76,256.00
				for total bid of		271,066.25

18. Installation of Sub-Drains

Tasco Construction Inc

Signature of Witness M. Sinclair

	Bid Price	Unit	Quantity	Total Bid
Bidder's Name				
Install Sub-Drains	$ 100.00	per lin ft	2,910 lin ft	**291,000.00**
Bit concrete paving after Sub-Drain install	$ 250.00	per ton	1,155 tons	**288,750.00**
Loam and Seed	$ 30.00	per sq yd	260 sq yds	**7,800.00**
			TOTAL BID PRICE	**587,550.00**

LAL Construction

	Bid Price	Unit	Quantity	Total Bid
Bidder's Name				
Install Sub-Drains	$ 50.00	per lin ft	2,910 lin ft	**145,500.00**
Bit concrete paving after Sub-Drain install	$ 300.00	per ton	1,155 tons	**346,500.00**
Loam and Seed	$ 20.00	per sq yd	260 sq yds	**5,200.00**
			TOTAL BID PRICE	**497,200.00**

R J Gabriel

	Bid Price	Unit	Quantity	Total Bid
Bidder's Name				
Install Sub-Drains	$ 40.00	per lin ft	2,910 lin ft	**116,400.00**
Bit concrete paving after Sub-Drain install	$ 120.00	per ton	1,155 tons	**138,600.00**
Loam and Seed	$ 15.00	per sq yd	260 sq yds	**3,900.00**
			TOTAL BID PRICE	**258,900.00**

19. Catch Basins Cleaned

R J Gabriel

	Bid Price	Unit	Quantity	Total Bid
Bidder's Name				
Contents in town	$ 20.00	each	7,510 catch bsns	**150,200.00**
Contents out of town	$ 30.00	each	9,730 catch bsns	**291,900.00**
			TOTAL BID PRICE	**442,100.00**

Location DEP-approved site: _____

20. Catch Basins Cleaned & Sumps Measured

R J Gabriel

	Bid Price	Unit	Quantity	Total Bid
Bidder's Name				
Contents in town	$ 22.00	each	6,510 catch bsns	**143,220.00**
Contents out of town	$ 33.00	each	16,695 catch bsns	**550,935.00**
			TOTAL BID PRICE	**694,155.00**

Location DEP-approved site: _____

Signature of Witness _____

	Bid Price	Unit	Quantity	Total Bid
21. Tub Grinding				
New England Recycling				
Bidder's Name				
On-site at Hwy Dept	$ 472.50	per hour	669 hours	**316,102.50**
Wicklow Wood				
Bidder's Name				
On-site at Hwy Dept	$ 450.00	per hour	669 hours	**301,050.00**
22. Loam, Compost and Gravel Screening				
G Lopes Construction				
Bidder's Name				
Loam, Compost and Gravel Scrrening	$ 611.00	per hour	466 hours	**284,726.00**
23. Medium-Class Excavator Services				
R J Gabriel				
Bidder's Name				
Medium-Class Excavator	$ 220.00	per hour	300 hours	**66,000.00**
24. Grad-All Excavator Services				
NO BIDS RECEIVED				
Bidder's Name				
Grad-All Excavator Services		per hour	240 hours	
25. CAT Excavator with Foreman and Crew				
R J Gabriel				
Bidder's Name				
Grad-All Excavator Services	$ 515.00	per hour	296 hours	**152,440.00**
26. Snow & Materials Hauling				
NO BIDS RECEIVED				
Bidder's Name				
Contents in town		hours	200 hours	
Contents out of town		hours	168 hours	
			TOTAL BID PRICE	-

