

**Please note:** If you have printed out this bid from the City of Quincy's website or have received it by a different method, it is your responsibility to check for any Addenda on the City's website at [www.quincyma.gov](http://www.quincyma.gov) before you turn in your bid. The City of Quincy will not be responsible for any bids received omitting any addenda acknowledgement.

**Please** send an acknowledgement email that you have printed out this bid to: [mmarini@quincyma.gov](mailto:mmarini@quincyma.gov).

*Thank you for your interest in bidding  
with the City of Quincy!*

**CITY OF QUINCY, MASSACHUSETTS**  
**Department of Public Works**



**INVITATION TO BID**

The Department of Public Works for the City of Quincy, Massachusetts is seeking sealed bids for **ROAD IMPROVEMENTS 2024 CONTRACT #3** until **11:00 a.m.** local time **Thursday, May 9, 2024**, in the Office of the Purchasing Department, 1305 Hancock Street, Quincy, Massachusetts 02169, at which time and place all bids will be publicly opened and read aloud.

The City of Quincy Massachusetts will accept sealed bids for the reclamation (full-depth), cold planing and surfacing of various roadways, including sidewalks and curbing. All work under this contract shall be substantially completed by July 1, 2025, and all work shall be ready for final payment the following spring growing season. The estimated value of the contract is \$7,373,611.35.

The contractor's schedule of work must begin with the entire length of Billings Road (4,687 feet) and the abutting Cummings Avenue (1,677 feet) and Vane Street (822 feet). The contract shall make these roads a priority for completion in 2024.

A non-mandatory pre-bid conference will be held at 10:00 a.m. local time on April 30, 2024, at the Department of Public Works, 55 Sea Street, Quincy, Massachusetts 02169. Bidders should attend and participate in the conference.

A 5% bid bond is required for the total value of the bid in the form of a bid bond or certified/treasurer's check.

The Bidder **must** be pre-qualified by the Massachusetts Department of Transportation for Highway Construction.


Detailed specifications are available on-line at the City of Quincy's website, [www.quincyma.gov](http://www.quincyma.gov) and also available at the Office of the Purchasing Department, Quincy City Hall, 1305 Hancock Street, Quincy, Massachusetts, 02169, between the hours of 8:30 a.m. and 4:30 p.m. Specifications will be available April 24, 2024.

The bidding and award of this contract shall be in full compliance with Massachusetts General Laws, Chapter 30, Section 39M, as last revised. All applicable Federal, State and City of Quincy regulations in relation to and subject to the minimum wage rates set under the Massachusetts Prevailing Wage Law Chapter 149, §26 to 27H and/or any applicable federal rates. The City reserves the right to waive any informality in or to reject any or all bids when such an action is deemed in the best interests of the City.

**Non-responsive and/or unbalanced bids may be rejected.**

Thomas P. Koch, Mayor  
Alfred J. Grazioso, Commissioner of Public Works  
Kathryn R. Logan, Chief Procurement Officer

**PLEASE CLIP OUT THIS PORTION, ATTACH YOUR RETURN ADDRESS MAILING LABEL AT TOP, AND THEN AFFIX THIS TO YOUR MAILING ENVELOPE AS AN ADDRESS LABEL – THANK YOU.**

<b>Name and Address of Bidder:</b>	
<b>Bid for</b>	<b>“CONSTRUCTION SERVICES”</b>
	<b>“Roadway Improvements 2024 (Contract 3)”</b>
<b>Department of:</b>	<b>City of Quincy Department of Public Works</b>
<b>Opening Date:</b>	<b>May 9, 2024, at 11:00 a.m.</b>
<b>Place of Opening:</b>	<b>Office of the Purchasing Department Quincy City Hall 1305 Hancock Street Quincy, MA 02169</b>
<b>All bids must be received in the Office of the Purchasing Department no later than the date and time listed in this bid solicitation.</b>	
<b>QUINCY DEPARTMENT OF PUBLIC WORKS</b>	
	
<b>55 Sea St, Quincy, MA 02169</b>	

# City of Quincy



## Department of Public Works

### Invitation for Bid

“Roadway Improvements 2024 (Contract 3)”

Opening Date: May 9, 2024

#### DELIVERY NOTICE

THIS INQUIRY MUST BE DELIVERED TO THE PURCHASING DEPARTMENT BY 11:00 A.M. ON THE OPENING DATE LISTED ABOVE, TO BE READ AT 11:01 A.M., E.S.T., IN THE PURCHASING DEPARTMENT.

IN ACCORDANCE WITH All APPLICABLE M.G.L.

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(SEE ATTACHED SPECIFICATION FOR ADDITIONAL DETAIL)

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Please check the appropriate box:

Corporation       Partnership       Sole Proprietor       Unincorporated

Include either  Social Security or  Federal Tax Identification Number: \_\_\_\_\_

Name of Firm:	
FID or S.S.#:	
Address:	

E-mail address:
Phone:
Print name of Signatory Authorizing Contract:



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ATTACHMENT TWO - CONTRACT ROADWAY SUMMARY

ATTACHMENT THREE - STANDARD GENERAL CONDITIONS

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ATTACHMENT FIVE – DRAWINGS

ATTACHMENT SIX – TECHNICAL SPECIFICATIONS

ATTACHMENT SEVEN – QNRD TREE PROTECTION SPECIFICATIONS

## 1. INVITATION TO BID

The City of Quincy Massachusetts will accept sealed bids for the reclamation (full-depth), cold planing and surfacing of various roadways, including sidewalks and curbing. The estimated value of the contract is **\$7,373,611.35**. A 5% Bid Bond is required. All work under this contract shall be substantially completed by July 1, 2025, and all work shall be ready for final pavement the following spring growing season.

Sealed Bid:  
“Roadway Improvements 2024 (Contract 3)”  
For City Infrastructure  
City of Quincy, Massachusetts  
Office of the Purchasing Department  
Quincy City Hall  
1305 Hancock Street  
Quincy, MA 02169

All bids must be received no later than May 9, 2024 at 11:00 a.m. No late bids or telephone bids will be accepted. Sets of Bidding Documents may be examined at the Issuing Office beginning at 10:00 a.m. on April 24, 2024 from 8:30 a.m. to 4:30 p.m., Monday through Friday.

### Issuing Office:

Office of the Purchasing Department  
Quincy City Hall  
1305 Hancock Street  
Quincy, MA 02169

Sets of Bidding Documents may be obtained:

Electronically at no cost by registering at:

<http://www.quincyma.gov/Government/PPD/PurchasingBidPage.cfm>

Bidders shall send a confirming email to “[mmarini@quincyma.gov](mailto:mmarini@quincyma.gov)” to allow Owner to maintain a plan holders list. If Bidding Documents are downloaded and/or printed from Owner’s website, it is Bidder’s responsibility to check the website for any addenda before submitting a Bid. The Owner will not be responsible for any Bid that omits addenda acknowledgement. It is the sole responsibility of the bidder to assure that the bidder’s information has been received and recorded.

Requests for a bid package electronically must be made 48 hours prior to the bid opening. The city is not responsible for requests and/or addenda failing to be "sent or received" as a result of service failure, internet failure, electronic failure, or weather-related events. It is the sole responsibility of the prospective bidder to confirm their request and/or information has been received or sent. If a request is made for a bid package and/or addenda electronically the prospective bidder is responsible to confirm receipt. Do NOT submit bids electronically (by email). A 5% bid security (bond or certified check) required. Question must be received via email at [klogan@quincyma.gov](mailto:klogan@quincyma.gov) and cc: [mmarini@quincyma.gov](mailto:mmarini@quincyma.gov) thru May 3, 2024 by 12:00 p.m.

**A non-mandatory pre-bid conference will be held at 10:00 a.m. local time on April 30, 2024 at the Department of Public Works, 55 Sea Street, Quincy, Massachusetts 02169. Bidders should attend and participate in the conference.**

The project is being bid under Massachusetts General Law Chapter 30 & 39M and Chapter 149, and the minimum wage rates as issued by the Director of the Executive Office of Labor and Workforce Development, Department of Labor Standards shall apply. It is the responsibility of the Bidders, before Bid opening, to request if necessary, any additional information on Minimum Wage Rates for those trades people who may be employed for the proposed Work under the resulting Contract. The State Wage Rates are provided in **Attachment One**.

The Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be eligible or responsible. The Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project or the public to make an award to that Bidder. The owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

2. NOTICE TO PROSPECTIVE BIDDER:

Enclosed is an invitation for bid issued by the Quincy Department of Public Works (DPW). Please read all enclosed instructions and specifications carefully.