Location DEP-approved site: _____

Signature of Witness M. Lopes

	Bid Price	Unit	Quantity	Total Bid
27. Snow Shoveling on Flat Rooves				
Gibson Roofs, Inc.				
Bidder's Name				
Snow Shoveling/Rooves	$ 115.00	per hour	272 hours	**31,280.00**
28. Sidewalk Construction and Setting of Curbs and Edging				
Tasco Construction Inc				
Bidder's Name				
SIDEWALKS				
Cement Concrete Sidewalk	$ 105.00		14,950 sq yds	**1,569,750.00**
Cement Concrete Sidewalk at Driveways	$ 109.00		1,392 sq yds	**151,728.00**
Cement Concrete Wheelchair Ramp	$ 155.00		214 sq yds	**33,170.00**
Hot Mix Asphalt Walk Surface & Driveways	$ 84.00		1,510 sq yds	**126,840.00**
Furnish & Install rubber ADA Handicap Panels, all color choices	$ 0.01		72 panels	**0.72**
CURBS/EDGING				
Install Granite Curb Type VB - Straight	$ 25.00		31,120 linear feet	**778,000.00**
Installation of bituminous concrete berms and curbs	$ 100.00		8 linear feet	**800.00**
Furnish & Install Granite Curb Inlet Type A - Curved	$ 750.00		0 inlets	-
Furnish & Install Granite Curb Inlet Type A - Straight	$ 300.00		8 inlets	**2,400.00**
Furnish & Install Granite Curb Type A - Corner	$ 300.00		4 corners	**1,200.00**
Furnish & Install Granite Curb Type SB - Straight	$ 45.00		40 linear feet	**1,800.00**
Furnish & Install Granite Edging Type SB - Straight	$ 45.00		40 linear feet	**1,800.00**
Furnish & Install Granite Curb Type VA4 - Curved	$ 59.00		40 linear feet	**2,360.00**
Furnish & Install Granite Curb Type VA4 - Straight	$ 51.00		30 linear feet	**1,530.00**
Furnish & Install Granite Curb Type VB - Curved	$ 51.00		40 linear feet	**2,040.00**
Furnish & Install Granite Curb Type VB - Straight	$ 47.00		40 linear feet	**1,880.00**
Furnish & Install Granite Transition Curb for wheelchair ramps & driveways Type VB - Curved	$ 57.00		50 linear feet	**2,850.00**
wheelchair ramps & driveways Type VB - Straight	$ 47.00		254 linear feet	**11,938.00**
Furnish & Install Transition Slope to Vertical	$ 200.00		10 slopes	**2,000.00**
Remove & Reset Granite Curb - Type SB	$ 27.00		3,310 linear feet	**89,370.00**
Remove & Reset Granite Curb - Type VB	$ 27.00		600 linear feet	**16,200.00**
Remove & Reset Granite Curb Corner	$ 100.00		10 corners	**1,000.00**
Remove & Reset Granite Curb Inlet	$ 100.00		8 inlets	**800.00**
Remove & Reset Granite Edging	$ 0.01		100 linear feet	**1.00**
Remove & Stack Granite Curb	$ 0.01		100 linear feet	**1.00**
Remove & Stack Granite Curb Inlet	$ 0.01		10 inlets	**0.10**

Signature of Witness M. DeOrio

	Bid Price	Unit	Quantity	Total Bid
DRAINAGE/STRUCTURES				
Furnish & Install 6" Pipe	$ 100.00		0 linear feet	-
Furnish & Install 8" Pipe	$ 120.00		0 linear feet	-
Furnish & Install 12" Pipe	$ 150.00		0 linear feet	-
Structures Change in Type/Converted	$ 1,500.00		0 structures	-
Structures Adjusted	$ 1,000.00		0 structures	-
Structures Rebuilt	$ 1,000.00		0 vertical foot	-
MISC. ADDITIONAL WORK				
Earth Excavation	$ 0.01		80 cubic yards	**0.80**
Class A Rock Excavation	$ 0.01		30 cubic yards	**0.30**
Stump Excavation	$ 0.01		40 cubic yards	**0.40**
Topsoil Excavated and stacked	$ 0.01		50 cubic yards	**0.50**
Dense graded stone	$ 0.01		100 cubic yards	**1.00**
Processed gravel, in place	$ 0.01		50 cubic yards	**0.50**
Unclassified Excavation	$ 0.01		50 cubic yards	**0.50**
Loam and Seed	$ 0.01		100 square yards	**1.00**
Pavement Sawcutting/Grinding	$ 0.01		500 linear feet	**5.00**
Sweeping/Cleanup following Sawcutting/Grinding	$ 0.01		500 linear feet	**5.00**
			TOTAL BID PRICE	**2,799,473.82**

LAL Construction

Bidder's Name

SIDEWALKS				
Cement Concrete Sidewalk	$ 92.00		14,950 sq yds	**1,375,400.00**
Cement Concrete Sidewalk at Driveways	$ 100.00		1,392 sq yds	**139,200.00**
Cement Concrete Wheelchair Ramp	$ 165.00		214 sq yds	**35,310.00**
Hot Mix Asphalt Walk Surface & Driveways	$ 92.00		1,510 sq yds	**138,920.00**
Furnish & Install rubber ADA Handicap Panels, all color choices	$ 0.01		72 panels	**0.72**
CURBS/EDGING				
Install Granite Curb Type VB - Straight	$ 16.00		31,120 linear feet	**497,920.00**
Installation of bituminous concrete berms and curbs	$ 15.00		8 linear feet	**120.00**
Furnish & Install Granite Curb Inlet Type A - Curved	$ -		0 inlets	-
Furnish & Install Granite Curb Inlet Type A - Straight	$ 500.00		8 inlets	**4,000.00**
Furnish & Install Granite Curb Type A - Corner	$ 280.00		4 corners	**1,120.00**
Furnish & Install Granite Curb Type SB - Straight	$ 35.00		40 linear feet	**1,400.00**
Furnish & Install Granite Edging Type SB - Straight	$ 35.00		40 linear feet	**1,400.00**
Furnish & Install Granite Curb Type VA4 - Curved	$ 65.00		40 linear feet	**2,600.00**
Furnish & Install Granite Curb Type VA4 - Straight	$ 55.00		30 linear feet	**1,650.00**