For your submission to be considered eligible, you must complete the following:

- The bids must be properly completed (in ink or typewriter);
- Be signed by an authorized contracting agent of your company;
- The Bid must be submitted to the “OFFICE OF THE PURCHASING AGENT, 1305 Hancock Street, Quincy, MA 02169”, at the time indicated on the Bid Cover Sheet;
- The bid must contain certain required paperwork. We have enclosed the following checklist to assist you in your submission. Any forms or documents that have been **R**-“*Required*” marked must be completed and returned with your bid package or your bid may be rejected: Any forms or documents in the check list that have been **PQ**-“*Pre-Qualified*” marked will indicate a requirement to bid. **NR**-“*Not Required*” does not have to be returned with you bid package and is being supplied for information purposes. Any forms or documents in the check list that have been **U**-“*Upon Award*” marked will be required upon award notice prior to entering into contract. **I**-“*Informational*”:

BID CHECKLIST – please provide the items that are marked “R” in your submittal	
<b>R</b>	SEALED BID ENVELOPE
<b>R</b>	5% BID SECURITY
<b>R</b>	BID COVER
<b>U</b>	100% PERFORMANCE BOND FOR LABOR AND MATERIALS ( <b>required upon award notice</b> )
<b>U</b>	100% PAYMENT BOND ( <b>required upon award notice</b> )
<b>U</b>	CERTIFICATE OF INSURANCE LIABILITY ( <b>required upon award notice</b> )
<b>R</b>	ARTICLES OF AGREEMENT (SIGNATURE SHEET MUST BE SIGNED) <ol style="list-style-type: none"> <li>1. Standard Contract Articles &amp; Contract Signature and Dates</li> <li>2. Bid Tabulation Sheets &amp; General Bid Form</li> <li>3. Evidence of Qualification Form</li> <li>4. Certificate of Authority Form</li> </ol>
<b>I</b>	TECHNICAL SPECIFICATIONS
<b>NR</b>	PREVAILING WAGE LAW/SCHEDULE
<b>R</b>	Addenda Acknowledgement ( <b>if issued</b> )

The successful bidder will be required to provide a performance bond, or other acceptable security, as indicated on the sheet. Please refer to the bid package for more information. If any of the forms listed in the checklist are missing, please contact the CITY OF QUINCY PURCHASING DEPARTMENT, Quincy City Hall, 1305 Hancock Street, Quincy, MA 02169; Tel # (617) 376-1060.

3. **REQUIREMENTS OF BIDDERS (FOR ALL MATERIALS, SUPPLIES, SERVICES AND EQUIPMENT)**

Pursuant to the Commonwealth of Massachusetts, General Laws, and the General By-Laws of the City of Quincy, Massachusetts, any vendor entering into a contract with the City of Quincy is required to certify certain facts and supply the City with necessary documentation. If the City of Quincy Chief Procurement Officer determines that the vendor or contractor is not in compliance the City may refuse to issue, reissue, renew or extend such contract or agreement. **The bidder must be pre-qualified by the Massachusetts Department of Transportation for “HIGHWAY CONSTRUCTION”:**

All bids for this project are subject to applicable public bidding laws of Massachusetts, including General Laws Chapter 30, Section 39M as amended. Attention is directed to the minimum wage rates to be paid as determined by the Commissioner of Labor and Industries under the provisions of Massachusetts General Laws, Chapter 149, Section 26 and 27D inclusive.

a) **Massachusetts Department of Transportation Prequalification:**

The Bidder must be pre-qualified by the Massachusetts Department of Transportation for Highway Construction.

The contractor must obtain approval from the Massachusetts Department of Transportation, which identifies the Bidder as qualified to do this kind of work. Failure to be prequalified will result in disqualification and rejection of bid. Contact the MassDOT prequalification office for more information.

b) **Certificate of Insurance Liability:**

Each successful bidder (for services only) will be required to present to the City a Certificate of Insurance, which is to include coverage for General Liability; Automobile Liability, Excess Liability, Property Damage, and Worker Compensation and Employers Liability. The City of Quincy, Massachusetts shall be named as a certificate holder on the company’s Certificate of Insurance. Certificates are required from each successful bidder within ten days of the award of the bid.

**INSURANCE REQUIREMENTS**

<p><b><u>General Liability</u></b> Includes:</p> <ul style="list-style-type: none"> <li>• Comprehensive form</li> <li>• Premises/Operations</li> <li>• Underground Explosion &amp; Collapse Hazard</li> <li>• Products / Completed Operations</li> <li>• Independent Contractors</li> <li>• Broad from Property Damage</li> <li>• Personal Injury</li> <li>• Each Occurrence \$1,000,000</li> </ul>	<p><b><u>Automobile Liability</u></b> Includes:</p> <ul style="list-style-type: none"> <li>• All Owned Vehicles</li> <li>• Hired Vehicles</li> <li>• Non-owned Vehicles Bodily Injury &amp; Property Damage Combined \$1,000,000</li> </ul>
<p><b><u>Workers Compensation &amp; Employers Liability</u></b></p> <p>As Required by State of Massachusetts:</p> <ul style="list-style-type: none"> <li>• Each Accident \$100,000</li> <li>• Bodily Injury by Disease (Policy Limit) \$500,000</li> <li>• Bodily Injury by Disease (Each Employee) \$100,000</li> </ul>	<p><b><u>Additional Insurance / Requirements</u></b></p> <ul style="list-style-type: none"> <li>• The City of Quincy Shall be named as Additional Insured</li> <li>• Aggregate \$2,000,000</li> </ul>

c) **Prevailing Wage Law/Schedule:**

All wages paid for labor on the work to be performed under each service contract for a public works construction project shall not be less than those prescribed by the Commissioner of Labor and Industries

in accordance with the Massachusetts General Laws; Chapter 149, Section 26 and 27, as amended. Employers must submit weekly payroll records to the awarding authority for all employees who have worked on the project. The city will not process invoices without prevailing wage records. Pursuant to the provision of, as amended, the Contractor (and his Sub-Contractors), will be obligated to pay all workers in the covered classes the applicable prevailing wage rates and supplements. The minimum hourly wage rate to be paid the various classes of labor performing work under this contract shall be in accordance with schedules which have been established, or may hereafter be established or increased, by the Massachusetts Department of Labor during the contract term.

d) **Contractors Certification for Equal Employment Opportunity:**

The bidder certifies that it is an Equal Opportunity Contractor, as adopted by the Commonwealth of Massachusetts Supplemental Equal Employment Opportunity, Anti-Discrimination and Affirmative Action Program.

e) **Certificate as to a Corporate Bidder:**

The bidder Certifies as being a Corporate Bidder.

f) **Record Keeping:**

The Contractor shall make, and keep, at least six (6) years after final payment, books, records, and accounts which, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the Contractor, and until the expiration of six (6) years after final payment, the Office of the Inspector General, and the Deputy Commissioner of Capital Planning and Operations shall have the right to examine any books, documents, papers or records of the Contractor or of his/her Subcontractors that directly pertain to, and involve transactions relating to the Contractor of his/her Subcontractors. All record keeping shall be in full compliance with the Massachusetts General Law, Chapter 30, Section 39R.

#### 4. INTRODUCTION

Periodically, the City of Quincy DPW has the need perform pavement reclamation, cold planing and surfacing of various roadway projects. The work includes the reconstruction of both asphalt and concrete sidewalks, and vertical granite curbing. The roadways included under this contract are summarized in **Attachment Two**.

The intent of this bid is to have available to DPW the appropriate contractor who will supply the equipment and qualified personnel material necessary to perform the work in accordance with specifications contained herein. Any items not specified in the technical portion of this bid document shall default to the specifications prescribed by MassDOT.

#### 5. SCOPE OF CONTRACT /PROJECT DESCRIPTION

The Contractor will furnish all labor, equipment and material. The Contractor is required to employ sufficient skilled, unskilled, and supervisory labor, and equipment as may be considered necessary by the DPW Commissioner or his Representative to permit or enable the Contractor to expeditiously execute the work at such a uniform rate of progress which will permit the completion of the work within the time limits which may be specified.

The contractor shall make available the necessary equipment to complete maintenance or repair work on the City's infrastructure as directed and scheduled by the DPW Commissioner or his Representative may request a specific piece of equipment to complete a specific task or provide the scope of work to the contractor to complete the task. All equipment, labor and material shall be paid according to the bid schedule provided.

#### 6. TERM OF THE CONTRACT & TERM EXTENSIONS

The Standard and Supplemental General Conditions of the Contract are provided in **Attachment Three** and **Attachment Four**, respectively.

The City of Quincy is soliciting pricing for a period of up to two (2) years. However, this will be administered as an annual contract starting the day the contract is signed. The City reserves the right to award this contract for a period of one year as term one (1); prior to expiration of the contract extension the City may elect to extend the contract for a final term two (2) for one additional year (final year). In all cases, if the City elects to extend the contract, it will give notice to the contractor prior to the end of the first year. The bidder will receive a notice requesting an extension at that time. A year is defined as January 1<sup>st</sup> to December 31<sup>st</sup>.

#### 7. BILLING ADDRESS

Invoices, bills and requisitions shall be sent to the following address:

City of Quincy  
Department of Public Works  
55 Sea Street / Quincy, MA 02169  
Telephone (617) 376-1900 / EMAIL: [jguarino@quincyma.gov](mailto:jguarino@quincyma.gov)

#### 8. EXCLUSIVITY

This contract will be non-exclusive. The City reserves the right to do work of the type covered by this contract with City forces or with other contracts.