Signature of Witness _____

	Bid Price	Unit	Quantity	Total Bid
Furnish & Install Granite Curb Type VB - Curved	$ 60.00		40 linear feet	**2,400.00**
Furnish & Install Granite Curb Type VB - Straight	$ 45.00		40 linear feet	**1,800.00**
wheelchair ramps & driveways Type VB - Curved	$ 75.00		50 linear feet	**3,750.00**
wheelchair ramps & driveways Type VB - Straight	$ 75.00		254 linear feet	**19,050.00**
Furnish & Install Transition Slope to Vertical	$ 300.00		10 slopes	**3,000.00**
Remove & Reset Granite Curb - Type SB	$ 18.00		3,310 linear feet	**59,580.00**
Remove & Reset Granite Curb - Type VB	$ 35.00		600 linear feet	**21,000.00**
Remove & Reset Granite Curb Corner	$ 90.00		10 corners	**900.00**
Remove & Reset Granite Curb Inlet	$ 250.00		8 inlets	**2,000.00**
Remove & Reset Granite Edging	$ 25.00		100 linear feet	**2,500.00**
Remove & Stack Granite Curb	$ 5.00		100 linear feet	**500.00**
Remove & Stack Granite Curb Inlet	$ 0.01		10 inlets	**0.10**
DRAINAGE/STRUCTURES				
Furnish & Install 6" Pipe	$ 100.00		0 linear feet	-
Furnish & Install 8" Pipe	$ 105.00		0 linear feet	-
Furnish & Install 12" Pipe	$ 115.00		0 linear feet	-
Structures Change in Type/Converted	$ 2,500.00		0 structures	-
Structures Adjusted	$ 900.00		0 structures	-
Structures Rebuilt	$ 500.00		0 vertical foot	-
MISC. ADDITIONAL WORK				
Earth Excavation	$ 35.00		80 cubic yards	**2,800.00**
Class A Rock Excavation	$ 250.00		30 cubic yards	**7,500.00**
Stump Excavation	$ 250.00		40 cubic yards	**10,000.00**
Topsoil Excavated and stacked	$ 10.00		50 cubic yards	**500.00**
Dense graded stone	$ 35.00		100 cubic yards	**3,500.00**
Processed gravel, in place	$ 35.00		50 cubic yards	**1,750.00**
Unclassified Excavation	$ 35.00		50 cubic yards	**1,750.00**
Loam and Seed	$ 16.00		100 square yards	**1,600.00**
Pavement Sawcutting/Grinding	$ 5.00		500 linear feet	**2,500.00**
Sweeping/Cleanup following Sawcutting/Grinding	$ 5.00		500 linear feet	**2,500.00**
		TOTAL BID PRICE		**2,349,920.82**

29. Standard Tree Removal and/or Trimming

NO BIDS RECEIVED

Bidder's Name

Standard service (min. 4 hrs) _____	per hour	224 hours	
Add'l Equip _____	per hour	23 hours	
	TOTAL BID PRICE		-

Signature of Witness M. DeDato

	Bid Price	Unit	Quantity	Total Bid
30. High Production Tree Removal and/or Trimming				

NO BIDS RECEIVED

Bidder's Name

Standard service (min. 4 hrs)	_____	per hour	352 hours	_____
Add'l Equip	_____	per hour	41 hours	_____
			TOTAL BID PRICE	-