#### 9. ADDITIONAL ITEMS

The City of Quincy reserves the right to add related items to this contract during the contract term upon agreement by both parties as to the price. Approval must be given in writing by the DPW Commissioner or his Representative.

#### 10. METHOD OF AWARD

The City of Quincy will award a contract to the **LOWEST RESPONSIVE AND RESPONSIBLE BIDDER based on the GRAND TOTAL BID. Bidders must meet the terms of the specifications. Bid Prices Per Unit Will Include All Labor, Equipment, Material, Administration and Overhead.**

NOTE: IN THE EVENT OF MATHEMATICAL ERRORS ON EXTENSIONS OF  
UNIT PRICES TO TOTAL COSTS, UNIT PRICES WILL PREVAIL.

**The CITY reserves the right to increase or decrease quantities to the legal limits allowed, based on available funding.**

It is understood that all estimated quantities shown on the “Bid Sheets” and/or “General Bid Form” contained herein are contingent; and are intended to provide a bases for bidding which was established using all available information and project funding projections at the time the bid was issued; quantities will be ordered by the CITY Engineer or her/his Representative, and payment for these items will be based on quantities utilized at unit prices bid. If the City considers any sections bid to be unbalanced the bid may be rejected. An unbalanced bid is a bid that artificially increases or decreases the value of the bid item to an impracticable industry standard dollar amount. The successful Bidder will be compensated for additional work (services not specified under line-item pricing) at the time and material rates. Such work must be at Departmental request and must be incidental to an ongoing project item. The City reserves the right to waive informalities and to accept or reject all bid proposals or portions thereof, to the satisfaction of the City.

All Unit Prices (items), for which a bid price has been requested, must be provided for each item or your bid may be rejected. The City of Quincy reserves the right to terminate this contract at any time, or for any reason deemed in the best interest of the City. A calendar year shall be defined as January 1<sup>st</sup>, through December 31<sup>st</sup>. The contract will be awarded on a Grand Total basis.



## 11. FUEL/MATERIAL ESCALATION & DE-ESCALATION & ASPHALT PRICE ADJUSTMENTS

The contractor will assume responsibility for fueling operator-equipped equipment. Delivery of fuel by the contractor to the work site may be required and must be at no additional charge to the City of Quincy. The price of the fuel will be determined by the current MassDOT market index and will be added to the invoice as a separate item billed or credited in cost per gallon. The Contractor is required to submit fuel price updates to City of Quincy. Fuel prices can be adjusted monthly only. The index will be set at the time of contract execution.

The contractor's bid prices below shall be based upon the current State DOT liquid asphalt index posted on the due date for receipt of bids. If the State DOT liquid asphalt index differs by more than 5% when the work is performed, then Contractor's invoices shall include price adjustments for the asphaltic materials utilizing the standard MassDOT formula.

### FUEL ESCALATION

The City will allow escalation of prices during the contract term for fuel adjustment.

### MATERIAL ESCALATION

The City will allow adjustment of prices during the contract term for Liquid Asphalt Material adjustment.

Price Index at the Time of Contract Award as Found on the Massachusetts Highway Departments Price Adjustment Schedule: <http://www.mhd.state.ma.us/default.asp?pgid=content/fuelPrices&sid=about>

## 12. PAY ITEM FORMAT/INVOICING

All labor, tools, machinery, and materials required to complete the items of work will be included in the Submitted Price Bid on each item of work. The quantities listed are the estimated annual quantities for the City of Quincy and should not be construed to represent guaranteed maximum or minimum quantities to be purchased. All unit prices bid will be extended for the actual number of units purchased during the contract term. The City of Quincy reserves the right to order more or less than the quantities listed at the prices stipulated. Payment to the Contractor will be based on the aggregate of those items computed from rates indicated herein. The Contractor will prepare his invoices based on the aggregate of those items computed from the unit price as indicated herein. All other invoices, including material, will be submitted with suitable backup receipts and slips. Invoices will be submitted directly to the DPW indicating the project (roadway) and should be submitted not more than once a month. The contractor will be responsible for following the user Department's invoicing procedures and MGL Requirements. The contractor will be required to separate and/or provide the necessary details required by the DPW Commissioner or his Representative.

## 13. POSTING OF BID BOND

Each bid must be accompanied by a bid security consisting of a BID BOND, or CERTIFIED CHECK issue by a responsible bank or trust company in the amount of 5% of the bid price.

## 14. POSTING OF PERFORMANCE/PAYMENT BOND

A performance bond in an amount equal to 100 percent of the total amount of the bid will be required for the faithful performance of the contract as well as a labor and materials bond in an amount equal to 100 percent of the total bid amount, with a surety company qualified to do business in the Commonwealth of Massachusetts. Prior to the beginning of any scheduled, non-emergency work under this contract, the contractor shall post a performance bond in the amount of the bid. The performance bond shall remain in effect for the duration of the work. All but 10 percent of the surety can be eliminated from the job within 30 days substantial completion of the job. The remaining 10 percent can be eliminated 365 days after substantial completion of the job.



## 15. INDEMNIFICATION

The Contractor agrees to defend, indemnify and save harmless the City of Quincy, its officers, agents, servants and employees from and against any and all liability, damages, costs or expenses, causes of action, suits, judgments, losses and claims of every name not described, including attorneys' fees and disbursements, brought against the City of Quincy which may arise, be sustained, or occasioned directly or indirectly by any person, firm or corporation arising out of or resulting from the performance of the services by the Contractor, arising from any act, omission or negligence of the Contractor, its agents and employees, or arising from any breach or default by the Contractor under this Agreement. Any damage found by the City of Quincy to be the direct result of the Contractor's performance under this contract will be the responsibility of the Contractor.

## 16. NOTICE OF AWARD

Regardless of any notification of award to any prospective Contractor, all bids remain open and acceptable by the City for sixty (60) days from the bid opening date. Nothing in this paragraph is to be considered a waiver of the City's rights against a prospective Contractor who fails to execute a contract once it is awarded.

## 17. SCHEDULING OF WORK

The owner shall provide the contractor with as much notice as possible. However, the contractor shall be available to perform the work within 15 working days of the notification, meaning available for work and onsite on the 15th day. The notification may come formally (written request-mail) or informally (phone call or email) at which time the owner will record his request date. The owner may give special dispensation to the schedule when affected by weather related conditions; this dispensation will be defined solely by the owner. The owner may at any time request that the schedule be pushed back at which time the contractor will be allotted additional time equal to the difference between the original scheduled dates and the new scheduled date plus 2 working days. Example: If the schedule is pushed up 5 working days, then the start date will be equal to 22 working days from the original scheduled date (15+5+2).

**The Contractor's schedule of work must begin with the entire length of Billings Road (4,687 feet) and the abutting Cummings Avenue (1,677 feet) and Vane Street (822 feet). The Contract shall make these roads a priority for completion in 2024.**

## 18. SCHEDULING PENALTIES

Failure to meet the scheduling criteria under "Scheduling of Work" will result in a \$1,000 (One Thousand Dollar) per day penalty for each day (starting on the 15th day) that the contractor is not present to perform the scheduled work. Excluded are weekends, and State recognized holidays.

## 19. LOCATION OF WORK

Service and commodities may be required or deliverable anywhere in the City of Quincy and for any City department. Prospective Contractors are to understand that work may be required anywhere in the City of Quincy and shall bid accordingly.

## 20. PROOF OF EXPERIENCE

A) The contractor shall illustrate past successfully completed municipal experience and capabilities to perform sidewalk replacement, roadway reclamation and paving work. The bidder shall provide with his/her bid a list of these completed similar successful municipal projects. The list shall include ten (10) or more successfully completed similar municipal projects within the last five (5) years, along with the project names and locations, owner or agency contact names and telephone numbers.

B) The awarded vendor must self-perform 40% of the entire project labor value and 100% of all sidewalk work.

## 21. QUALITY OF WORK

The contractor shall complete the work as directed by the Department of Public Works and/or their Representative in a workman like manner in accordance with specifications contained herein and as a default, the requirements of the Standard Specifications for Road and Bridge Construction as published by the Massachusetts Highway Department including any revisions.

If work is not completed in a workmanlike manner that is satisfactory to the Department of Public Works and/or their Representative, then the City can terminate the remaining period of the contract without obligation or recourse.

## 22. PERSONNEL AND EQUIPMENT

Principals, project managers, superintendents, estimators, expeditors, clerical and all other office personnel will be considered overhead. Time spent in preparation of an estimate for each project will be considered overhead. Time spent preparing and securing permits, drawings required thereof, shop drawings, submittals, schedules, reports and invoices will also be considered overhead costs.

Hauling or delivery of personnel, to/from/within the job site(s) will not be considered as billable. Mobilization will not be considered billable. Mobilization will be defined as the move in and the move out. The contractor will not be paid for mobilization for exchanges of machinery do to breakdowns or as a matter of scheduling conflicts when work remains. Travel time for personnel to/from/within the job site(s) will also not to be considered as billable hours.

The City of Quincy reserves the right to inspect the equipment to perform work under this contract of all bidders to determine the bidders' abilities to perform the services required. If, in the opinion of the User Department that may recommend award, the lowest responsible bidder does not have adequate facilities and/or proper equipment to serve this contract, the bidder may be subject to rejection. At which point the next lowest bidder may be used or the work may be re-bid.

Equipment must be in first class operating condition; operators must be experienced, qualified and possess the proper license to operate said piece of equipment. Any maintenance costs associated with the machinery will be the equipment owner's responsibility. Operators of respective equipment will be paid the prescribed rates of wages, as determined by the Commissioner of Labor and Industries, in accordance with the provisions of Massachusetts General Laws 149, Section 27F. All equipment must be properly registered and insured.

In the event of notice to the contractor by the City of Quincy that the equipment is not in good, safe and serviceable condition and fit for use upon its arrival, the contractor shall have the obligation to put the equipment in good, safe and serviceable condition within a reasonable length of time. If this cannot be done by the time use of the equipment is required by the City of Quincy, then the contractor will provide a different but similar piece of equipment to the City of Quincy for its use.

## 23. SUPERVISION AND INSPECTION

The Contractor further agrees that the work shall be at all times under the immediate supervision of the DPW Commissioner or his Representative, who shall at all times have free access to all parts of the work and all places where materials for the same are prepared, and shall have every facility made available for the proper inspection of (a) all materials used in, and (b) workmanship executed for the work under this contract. It is expressly understood and agreed that the inspection of the work and materials by the DPW Commissioner or his Representative will in no way diminish the responsibility of the Contractor or release him/her from the Contractor's obligation to perform and deliver to the City sound and satisfactory work. It is further agreed that the Contractor shall obey the orders of the DPW Commissioner or his Representative and by all persons employed on the work.

#### 24. RESPONSIBILITY:

The contractor must accept full responsibility for providing licensed, qualified, experienced operators (where indicated on the unit price bid sheet) who can perform the work required. The City of Quincy will not accept responsibility for any equipment or other damage, or failure caused by the contractor's failure to provide equipment or operators capable of performing the tasks specified. Although the City of Quincy will provide general supervision, the City of Quincy will not be responsible or liable for contractor negligence. The contractor will guarantee all workmanship and material provided for a period of one year.

#### 25. POLICE DETAILS

The Contractor is required to submit a Traffic Management Plan to the City of Quincy Traffic Parking Alarm and Lighting (TPAL) Department. Police details and all other traffic control measures required by the city will be paid for by the Contractor. This includes additional City of Quincy police details (hereinafter police officers) that are needed to direct and control traffic during construction, or other measures are needed for public safety - as instructed and directed by the Commissioner of Public Works or his Representative of the user department. Additional details paid by the Contractor will be used only at the discretion of the Commissioner of Public Works or his Representative. This does not diminish the responsibility of the contractor to perform his work in a safe and traffic friendly manner. **The Contractor must provide proof of payment to the Quincy Police Department before or as part of the subsequent requisition requesting payment for said details.**

#### 26. NOTIFICATION TO & COORDINATION WITH UTILITY COMPANIES

It is the contractor's responsibility to contact DIG SAFE or any other utility company not notified per Dig Safe such as the Quincy Water/Sewer/Drain Department and NGrid. The Contractor shall also allow safe access to existing utilities for all emergency repairs.

#### 27. STORAGE OF MATERIALS AND EQUIPMENT

The Contractor will be required to store his/her material and equipment in a location which will not interfere with the normal operations of other contractors or employees of the city, and in a manner which will afford them maximum protection. The city will not guarantee security nor be responsible for loss, damage or theft of stored materials or equipment in a city facility or on a city street. Security of materials and equipment is the Contractor's responsibility. The Contractor will replace such items, as required, at his/her own expense.

At the end of each project, a list of all City-owned materials in the possession of the Contractor will be sent to the DPW Commissioner or his Representative of the User Department. Said material will be returned to a city maintenance yard or as ordered by the DPW Commissioner or his Representative.

#### 28. PROTECTION OF PROPERTY

The Contractor will properly protect public and private property from damage of any kind to all trees, plantings, lawns, hedges, fences, existing sidewalks, drives, curbs, street pavements, pavement markings, traffic control devices, utility facilities, vehicles and other facilities within, and contiguous to, the project area. Any negligent damage to said facilities caused by the Contractor's employees, sub-contractors, storage of material, and/or equipment, will be restored to its original condition. The Contractor will pay the cost at his sole expense of any such work or materials required in the repairing or replacement of said items or facilities. This restoration work must be entirely completed, to the satisfaction of the DPW Commissioner or his Representative of the User Department, before final payment to the Contractor is approved by said DPW Commissioner or his Representative. It will be the Contractor's responsibility to always protect and secure his own property and equipment.

#### 29. SAFETY AND CODE REQUIREMENTS

Due to the nature of the work, Contractor will be familiar with recent modifications to the OSHA regulations regarding trench excavation and the temporary support of the working trench. Conduct operations as required by

OSHA regulations.

The Contractor will immediately advise the City of Quincy of inspections conducted by OSHA at the work site. Immediately provide copies of citations and violations to the City of Quincy.

All areas of this project are hard-hat areas. All persons within the project limits are required to wear protective headgear.

### 30. MAINTENANCE AND PROTECTION OF TRAFFIC

The Contractor must comply with the following requirements to maintain traffic flow and to protect the general public:

1. Always ensure access by emergency vehicles.
2. Materials and equipment stored on site will be located so as not to interfere with the normal movement of traffic and will be secured and protected.
3. During non-working hours, do not stop; leave standing, or park construction equipment on any traffic lane or sidewalk within the project limits. Park such equipment only in protected staging area approved by the DPW Commissioner or his Representative. Stockpile material only in protected staging area unless otherwise approved by the DPW Commissioner or his Representative.
4. Always maintain pedestrian access to building entrances unless otherwise approved by the Department of Public Works.
5. Maintain access to drives until work sequence requires blocking access. The DPW Commissioner or his Representative must approve any blocking of access.

### 31. CITY SUPPLIED EQUIPMENT AND MATERIALS

The City of Quincy reserves the right to advertise, procure or otherwise arrange for the supply of certain items; items to be specified at the discretion of the DPW Commissioner or his Representative.

### 32. ENGINEERING SERVICES

It is the contractor's responsibility to provide engineering and survey services for line and grade. This includes the relocation or offset any line and grade information provided should it conflict with the Contractors work area. If required by the complexity of the circumstances, the city may provide line, grade and engineering information, only to the extent the city feels necessary to complete the project.

### 33. USE OF CITY WATER

In those areas of the City where water is accessible, water will be made available via a connection point, approved by the City Water Department, for short-term use associated with the public work covered in this contract and at no cost to the contractor. The City Water Department shall provide a meter so that the contractor can measure the flow. The contractor shall supply all other materials and labor necessary to connect to the water supply point identified by the City.

### 34. CLEANUP OF PREMISES AND EQUIPMENT

The Contractor will not allow waste material or rubbish caused by work under this contract to accumulate in or about the premises but will promptly and thoroughly remove rubbish and excess tools from the site including immediate work area. Upon Final Completion, he will leave the site thoroughly cleaned and ready for use. Clean all spilled equipment fluids to the satisfaction of the city. In case of a dispute, the City of Quincy may remove the rubbish and do such cleanup as required and back charge the cost thereof to the Contractor responsible.

35. CONTRACTOR RESPONSIBLE UNTIL WORK IS COMPLETED

The Contractor further agrees to assume charge of and be responsible for the entire work until completed and accepted by final payment; and that she/he will personally supervise the faithful performance of the work, and that s/he will keep it under Contractor's exclusive control. In case of absence, the Contractor will designate a competent representative to continue such supervision of the work uninterrupted, and such representative shall receive orders and instruction as appropriate from the DPW Commissioner or his Representative and enjoy full authority to execute any such DPW's or their Representative's orders and to supply materials, tools and labor without delay.

36. NIGHT WORK, CITY HOLIDAYS, AND WEEKEND WORK

It is anticipated that the work will include "night work". However, all hours of work will be authorized by the city's DPW Commissioner. It is anticipated that work hours will be Monday – Friday 7:00 am to 7:00 pm for day work and 7pm to 7am for night work. Holidays will be the same as those recognized by MassDOT.

37. OTHER AGENCIES

The Contractor must honor the prices, terms and conditions of this contract with all municipalities, departments or public authority within City of Quincy. The Contractor must also offer the prices, terms and conditions of this contract to political subdivisions, fire companies or districts located entirely or partly within City of Quincy.

Orders placed against this contract between any subdivision or agency, or corporation will be contracts solely between the Contractor and those entities. City of Quincy will not be responsible for, nor will it have any liability or other obligation for, such contract between the Contractor and any third party.

38. MOBILIZATION

The contractor will not be paid a mobilization fee.