Signature of Witness _____

Southeastern Regional Services Group
DPW SERVICES AWARDS for 2/1/22 - 1/31/23

ITEM NO. and DESCRIPTION	UNIT PRICE		Estimated Quantity		Total Value
1. PAVEMENT RECLAMATION					
Pawtucket Hot Mix Asphalt, Inc. Pawtucket, RI		*Need estimated only by SWANSEA*			
WINNING BIDDER'S NAME					
Pavement Reclamation	$ 3.83	sq yd	10,900	$	41,747.00
Calcium Chloride for dust control		gallon	0	$	-
Adjust Structures	$ 1.00	each	30	$	30.00
Structure Remodeling		each	0	$	-
Structures Rebuilt		vert ft	0	$	-
Excess Loading of Reclaimed Material	$ 4.00	cubic yd	900	$	3,600.00
Lower/Raise Manholes	$ 1.00	each	30	$	30.00
Lower/Raise Water Gates		each	0	$	-
Lower/Raise Gas Gates		each	0	$	-
Trucking	$ 100.00	hour	100	$	10,000.00
		Item Sub-Total		**$**	**55,407.00**
2. COLD IN-PLACE RECYCLING					
Sealcoating, Inc. dba indus, Braintree, MA					
WINNING BIDDER'S NAME					
Cold In-Place Recycling, including fog seal	$ 5.25	per sq yd	113,760	$	597,240.00
Core Sampling	$ 3,535.00	per day	8	$	28,280.00
Mix Design	$ 5,525.00	per proj/loc	8	$	44,200.00
Filler	$ 235.00	per ton	547	$	128,545.00
Liquid Asphalt Stabilizing Agent	$ 3.74	per gallon	98,200	$	367,268.00
Pave RAP or Aggregate Ahead of Recycler	$ 2.45	per sq yd	51,000	$	124,950.00
Pre-Milling Pavement	$ 2.15	per sq yd	51,000	$	109,650.00
Gravel for Base Repair	$ 42.00	per cub yd	260	$	10,920.00
Hot Mix Asphalt for Base Repair	$ 397.00	per ton	699	$	277,503.00
Lower & Raise Existing Structures	$ 1,025.00	each	159	$	162,975.00
Structure Rebuild	$ 350.00	vertical feet	40	$	14,000.00
Adjust Water Gates and other small structures	$ 725.00	each	94	$	68,150.00
		Item Sub-Total		**$**	**1,933,681.00**
3. PERMANENT TRENCH PATCH REPAIRS					
Lorusso Corp., Plainville, MA					
WINNING BIDDER'S NAME					
4-Inch Grind & Inlay	$ 57.00	per sq yd	1,100	$	62,700.00
1 1/2-Inch Grind & Inlay	$ 27.00	per sq yd	11,840	$	319,680.00
		Item Sub-Total		**$**	**382,380.00**

ITEM NO. and DESCRIPTION	UNIT PRICE		Estimated Quantity		Total Value
5. SUPERPAVE HOT MIX ASPHALT					
T. Miozzi, Inc., N. Kingston, RI	*Need estimated only by SWANSEA*				
WINNING BIDDER'S NAME					
SUPERPAVE HMA	$ 73.00	per ton	4,825	$	352,225.00
Bitumen Tack Coat	$ 3.00	per gallon	1,027	$	3,081.00
Hot Poured Rubrzd Sealer	$ 1.25	per lin ft	0	$	-
Warm Mix Additive	$ 0.01	per gallon	0	$	-
Cold Planing	$ 2.50	per sq yd	45,000	$	112,500.00
Structure Adjustments	$ 0.01	each	100	$	1.00
Structures Remodeled	$ 800.00	each	0	$	-
Structures Rebuilt	$ 400.00	per vert ft	0	$	-
Hand Work	$ 75.00	per ton	125	$	9,375.00
Unclassified Excavation	$ 8.00	per cub yd	0	$	-
Sawcutting	$ 2.50	per lin ft	110	$	275.00
Playgrounds/Parking Lots	$ 80.00	per ton	0	$	-
		Item Sub-Total		**$**	**477,457.00**
6. CHIP SEAL					
All States Asphalt, Sunderland, MA					
WINNING BIDDER'S NAME					
Leveling/Shim Course	$ 160.00	per ton	2,220	$	355,200.00
Stone Chip Seal	$ 3.05	per sq yd	34,300	$	104,615.00
Double Chip Sealing	$ 5.25	per sq yd	51,200	$	268,800.00
		Item Sub-Total		**$**	**728,615.00**
7. RUBBER CHIP SEAL					
All States Asphalt, Sunderland, MA					
WINNING BIDDER'S NAME					
Rubber Chip Seal	$ 5.25	per sq yd	182,250	$	956,812.50
Level/Shim Course	$ 160.00	per ton	3,625	$	580,000.00
		Item Sub-Total		**$**	**1,536,812.50**
8. MICRO PAVING					
Sealcoating, Inc. dba indus, Braintree, MA					
WINNING BIDDER'S NAME					
Surface Course, 1 lift	$ 3.40	per sq yd	31,600	$	107,440.00
Level & Surface Course (2 lifts)	$ 5.43	per sq yd	2,100	$	11,403.00
Leveling Course and Surface Course with Crack Repair, 2 lifts (sq yds)	$ 6.07	per sq yd	18,350	$	111,384.50
		Item Sub-Total		**$**	**230,227.50**

ITEM NO. and DESCRIPTION	UNIT PRICE		Estimated Quantity	Total Value
9. CAPE SEALING				
Sealcoating, Inc. dba indus, Braintree, MA				
WINNING BIDDER'S NAME				
Cape Sealing	$ 8.35	per sq yd	23,100	$ 192,885.00
Cape Sealing with Crack Repair	$ 8.87	per sq yd	3,100	$ 27,497.00
		Item Sub-Total		**$ 220,382.00**
10. BONDED WEARING COURSE				
All States Asphalt, Sunderland, MA				
WINNING BIDDER'S NAME				
Bonded Wearing Course application	$ 7.75	per sq yd	83,100	$ 644,025.00
Leveling Course	$ 160.00	per ton	800	$ 128,000.00
structure Adjustments	$ 400.00	per structure	104	$ 41,600.00
Structure Remodels	$ 520.00	per structure	18	$ 9,360.00
Structure Rebuilds	$ 325.00	per vert ft	18	$ 5,850.00
		Item Sub-Total		**$ 828,835.00**
11. CRACK SEALING				
Sealcoating, Inc. dba indus, Braintree, MA	$ 5,980.00	per day	81	$ 484,380.00
WINNING BIDDER'S NAME	$ 9.13	per gallon	59,500	$ 543,235.00
		Item Sub-Total		**$ 1,027,615.00**
12. POLYMER-MODIFIED CRACK SEALING				
Sealcoating, Inc. dba indus, Braintree, MA	$ 6,195.00	per day	77	$ 477,015.00
WINNING BIDDER'S NAME	$ 10.87	per gallon	66,400	$ 721,768.00
		Item Sub-Total		**$ 1,198,783.00**
13. CHLORINATED RUBBER TRAFFIC LINE PAINTING				
Markings, Inc., Pembroke, MA				
WINNING BIDDER'S NAME				
4" White or Yellow lines	$ 0.060	per lin ft	6,583,500	$ 395,010.00
4" Yellow Hatch Lines	$ 0.280	per lin ft	36,940	$ 10,343.20
Crosswalks	$ 0.580	per lin ft	33,060	$ 19,174.80
Stopline	$ 0.580	per lin ft	18,372	$ 10,655.76
Stop Words	$ 19.250	each	212	$ 4,081.00
Parking Lines	$ 0.280	per lin ft	17,350	$ 4,858.00
Ts and Ls	$ 5.750	each	2,990	$ 17,192.50
Directional arrows (federal)	$ 24.950	each	457	$ 11,402.15
8' "only"	$ 37.250	each	83	$ 3,091.75
3' "only"	$ 19.500	each	73	$ 1,423.50
8' "school"	$ 51.750	each	92	$ 4,761.00

ITEM NO. and DESCRIPTION	UNIT PRICE		Estimated Quantity	Total Value
Traffic Islands	$ 10.000	each	58	$ 580.00
Railroad Crossings	$ 78.500	each	55	$ 4,317.50
Removal of Existing Paint Lines	$ 1.250	per sq ft	19,610	$ 24,512.50
Grinding for Inlay	$ 0.950	per sq ft	2,010	$ 1,909.50
		Item Sub-Total		**$ 513,313.16**

14. THERMOPLASTIC TRAFFIC LINE PAINTING

Markings, Inc., Pembroke, MA

WINNING BIDDER'S NAME				
4" white or yellow line	$ 0.480	per lin ft	269,560	$ 129,388.80
12" white line	$ 2.950	per lin ft	6,290	$ 18,555.50
8' "only"	$ 165.000	each	584	$ 96,360.00
3' "Only"	$ 35.000	each	84	$ 2,940.00
8' "school"	$ 205.000	each	67	$ 13,735.00
Removal of Existing Thermo. Lines	$ 1.250	per sq ft	5,550	$ 6,937.50
Grinding for Inlay	$ 0.950	per sq ft	6,850	$ 6,507.50
		Item Sub-Total		**$ 274,424.30**

15. EPOXY TRAFFIC LINE PAINTING

Markings, Inc., Pembroke, MA

WINNING BIDDER'S NAME				
4" white or yellow line	$ 0.345	per lin ft	334,650	$ 115,454.25
12" white line	$ 2.250	per lin ft	25,300	$ 56,925.00
8' "only"	$ 165.000	each	59	$ 9,735.00
3' "Only"	$ 38.500	each	59	$ 2,271.50
8' "school"	$ 215.000	each	60	$ 12,900.00
Removal of Existing Thermo. Lines	$ 1.250	per sq ft	12,800	$ 16,000.00
Grinding for Inlay	$ 0.950	per sq ft	11,500	$ 10,925.00
		Item Sub-Total		**$ 224,210.75**

16. GUARD RAILS, INSTALLATION OF STEEL BEAM

Premier Fence, Canton, MA

WINNING BIDDER'S NAME				
Straight (Galvanized, Metal Posts)	$ 36.00	per foot	5,942	$ 213,912.00
Straight (Galvanized, Wooden Posts)	$ 32.00	per foot	1,943	$ 62,176.00
Straight (Rust, Wooden Posts)	$ 35.00	per foot	2,013	$ 70,455.00
Curved (Galvanized)	$ 25.00	per foot	1,511	$ 37,775.00
Curved (Rust)	$ 25.00	per foot	621	$ 15,525.00
End Pieces (Galvanized)	$ 88.00	each	187	$ 16,456.00
End Pieces (Rust)	$ 88.00	each	119	$ 10,472.00
		Item Sub-Total		**$ 426,771.00**