39. BRAND REFERENCE

A reference to a manufacturer's product by brand name or number is done solely to establish the minimum quality and performance characteristics required. Bidders may submit bids on alternates but must attach catalog sheets listing the specifications for any alternate bid. Further, the bidder must demonstrate that the alternative proposed has a sufficient operating track record to show the product will perform per the specified brand. The acceptance of a bidder's alternate rests solely with City of Quincy.

40. BID SUMMARY

Unit prices in this contract will be extended by multiplying each by the appropriate unit of measure listed. Said extensions will then be totaled. The contract will be awarded on a "Grant Total" sum basis. In the event of mathematical errors on extensions or prices, unit prices will prevail.

Bid proposal must be legible and submitted in the original form bearing an original signature. **COPIES AND FACSIMILES ARE NOT ACCEPTABLE.**

41. MEASUREMENT AND PAYMENT

The quantity to be measured for payment will be consistent with MassDOT requirements, unless where noted within the contract documents. The accepted quantity will be paid for at the contract unit prices specified in the Bid, which shall be full compensation for furnishing, transporting, handling and placing the material specified; furnishing of all labor, tools, equipment and incidentals for the satisfactory completion of each item; and for the protection of all public assets not called to be removed or replaced. Any such assets damaged by the Contractor shall be repaired to pre-existing conditions at the Contractor's cost.

#### 42. CONSTRUCTION DOCUMENTS: DRAWINGS AND TECHNICAL SPECIFICATIONS

The Contractor will be required to comply with all drawings and technical specifications, which may be associated with each project. Failure to comply may result in delay of payments, back charging for corrective remedial work, and/or cancellation of the contract.

Where Standards, Specifications, and Codes are referred to herein, it will be understood that such reference is to the issue in effect as of the date of the Bid, including all revisions and addenda, if any.

Should any of the General Conditions, Special Conditions and Technical Specifications, or special notes on the drawings conflict with the any of the provisions of the Standard Specifications for Materials and Construction, Standards for Materials, or the Standards of Construction of the City of Quincy, the General Conditions, Special Conditions and Technical Specifications of this Contract will govern; followed by the City of Quincy Specifications and Standards.

#### 43. DRAWINGS AND TECHNICAL SPECIFICATIONS

The City of Quincy standard roadway detail drawings are provided in **Attachment Five**. The City's standard technical specifications are provided in **Attachment Six**.

#### 44. QUINCY NATURAL RESOURCE DEPARTMENT REQUIREMENTS

The Quincy Natural Resources Department (QNRD) provides input to the QDPW for all sidewalk work within the landscaped buffer areas. The QNRD, through the QDPW, requires (1) the protection of all existing trees not called out to be "Removed"; (2) protection of all existing root mass to the maximum extent practical; (3) proper subgrade preparation; (4) the placement of a minimum of an 8-inch-thick as specified topsoil layer within the sidewalk buffer zone; and (5) a quality stand of grass has been established before release of retainage and final payment. No trees shall be harmed or removed in any way without the expressed approval of the Commissioner of the QNRD.

The QNRD specifications for Tree Protection are provided in **Attachment Seven**. Details for the Protection of Trees and for the Protection of the Tree Root Mass are provided on drawing Sheet D-501. In addition, waste concrete resulting from the placement of concrete sidewalks or waste asphalt must not be placed within the buffer zone area under any circumstances. Waste materials may only be placed temporarily in sidewalk apron areas. Care must be taken to prevent tainted stormwater runoff from waste materials from entering the city drainage system.

#### 45. QUESTION DIRECTION

Questions must be directed to:

City of Quincy  
Office of the Purchasing Department  
Quincy City Hall  
1305 Hancock Street  
Quincy, MA 02169

EMAIL: [klogan@quincyma.gov](mailto:klogan@quincyma.gov) and cc: [mmarini@quincyma.gov](mailto:mmarini@quincyma.gov)

#### 46. STANDARD CONTRACT ARTICLES & CONTRACT SIGNATURE AND DATES

The terms and specifications of this contract have been read and fully understood by the person whose signature appears below. The parties agree to comply with the terms and conditions set forth on the preceding pages along with any addenda that may be issued. The undersigned certifies that the person signing this bid on behalf of the bidder has been authorized by the company to submit bids on its behalf.



The Bidder understands that all bids are subject to the applicable laws of the Commonwealth of Massachusetts and Municipal Ordinances including General Laws. The Bidder acknowledges that no Bid may be withdrawn for 60 days, Saturday, Sundays, and legal holidays excluded, after opening of bids per MGL C. 149, 44A(3). By endorsing this contact the bidder agrees to adhere to the general conditions, plans and specifications of this contract. **(Please provide 3 copies of bid package with your submission)**

#### 47. STANDARD CONTRACT ARTICLES

##### **Merger and Integration Clause**

This Agreement and the exhibits attached hereto contain the entire agreement of the parties with respect to the subject matter of this Agreement, and supersede all prior negotiations, agreements and understandings with respect thereto. This Agreement may only be amended by a written document duly executed by all parties.

##### **Choice of Law and Forum Clause**

This agreement shall be interpreted under the laws of Massachusetts. Any litigation under this agreement shall be resolved in the trial courts of Massachusetts.

##### **Time of Performance**

Time is of the essence for the completion of the work described in this contract. It is anticipated by the parties that all work described herein will be completed within the time specified and enumerated in subsequent sections of this contract based on the date of notification of “scheduled work”, and that any delay in the completion of the work described herein shall constitute a material breach of this contract. The parties agree that time is of the essence in the completion of the work described in this contract and that all parties shall act to complete the work described within a reasonable time.

##### **Savings (Severability) Clause**

If any provision of this Contract is held unenforceable, then such provision will be modified to reflect the parties' intention. All remaining provisions of this Contract shall remain in full force and effect.

##### **Non-Waiver**

The failure by one party to require performance of any provision shall not affect that party's right to require performance at any time thereafter, nor shall a waiver of any breach or default of this Contract constitute a waiver of any subsequent breach or default or a waiver of the provision itself.

##### **Contractor's Warranty of Title**

The Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

##### **Out of State Bidder**

The undersigned certifies under the penalties of perjury they shall not enter into a contract with a foreign corporation which has not received a certificate from the state secretary stating that such a corporation has complied with sections three and five of Chapter 181 of Massachusetts General Law and the date with which compliance was obtained and shall report to the state secretary and the department of corporations and taxation any foreign corporation performing work under contract, and residing or having a principal place of business outside the Commonwealth.

##### **Disbarment**

The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth of Massachusetts under the provisions of Section Twenty-Nine F of Chapter Twenty-Nine, or any other applicable Debarment provisions of any other Chapter of the General Laws or any rule or regulations promulgated there under.

48. GENERAL BID FORM

City of Quincy					
Roadway Improvements 2024 (Contract 3)					
Bid Solicitation					
GENERAL BASE BID FORM					
Instructions: Multiply the Estimated Quantity by the Unit Bid Price for each bid item.					
A	B	C	D	E	F
Item Number	Item	Unit	Estimated Quantity	Item Unit Bid Price	Item Total (D x E) (Estimated Qty. x Unit Price)
102.09	Stump Removed	EA	28	\$	\$
102.19	Tree Root System, Cut Back and Remove	EA	120	\$	\$
103.01	Tree Removed	EA	12	\$	\$
120.1	Unclassified Excavation	CY	5764	\$	\$
129.00	Bit. Concrete Excavation by Cold Planer	SY	7050	\$	\$
151.22	Gravel Borrow for Sidewalks	CY	2882	\$	\$
170	Fine Grading and Compaction	SY	72355	\$	\$
220	Drainage Structure, Adjust	EA	11	\$	\$
220.5	Drainage Structure, Remodel	EA	14	\$	\$
220.7	Sanitary Structure, Adjust	EA	9	\$	\$
220.8	Sanitary Structure, Remodel	EA	5	\$	\$
222	Replace Frame and Grate (or Cover) - Municipal Standard	EA	84	\$	\$
358	Gate Box, Adjusted	EA	145	\$	\$
381	Service Box	EA	130	\$	\$
403	Reclaimed Base Course	SY	45621	\$	\$
405	Gravel for Base Course (Roadways)	CY	2710	\$	\$
420	Class 1 Bituminous Concrete Base Course (2½-inch-thick)	TN	6312	\$	\$
460	Class 1 Bituminous Concrete Top Course (1½-inch-thick)	TN	3771	\$	\$
463	Bituminous for Tack/Prime Coat	GAL	4559	\$	\$
472	Hot Mix Asphalt for Patching and Handwork	TN	520	\$	\$
503	Granite Curb Type VA3 - Straight	LF	13254	\$	\$
503.1	Granite Curb Type VA3 - Curved	LF	610	\$	\$
517	Granite Curb Corner	EA	264	\$	\$