ITEM NO. and DESCRIPTION	UNIT PRICE		Estimated Quantity		**Total Value**
17. STRUCTURE WORK					
Tasco Construction, Belmont, MA					
WINNING BIDDER'S NAME			Est Qty		
Structures Adjusted (1-5 per mobilization)	$ 650.00	per structure			
Structures Adjusted (6-10 per mobilization)	$ 635.00	per structure			
Structures Adjusted (11-20 per mobilization)	$ 583.00	per structure			
Structures Adjusted (20+ per mobilization)	$ 515.00	per structure			
AVERAGE PRICE - ADJUSTED	**$ 595.75**	per structure	214	$	127,490.50
Structures Remodeled (1-5 per mobilization)	$ 650.00	per structure			
Structures Remodeled (6-10 per mobilization)	$ 635.00	per structure			
Structures Remodeled (11-20 per mobiliztn)	$ 583.00	per structure			
Structures Remodeled (20+ per mobilization)	$ 515.00	per structure			
AVERAGE PRICE - REMODELED	**$ 595.75**	per structure	113	$	67,319.75
Structures Rebuilt (1-5 per mobilization)	$ 650.00	per vert ft			
Structures Rebuilt (6-10 per mobilization)	$ 635.00	per vert ft			
Structures Rebuilt (11-20 per mobilization)	$ 583.00	per vert ft			
Structures Rebuilt (20+ per mobilization)	$ 515.00	per vert ft			
AVERAGE PRICE - REBUILT	**$ 595.75**	per vert ft	128	$	76,256.00
		Item Sub-Total		**$**	**271,066.25**
18. INSTALLATION OF SUB-DRAINS					
R J Gabriel, Bridgewater, MA					
WINNING BIDDER'S NAME					
Sub-Drain installation	$ 40.00	per lin ft	2,910	$	116,400.00
Hot Mix Asphalt paving following installation	$ 120.00	per ton	1,155	$	138,600.00
Loam and Seed	$ 15.00	per sq yd	260	$	3,900.00
		Item Sub-Total		**$**	**258,900.00**
19. CATCH BASINS CLEANED					
R J Gabriel, Bridgewater, MA					
WINNING BIDDER'S NAME					
Contents deposited **in** town	$ 20.00	each	7,510	$	150,200.00
Contents **removed from** town	$ 30.00	each	9,730	$	291,900.00
		Item Sub-Total		**$**	**442,100.00**

ITEM NO. and DESCRIPTION	UNIT PRICE		Estimated Quantity		Total Value
20. CATCH BASINS CLEANED & MEASURED					
R J Gabriel, Bridgewater, MA					
WINNING BIDDER'S NAME					
Contents deposited **in** town	$ 22.00	each	6,510	$	143,220.00
Contents **removed from** town	$ 33.00	each	16,695	$	550,935.00
		Item Sub-Total		**$**	**694,155.00**
21. TUB GRINDING					
Wicklow Wood Northbridge, MA	$ 450.00	per hour	669	$	301,050.00
WINNING BIDDER'S NAME		**Item Sub-Total**		**$**	**301,050.00**
22. LOAM, COMPOST & GRAVEL SCREENING					
G. Lopes, Taunton, MA	$ 611.00	per hour	466	$	284,726.00
WINNING BIDDER'S NAME		**Item Sub-Total**		**$**	**284,726.00**
23. MEDIUM CLASS EXCAVATOR SERVICES					
R J Gabriel, Bridgewater, MA	$ 220.00	per hour	300	$	66,000.00
WINNING BIDDER'S NAME		**Item Sub-Total**		**$**	**66,000.00**
24. GRAD-ALL SERVICES					
NO BIDS RECEIVED				$	-
WINNING BIDDER'S NAME		**Item Sub-Total**		**$**	**-**
25. CAT EXCAVATOR INCLUDING FOREMAN AND CREW					
R J Gabriel, Bridgewater, MA	$ 515.00	per hour	296	$	152,440.00
WINNING BIDDER'S NAME		**Item Sub-Total**		**$**	**152,440.00**
26. SNOW & MATERIAL HAULING					
NO BIDS RECEIVED					
WINNING BIDDER'S NAME					
Contents deposited - IN TOWN		per hour	200	$	-
Contents removed - FROM TOWN		per hour	168	$	-
		Item Sub-Total		**$**	**-**
27. SNOW SHOVELING ON FLAT ROOVES					
Gibson Roofs, Inc. Hanover, MA	$ 115.00	per hour	272	**$**	**31,280.00**
WINNING BIDDER'S NAME					