A	B	C	D	E	F
Item Number	Item	Unit	Estimated Quantity	Item Unit Bid Price	Item Total (D x E) (Estimated Qty. x Unit Price)
580	Curb, Removed and Reset	LF	9685	\$	\$
583	Curb Corner, Removed and Reset	EA	115	\$	\$
701	Cement Concrete Sidewalk	SY	13102	\$	\$
701.1	Cement Concrete Sidewalk at Driveways	SY	4700	\$	\$
701.31	Cement Concrete for Wheel Chair Ramps with Detectable Warning Panel	SY	2040	\$	\$
702.1	Bituminous Concrete Sidewalks	TN	1280	\$	\$
748	Mobilization/Demobilization @ 5%	LS	1	\$	\$
751	Loam Borrow	CY	3768	\$	\$
765	Seeding	SY	22633	\$	\$
860.104	4-inch White Line (Epoxy)	LF	15600	\$	\$
860.112	12-inch White Line (Epoxy)	LF	7200	\$	\$
861.104	4-inch Yellow Line (Epoxy)	LF	15600	\$	\$
904	Miscellaneous Concrete	CY	40	\$	\$
999.001	Traffic Control Officers	MH	7560	\$ 62.00	\$ 468,720.00
999.100	Allowance for Survey Services	NTE	1		\$ 50,000.00
999.200	Allowance for Private Property Restoration	NTE	1		\$ 90,000.00
<b>GRAND TOTAL:</b>					\$

*AWARD WILL BE BASED ON THE GRAND TOTAL*

**GRAND TOTAL** (Sum of all the item Totals column "F")

\_\_\_\_\_ Dollars and \_\_\_\_\_ cents  
*Written Grand Total*

(\$ \_\_\_\_\_)  
*Numerical Grand Total*

\_\_\_\_\_  
*Signature of Bidder* *Date*

\_\_\_\_\_  
*(Printed Name and Title of Signatory)*

\_\_\_\_\_  
*(Business Address - Street, City, State, Zip)*

\_\_\_\_\_  
*(Telephone)*

\_\_\_\_\_  
*(E-mail address)*

Acknowledgement of Addenda \_\_\_\_\_

49. DIFFERENTIAL ITEMS

City of Quincy					
FY2024 Roadway Improvements (Contract 3)					
DIFFERENTIAL ITEM BID FORM					
Instructions: Multiply the Estimated Quantity by the Unit Bid Price for each bid item.					
A	B	C	D	E	F
Item Number	Item	Unit	Estimated Quantity	Item Unit Bid Price	Item Total (D x E) (Estimated Qty. x Unit Price)
0.303DFC-A	Differential Fuel Cost for Asphalt	TN	(1)	(1)	(1)
0.303DLA-A	Differential Fuel Cost for Liquid Asphalt Material	TN	(2)	(2)	(2)
<b>GRAND TOTAL:</b>					TBD

Note: (1) The City will allow escalation of prices during the contract term for fuel adjustment. The Price Index at the Time of Contract Award can be found on the Massachusetts Highway Departments Price Adjustment Schedule:

<http://www.mhd.state.ma.us/default.asp?pgid=content/fuelPrices&sid=about>

(2) The City will allow adjustment of prices during the contract term for Liquid Asphalt Material. If the State DOT liquid asphalt index differs by more than 5% when the work is performed, then Contractor’s invoices shall include price adjustments for the asphaltic materials utilizing the standard MassDOT formula.

50. OSHA 10 CERTIFICATION & LABOR HARMONY CERTIFICATION

*Pursuant to M.G.L. c.30, §39S, any person submitting a bid for, or signing a contract to work on, a public building or public works project estimated to cost more than \$10,000, must certify under the pains and penalties of perjury that he or she is able to furnish labor in harmony with all other elements of labor employed in the work and that all employees employed on the worksite, or in work subject to the bid, have successfully completed at least ten hours of OSHA approved training.*

The undersigned hereby certifies that it is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that it will comply fully with all laws and regulations applicable to awards made subject to section forty-four A.

\_\_\_\_\_  
Signature of Bidder Date

\_\_\_\_\_  
(Printed Name and Title of Signatory)

\_\_\_\_\_  
(Business Name & Address - Street, City, State, Zip)

51. NON-COLLUSION

The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this paragraph the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from public contracting or subcontracting in the Commonwealth under the provisions of M.G.L. Chapter 29, Section 29F or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated hereunder.

\_\_\_\_\_  
*Signature of Bidder* *Date*

\_\_\_\_\_  
*(Printed Name and Title of Signatory)*

\_\_\_\_\_  
*(Business Name & Address - Street, City, State, Zip)*

52. CERTIFICATE OF TAX COMPLIANCE

Pursuant to Chapter 62C of the Massachusetts General Laws, Section 49A (b), the undersigned further certifies under the pains and penalties of perjury that said contractor has complied with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

\_\_\_\_\_  
*Signature of Bidder* *Date*

\_\_\_\_\_  
*(Printed Name and Title of Signatory)*

\_\_\_\_\_  
*(Business Name & Address - Street, City, State, Zip)*

53. EVIDENCE OF QUALIFICATIONS

The undersigned offers the following information as evidence of his/her qualifications to perform the work as bid upon according to all requirements of the plans and specifications:

1. Have been in business under present name for \_\_\_\_\_ years.
2. Ever failed to complete any work awarded? If so, explain using additional sheets as necessary.

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3. List recent contracts, preferably with municipalities, with names of towns/cities/owners on which you served as Contractor or provided service or materials of the same nature as requesting:

Project/Job Type	Person Contact Telephone	City/Town/Owner/Locations
------------------	--------------------------	---------------------------

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_

Upon written request from the Grants Administrator, the bidder may be required to produce other information to support its qualifications to do the work and to make sure it is financially qualified to carry out the contract.

54. CERTIFICATE OF AUTHORITY

At a duly authorized meeting of the Board of Directors of the \_\_\_\_\_  
(Name of Corporation)

held on \_\_\_\_\_ at which all the Directors were present or waived notice, it was  
voted \_\_\_\_\_  
(Date)

that \_\_\_\_\_  
(Name) (Officer/Title)

of this company be and he hereby is authorized to execute contracts and bonds in the name and behalf of said company, and affix its Corporate Seal thereto, and such execution of any contract of obligation in this company's name on its behalf of such \_\_\_\_\_ seal of the company, shall be valid and binding upon this company. (Officer)

**A TRUE COPY,**  
**ATTEST:** \_\_\_\_\_  
(Signature/Title)

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

I hereby certify that I am the \_\_\_\_\_ of the \_\_\_\_\_  
(Title) (Name of Corporation)

that \_\_\_\_\_ is duly elected \_\_\_\_\_  
(Officer, Name) (Title)

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

\_\_\_\_\_  
Full Legal Name of Business Telephone Number

\_\_\_\_\_  
State of Incorporation\* Principal Place of Business

\_\_\_\_\_  
Qualified in Massachusetts Place of Business in Massachusetts

\_\_\_\_\_  
Signature

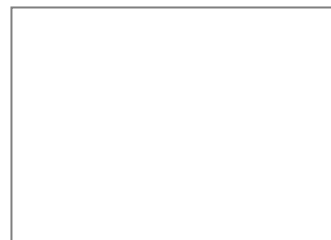
*\*If the state of incorporation is Massachusetts, insert MASSACHUSETTS on State of Incorporation line and disregard other parts of the form.*

Subscribed and sworn to before me

(Corporate Seal)  
If applicable (i.e., not necessary for sole proprietorships or partnerships)

This \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_  
\_\_\_\_\_  
(Notary Seal)

Notary Public  
My Commission Expires \_\_\_\_\_



**CERTIFICATION OF GENERAL BIDDERS ON PUBLIC CONSTRUCTION  
PROJECTS**

I. CERTIFICATION REGARDING HEALTH AND SAFETY

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; 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 ten hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations application to awards made subject to section 44A.

II. CERTIFICATION REGARDING NON-COLLUSION AND DEBARMENT

The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

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

\_\_\_\_\_  
Name of General Bidder

By \_\_\_\_\_  
Signature

\_\_\_\_\_  
Print name and title

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

\_\_\_\_\_  
Street Address City and State

**CERTIFICATION OF SUB- BIDDERS (IF ANY) ON PUBLIC CONSTRUCTION  
PROJECTS**

I. CERTIFICATION REGARDING HEALTH AND SAFETY

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; 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 Occupation Safety and Health Administration that is at least ten hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards of subcontracts subject to section 44F.

II. CERTIFICATION REGARDING NON-COLLUSION AND DEBARMENT

The undersigned further certifies under penalties of perjury that this subbid is in all responses bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Date \_\_\_\_\_

\_\_\_\_\_  
Name of Sub-bidder

By \_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name and Title

\_\_\_\_\_  
Business Name

\_\_\_\_\_  
Street Address, City and State

## INDEMNITY AGREEMENT

In consideration of the award of Contract No. \_\_\_\_\_  
by the City of Quincy, hereinafter referred to as INDEMNITEE, to the CONTRACTOR/BIDDER:  
\_\_\_\_\_

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

INDEMNITOR,

\_\_\_\_\_  
By Duly Authorized Agent

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





**CITY OF QUINCY**  
**Purchasing Department**  
**1305 Hancock Street, Quincy, MA 02169**

**Phone: (617) 376-1060**  
**Fax: (617) 376-1074**

**CERTIFICATION RELATING TO DEBARMENT AND SUSPENSION**

The undersigned contractor certifies to the City of Quincy that neither it nor its principals, officers or any affiliated entities has been debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction in accordance with the requirements of OMB Circular A-87 and with Executive Order 12549, "Debarment and Suspension."

Furthermore, the contractor certifies that it shall not make any subcontract or permit any subcontract to be made with any party which is debarred or suspended or is otherwise excluded in accordance with said OMB Circular and with Executive Order 12549.

This certification shall be for the benefit of the City of Quincy and its successors and/or assigns and is binding upon the contractor, its successors and assigned.

Executed under seal this \_\_\_\_ day of \_\_\_\_\_.

Contractor Signature  
By it's duly authorized agent,

Contract Number \_\_\_\_\_

\_\_\_\_\_  
(Authorized Signature)

**(To be typed onto letterhead of the Certified Public Accountant)**

City of Quincy  
City Solicitor's Office  
1305 Hancock Street  
Quincy, MA 02169

Attn: James S. Timmins  
City Solicitor

RE: \_\_\_\_\_  
Project Name

Dear Mr. Timmins:

Please be advised that I have reviewed the statement on internal accounting controls prepared by/for

\_\_\_\_\_ (Name of Company), in connection with the above captioned project. This statement is required under Massachusetts General Laws, Chapter 30, Section 39R. In our opinion, representations of management are consistent with our evaluation of the system of internal accounting controls. In addition, we believe that they are reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the firm's financial statements.

Yours sincerely,

\_\_\_\_\_  
Certified Public Accountant

Note: This form is only required by the winning vendor and will only need to be completed upon award of a contract that exceeds \$100,000 and is for the purchase of materials or for the construction, renovation, etc. of public works or public buildings.

# CERTIFICATION

## Internal Accounting

The Contractor certifies that it has internal accounting controls, as required by Chapter 30, Section 39R and that the Contractor will:

1. maintain accurate and detailed accounts for a six (6) year period after the final payment;
2. file regular statements of management concerning internal auditing controls;
3. file an annual audited financial statement; and
4. submit a statement from an independent certified public accountant that such CPA has examined management's internal auditing controls and expresses an opinion as to their consistency with management's statements in (2) above, and whether such statements are reasonable with respect to transactions and assets that are substantial in relation to designer's financial statements. General Laws, Chapter 7, Section 301 (e).

Signed under the pains and penalties of perjury:

---

Name of Company

---

Authorized Signature

Note: This form is only required by the winning vendor and will only need to be completed upon award of a contract that exceeds \$100,000 and is for the purchase of materials or for the construction, renovation, etc. of public works or public buildings.

**ATTACHMENT ONE**  
**PREVAILING WAGE RATES**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
<b>Construction</b>						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2023	\$40.05	\$14.41	\$18.67	\$0.00	\$73.13
	06/01/2024	\$41.05	\$14.41	\$18.67	\$0.00	\$74.13
	08/01/2024	\$41.05	\$14.91	\$18.67	\$0.00	\$74.63
	12/01/2024	\$41.05	\$14.91	\$20.17	\$0.00	\$76.13
	06/01/2025	\$42.05	\$14.91	\$20.17	\$0.00	\$77.13
	08/01/2025	\$42.05	\$15.41	\$20.17	\$0.00	\$77.63
	12/01/2025	\$42.05	\$15.41	\$21.78	\$0.00	\$79.24
	06/01/2026	\$43.05	\$15.41	\$21.78	\$0.00	\$80.24
	08/01/2026	\$43.05	\$15.91	\$21.78	\$0.00	\$80.74
	12/01/2026	\$43.05	\$15.91	\$23.52	\$0.00	\$82.48
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2023	\$40.12	\$14.41	\$18.67	\$0.00	\$73.20
	06/01/2024	\$40.88	\$14.41	\$18.67	\$0.00	\$73.96
	08/01/2024	\$40.88	\$14.91	\$18.67	\$0.00	\$74.46
	12/01/2024	\$40.88	\$14.91	\$20.17	\$0.00	\$75.96
	06/01/2025	\$41.12	\$14.91	\$20.17	\$0.00	\$76.20
	08/01/2025	\$41.12	\$15.41	\$20.17	\$0.00	\$76.70
	12/01/2025	\$41.12	\$15.41	\$21.78	\$0.00	\$78.31
	06/01/2026	\$43.12	\$15.41	\$21.78	\$0.00	\$80.31
	08/01/2026	\$43.12	\$15.91	\$21.78	\$0.00	\$80.81
	12/01/2026	\$43.12	\$15.91	\$23.52	\$0.00	\$82.55
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2023	\$40.24	\$14.41	\$18.67	\$0.00	\$73.32
	06/01/2024	\$41.24	\$14.41	\$18.67	\$0.00	\$74.32
	08/01/2024	\$41.24	\$14.91	\$18.67	\$0.00	\$74.82
	12/01/2024	\$41.24	\$14.91	\$20.17	\$0.00	\$76.32
	06/01/2025	\$42.24	\$14.91	\$20.17	\$0.00	\$77.32
	08/01/2025	\$42.24	\$15.41	\$20.17	\$0.00	\$77.82
	12/01/2025	\$42.24	\$15.41	\$21.78	\$0.00	\$79.43
	06/01/2026	\$43.24	\$15.41	\$21.78	\$0.00	\$80.43
	08/01/2026	\$43.24	\$15.91	\$21.78	\$0.00	\$80.93
	12/01/2026	\$43.24	\$15.91	\$23.52	\$0.00	\$82.67
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2023	\$45.08	\$9.65	\$18.07	\$0.00	\$72.80
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY &amp; HIGHWAY)</i>	12/01/2023	\$45.08	\$9.65	\$18.07	\$0.00	\$72.80
	06/01/2024	\$46.56	\$9.65	\$18.07	\$0.00	\$74.28
	12/01/2024	\$48.03	\$9.65	\$18.07	\$0.00	\$75.75
	06/01/2025	\$49.53	\$9.65	\$18.07	\$0.00	\$77.25
	12/01/2025	\$51.03	\$9.65	\$18.07	\$0.00	\$78.75
	06/01/2026	\$52.58	\$9.65	\$18.07	\$0.00	\$80.30
	12/01/2026	\$54.08	\$9.65	\$18.07	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

<b>Classification</b>	<b>Effective Date</b>	<b>Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT &amp; FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2023	\$40.80	\$14.50	\$11.05	\$0.00	\$66.35
	06/01/2024	\$41.80	\$14.50	\$11.05	\$0.00	\$67.35
	12/01/2024	\$42.80	\$14.50	\$11.05	\$0.00	\$68.35
	06/01/2025	\$43.80	\$14.50	\$11.05	\$0.00	\$69.35
	12/01/2025	\$44.80	\$14.50	\$11.05	\$0.00	\$70.35
ASPHALT RAKER <i>LABORERS - ZONE 1</i>	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY &amp; HIGHWAY)</i>	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
	06/01/2024	\$46.06	\$9.65	\$18.07	\$0.00	\$73.78
	12/01/2024	\$47.53	\$9.65	\$18.07	\$0.00	\$75.25
	06/01/2025	\$49.03	\$9.65	\$18.07	\$0.00	\$76.75
	12/01/2025	\$50.53	\$9.65	\$18.07	\$0.00	\$78.25
	06/01/2026	\$52.08	\$9.65	\$18.07	\$0.00	\$79.80
	12/01/2026	\$53.58	\$9.65	\$18.07	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 1</i>	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 1</i>	12/01/2023	\$45.08	\$9.65	\$18.07	\$0.00	\$72.80
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY &amp; HIGHWAY)</i>	12/01/2023	\$45.08	\$9.65	\$18.07	\$0.00	\$72.80
	06/01/2024	\$46.56	\$9.65	\$18.07	\$0.00	\$74.28
	12/01/2024	\$48.03	\$9.65	\$18.07	\$0.00	\$75.75
	06/01/2025	\$49.53	\$9.65	\$18.07	\$0.00	\$77.25
	12/01/2025	\$51.03	\$9.65	\$18.07	\$0.00	\$78.75
	06/01/2026	\$52.58	\$9.65	\$18.07	\$0.00	\$80.30
	12/01/2026	\$54.08	\$9.65	\$18.07	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2024	\$48.12	\$7.07	\$20.60	\$0.00	\$75.79