ITEM NO. and DESCRIPTION	UNIT PRICE		Estimated Quantity	Total Value
28. SIDEWALK CONSTRUCTION AND SETTING OF CURBS AND EDGING				
L A L Construction, Fall River, MA	*Due to special "Rule for Award" this vendor won*			
WINNING BIDDER'S NAME	*For Bridgewater, Medfield, N.Attleboro & Swansea*			
Sidewalks				
Cement Concrete Sidewalk	$ 92.00	per sq yd	14,950	$ 1,375,400.00
Cement Concrete Sidewalk at Driveways	$ 100.00	per sq yd	1,392	$ 139,200.00
Cement Concrete Wheelchair Ramp	$ 165.00	per sq yd	214	$ 35,310.00
Hot Mix Asphalt Walk Surface & Driveways	$ 92.00	per sq yd	1,510	$ 138,920.00
Furnish & Install rubber ADA Handicap Panels, all color choices	$ 0.01	each	72	$ 0.72
Curb and Edging				
Install Granite Curb Type VB - Straight	$ 16.00	per lin ft	31,120	$ 497,920.00
Installation of bituminous concrete berms and curbs	$ 15.00	per lin ft	8	$ 120.00
Furnish & Install Granite Curb Inlet Type A Curved	$ -	per each	0	$ -
Furnish & Install Granite Curb Inlet Type A Straight	$ 500.00	per each	8	$ 4,000.00
Furnish & Install Granite Curb Type A - Corner	$ 280.00	per each	4	$ 1,120.00
Furnish & Install Granite Curb Type SB - Straight	$ 35.00	per lin ft	40	$ 1,400.00
Furnish & Install Granite Edging Type SB - Straight	$ 35.00	per lin ft	40	$ 1,400.00
Furnish & Install Granite Curb Type VA4 - Curved	$ 65.00	per lin ft	40	$ 2,600.00
Furnish & Install Granite Curb Type VA4 - Straight	$ 55.00	per lin ft	30	$ 1,650.00
Furnish & Install Granite Curb Type VB - Curved	$ 60.00	per lin ft	40	$ 2,400.00
Furnish & Install Granite Curb Type VB - Straight	$ 45.00	per lin ft	40	$ 1,800.00
Furnish & Install Granite Transition Curb for wheelchair ramps & driveways Type VB - Curved	$ 75.00	per lin ft	50	$ 3,750.00
Furnish & Install Granite Transition Curb for wheelchair ramps & driveways Type VB - Straight	$ 75.00	per lin ft	254	$ 19,050.00
Furnish & Install Transition Slope to Vertical	$ 300.00	per each	10	$ 3,000.00

ITEM NO. and DESCRIPTION	UNIT PRICE		Estimated Quantity		Total Value
Remove & Reset Granite Curb - Type SB	$ 18.00	per lin ft	3,310	$	59,580.00
Remove & Reset Granite Curb - Type VB	$ 35.00	per lin ft	600	$	21,000.00
Remove & Reset Granite Curb Corner	$ 90.00	per each	10	$	900.00
Remove & Reset Granite Curb Inlet	$ 250.00	per each	8	$	2,000.00
Remove & Reset Granite Edging	$ 25.00	per lin ft	100	$	2,500.00
Remove & Stack Granite Curb	$ 5.00	per lin ft	100	$	500.00
Remove & Stack Granite Curb Inlet	$ 0.01	per each	10	$	0.10
Drainage & Structure Work					
Furnish & Install 6" Pipe	$ 100.00	per lin ft	0	$	-
Furnish & Install 8" Pipe	$ 105.00	per lin ft	0	$	-
Furnish & Install 12" Pipe	$ 115.00	per lin ft	0	$	-
Structures Change in Type/Converted	$ 2,500.00	per each	0	$	-
Structures Adjusted	$ 900.00	per each	0	$	-
Structures Rebuilt	$ 500.00	per vert ft	0	$	-
Miscellaneous: Additional work needed					
Earth Excavation	$ 35.00	per cub yd	80	$	2,800.00
Class A Rock Excavation	$ 250.00	per cub yd	30	$	7,500.00
Stump Excavation	$ 250.00	per cub yd	40	$	10,000.00
Topsoil Excavated and stacked	$ 10.00	per cub yd	50	$	500.00
Dense graded stone	$ 35.00	per cub yd	100	$	3,500.00
Processed gravel, in place	$ 35.00	per cub yd	50	$	1,750.00
Unclassified Excavation	$ 35.00	per cub yd	50	$	1,750.00
Loam and Seed	$ 16.00	per sq yd	100	$	1,600.00
Pavement Sawcutting/Grinding	$ 5.00	per lin ft	500	$	2,500.00
Sweeping/Cleanup following Sawcutting/Grinding	$ 5.00	per lin ft	500	$	2,500.00
		Item Sub-Total		**$**	**2,349,920.82**

28. SIDEWALK CONSTRUCTION AND SETTING OF CURBS AND EDGING

Tasco Construction, Belmont, MA — *Due to special "Rule for Award" this vendor won*

WINNING BIDDER'S NAME — *For HANSON*

Sidewalks					
Cement Concrete Sidewalk	$ 105.00	per sq yd	14,950	$	1,569,750.00
Cement Concrete Sidewalk at Driveways	$ 109.00	per sq yd	1,392	$	151,728.00
Cement Concrete Wheelchair Ramp	$ 155.00	per sq yd	214	$	33,170.00
Hot Mix Asphalt Walk Surface & Driveways	$ 84.00	per sq yd	1,510	$	126,840.00
Furnish & Install rubber ADA Handicap Panels, all color choices	$ 0.01	each	72	$	0.72
Curb and Edging					
Install Granite Curb Type VB - Straight	$ 25.00	per lin ft	31,120	$	778,000.00

ITEM NO. and DESCRIPTION	UNIT PRICE		Estimated Quantity	Total Value
Installation of bituminous concrete berms and curbs	$ 100.00	per lin ft	8	$ 800.00
Furnish & Install Granite Curb Inlet Type A - Curved	$ 750.00	per each	0	$ -
Furnish & Install Granite Curb Inlet Type A - Straight	$ 300.00	per each	8	$ 2,400.00
Furnish & Install Granite Curb Type A - Corner	$ 300.00	per each	4	$ 1,200.00
Furnish & Install Granite Curb Type SB - Straight	$ 45.00	per lin ft	40	$ 1,800.00
Furnish & Install Granite Edging Type SB - Straight	$ 45.00	per lin ft	40	$ 1,800.00
Furnish & Install Granite Curb Type VA4 - Curved	$ 59.00	per lin ft	40	$ 2,360.00
Furnish & Install Granite Curb Type VA4 - Straight	$ 51.00	per lin ft	30	$ 1,530.00
Furnish & Install Granite Curb Type VB - Curved	$ 51.00	per lin ft	40	$ 2,040.00
Furnish & Install Granite Curb Type VB - Straight	$ 47.00	per lin ft	40	$ 1,880.00
Furnish & Install Granite Transition Curb for wheelchair ramps & driveways Type VB - Curved	$ 57.00	per lin ft	50	$ 2,850.00
Furnish & Install Granite Transition Curb for wheelchair ramps & driveways Type VB - Straight	$ 47.00	per lin ft	254	$ 11,938.00
Furnish & Install Transition Slope to Vertical	$ 200.00	per each	10	$ 2,000.00
Remove & Reset Granite Curb - Type SB	$ 27.00	per lin ft	3,310	$ 89,370.00
Remove & Reset Granite Curb - Type VB	$ 27.00	per lin ft	600	$ 16,200.00
Remove & Reset Granite Curb Corner	$ 100.00	per each	10	$ 1,000.00
Remove & Reset Granite Curb Inlet	$ 100.00	per each	8	$ 800.00
Remove & Reset Granite Edging	$ 0.01	per lin ft	100	$ 1.00
Remove & Stack Granite Curb	$ 0.01	per lin ft	100	$ 1.00
Remove & Stack Granite Curb Inlet	$ 0.01	per each	10	$ 0.10
Drainage & Structure Work				
Furnish & Install 6" Pipe	$ 100.00	per lin ft	0	$ -
Furnish & Install 8" Pipe	$ 120.00	per lin ft	0	$ -
Furnish & Install 12" Pipe	$ 150.00	per lin ft	0	$ -
Structures Change in Type/Converted	$ 1,500.00	per each	0	$ -
Structures Adjusted	$ 1,000.00	per each	0	$ -

ITEM NO. and DESCRIPTION	UNIT PRICE		Estimated Quantity		Total Value
Structures Rebuilt	$ 1,000.00	per vert ft	0	$	-
Miscellaneous: Additional work needed					
Earth Excavation	$ 0.01	per cub yd	80	$	0.80
Class A Rock Excavation	$ 0.01	per cub yd	30	$	0.30
Stump Excavation	$ 0.01	per cub yd	40	$	0.40
Topsoil Excavated and stacked	$ 0.01	per cub yd	50	$	0.50
Dense graded stone	$ 0.01	per cub yd	100	$	1.00
Processed gravel, in place	$ 0.01	per cub yd	50	$	0.50
Unclassified Excavation	$ 0.01	per cub yd	50	$	0.50
Loam and Seed	$ 0.01	per sq yd	100	$	1.00
Pavement Sawcutting/Grinding	$ 0.01	per lin ft	500	$	5.00
Sweeping/Cleanup following Sawcutting/Grinding	$ 0.01	per lin ft	500	$	5.00
		Item Sub-Total		**$**	**2,799,473.82**
29. STANDARD TREE REMOVAL AND/OR TRIMMING					
NO BIDS RECEIVED					
WINNING BIDDER'S NAME					
Standard service (minimum 4 hours)		per hour	224	$	-
Additional Equipment piece on jobsite		per hour	23	$	-
		Item Sub-Total		**$**	**-**
30. HIGH_PRODUCTION TREE REMOVAL AND/OR TRIMMING					
NO BIDS RECEIVED					
WINNING BIDDER'S NAME					
Standard service (minimum 4 hours)		per hour	352	$	-
Additional Equipment piece on jobsite		per hour	41	$	-
		Item Sub-Total		**$**	**-**
		NEW Contract SubTOTAL		**$**	**14,869,499.28**