**Classification**

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

**Apprentice - BOILERMAKER - Local 29**

**Effective Date - 01/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$31.28	\$7.07	\$13.22	\$0.00	\$51.57
2	65	\$31.28	\$7.07	\$13.22	\$0.00	\$51.57
3	70	\$33.68	\$7.07	\$14.23	\$0.00	\$54.98
4	75	\$36.09	\$7.07	\$15.24	\$0.00	\$58.40
5	80	\$38.50	\$7.07	\$16.25	\$0.00	\$61.82
6	85	\$40.90	\$7.07	\$17.28	\$0.00	\$65.25
7	90	\$43.31	\$7.07	\$18.28	\$0.00	\$68.66
8	95	\$45.71	\$7.07	\$19.32	\$0.00	\$72.10

**Notes:**

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

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	02/01/2024	\$62.40	\$11.49	\$23.59	\$0.00	\$97.48
BRICKLAYERS LOCAL 3 (QUINCY)	08/01/2024	\$64.50	\$11.49	\$23.59	\$0.00	\$99.58
	02/01/2025	\$65.80	\$11.49	\$23.59	\$0.00	\$100.88
	08/01/2025	\$67.95	\$11.49	\$23.59	\$0.00	\$103.03
	02/01/2026	\$69.30	\$11.49	\$23.59	\$0.00	\$104.38
	08/01/2026	\$71.50	\$11.49	\$23.59	\$0.00	\$106.58
	02/01/2027	\$72.90	\$11.49	\$23.59	\$0.00	\$107.98

**Classification**

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

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

**Effective Date - 02/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.20	\$11.49	\$23.59	\$0.00	\$66.28
2	60	\$37.44	\$11.49	\$23.59	\$0.00	\$72.52
3	70	\$43.68	\$11.49	\$23.59	\$0.00	\$78.76
4	80	\$49.92	\$11.49	\$23.59	\$0.00	\$85.00
5	90	\$56.16	\$11.49	\$23.59	\$0.00	\$91.24

**Effective Date - 08/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.25	\$11.49	\$23.59	\$0.00	\$67.33
2	60	\$38.70	\$11.49	\$23.59	\$0.00	\$73.78
3	70	\$45.15	\$11.49	\$23.59	\$0.00	\$80.23
4	80	\$51.60	\$11.49	\$23.59	\$0.00	\$86.68
5	90	\$58.05	\$11.49	\$23.59	\$0.00	\$93.13

**Notes:**

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

<b>BULLDOZER/GRADER/SCRAPER</b>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

<b>CAISSON &amp; UNDERPINNING BOTTOM MAN</b>	12/01/2023	\$45.48	\$9.65	\$18.22	\$0.00	\$73.35
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$46.96	\$9.65	\$18.22	\$0.00	\$74.83
	12/01/2024	\$48.43	\$9.65	\$18.22	\$0.00	\$76.30
	06/01/2025	\$49.93	\$9.65	\$18.22	\$0.00	\$77.80
	12/01/2025	\$51.43	\$9.65	\$18.22	\$0.00	\$79.30
	06/01/2026	\$52.98	\$9.65	\$18.22	\$0.00	\$80.85
	12/01/2026	\$54.48	\$9.65	\$18.22	\$0.00	\$82.35

For apprentice rates see "Apprentice- LABORER"

<b>CAISSON &amp; UNDERPINNING LABORER</b>	12/01/2023	\$44.33	\$9.65	\$18.22	\$0.00	\$72.20
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$45.81	\$9.65	\$18.22	\$0.00	\$73.68
	12/01/2024	\$47.28	\$9.65	\$18.22	\$0.00	\$75.15
	06/01/2025	\$48.78	\$9.65	\$18.22	\$0.00	\$76.65
	12/01/2025	\$50.28	\$9.65	\$18.22	\$0.00	\$78.15
	06/01/2026	\$51.83	\$9.65	\$18.22	\$0.00	\$79.70
	12/01/2026	\$53.33	\$9.65	\$18.22	\$0.00	\$81.20

For apprentice rates see "Apprentice- LABORER"



Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2023	\$44.33	\$9.65	\$18.22	\$0.00	\$72.20
	06/01/2024	\$45.81	\$9.65	\$18.22	\$0.00	\$73.68
	12/01/2024	\$47.28	\$9.65	\$18.22	\$0.00	\$75.15
	06/01/2025	\$48.78	\$9.65	\$18.22	\$0.00	\$76.65
	12/01/2025	\$50.28	\$9.65	\$18.22	\$0.00	\$78.15
	06/01/2026	\$51.83	\$9.65	\$18.22	\$0.00	\$79.70
	12/01/2026	\$53.33	\$9.65	\$18.22	\$0.00	\$81.20

For apprentice rates see "Apprentice- LABORER"

CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
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For apprentice rates see "Apprentice- LABORER"

CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i>	03/01/2024	\$47.12	\$9.83	\$19.97	\$0.00	\$76.92
	09/01/2024	\$48.37	\$9.83	\$19.97	\$0.00	\$78.17
	03/01/2025	\$49.62	\$9.83	\$19.97	\$0.00	\$79.42
	09/01/2025	\$50.87	\$9.83	\$19.97	\$0.00	\$80.67
	03/01/2026	\$52.12	\$9.83	\$19.97	\$0.00	\$81.92
	09/01/2026	\$53.37	\$9.83	\$19.97	\$0.00	\$83.17
	03/01/2027	\$54.62	\$9.83	\$19.97	\$0.00	\$84.42

**Apprentice - CARPENTER - Zone 2 Eastern MA**

**Effective Date - 03/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$21.20	\$9.83	\$1.73	\$0.00	\$32.76
2	45	\$21.20	\$9.83	\$1.73	\$0.00	\$32.76
3	55	\$25.92	\$9.83	\$3.40	\$0.00	\$39.15
4	55	\$25.92	\$9.83	\$3.40	\$0.00	\$39.15
5	70	\$32.98	\$9.83	\$16.51	\$0.00	\$59.32
6	70	\$32.98	\$9.83	\$16.51	\$0.00	\$59.32
7	80	\$37.70	\$9.83	\$18.24	\$0.00	\$65.77
8	80	\$37.70	\$9.83	\$18.24	\$0.00	\$65.77

**Effective Date - 09/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$21.77	\$9.83	\$1.73	\$0.00	\$33.33
2	45	\$21.77	\$9.83	\$1.73	\$0.00	\$33.33
3	55	\$26.60	\$9.83	\$3.40	\$0.00	\$39.83
4	55	\$26.60	\$9.83	\$3.40	\$0.00	\$39.83
5	70	\$33.86	\$9.83	\$16.51	\$0.00	\$60.20
6	70	\$33.86	\$9.83	\$16.51	\$0.00	\$60.20
7	80	\$38.70	\$9.83	\$18.24	\$0.00	\$66.77
8	80	\$38.70	\$9.83	\$18.24	\$0.00	\$66.77

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARPENTER WOOD FRAME <i>CARPENTERS -ZONE 2 (Wood Frame)</i>	10/01/2023	\$30.61	\$7.02	\$6.47	\$0.00	\$44.10
	10/01/2024	\$31.91	\$7.02	\$6.47	\$0.00	\$45.40
	10/01/2025	\$33.21	\$7.02	\$6.47	\$0.00	\$46.70
	10/01/2026	\$34.51	\$7.02	\$6.47	\$0.00	\$48.00

All Aspects of New Wood Frame Work

**Apprentice - CARPENTER (Wood Frame) - Zone 2**

**Effective Date - 10/01/2023**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$15.31	\$7.02	\$0.00	\$0.00	\$22.33
2	50	\$15.31	\$7.02	\$0.00	\$0.00	\$22.33
3	55	\$16.84	\$7.02	\$2.00	\$0.00	\$25.86
4	55	\$16.84	\$7.02	\$2.00	\$0.00	\$25.86
5	70	\$21.43	\$7.02	\$6.47	\$0.00	\$34.92
6	70	\$21.43	\$7.02	\$6.47	\$0.00	\$34.92
7	80	\$24.49	\$7.02	\$6.47	\$0.00	\$37.98
8	80	\$24.49	\$7.02	\$6.47	\$0.00	\$37.98

**Effective Date - 10/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$15.96	\$7.02	\$0.00	\$0.00	\$22.98
2	50	\$15.96	\$7.02	\$0.00	\$0.00	\$22.98
3	55	\$17.55	\$7.02	\$2.00	\$0.00	\$26.57
4	55	\$17.55	\$7.02	\$2.00	\$0.00	\$26.57
5	70	\$22.34	\$7.02	\$6.47	\$0.00	\$35.83
6	70	\$22.34	\$7.02	\$6.47	\$0.00	\$35.83
7	80	\$25.53	\$7.02	\$6.47	\$0.00	\$39.02
8	80	\$25.53	\$7.02	\$6.47	\$0.00	\$39.02

**Notes:**

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

CEMENT MASONRY/PLASTERING <i>BRICKLAYERS LOCAL 3 (QUINCY)</i>	01/01/2024	\$49.33	\$13.00	\$23.57	\$1.30	\$87.20
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**Classification**

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

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

**Effective Date - 01/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.67	\$13.00	\$15.93	\$0.00	\$53.60
2	60	\$29.60	\$13.00	\$18.57	\$1.30	\$62.47
3	65	\$32.06	\$13.00	\$19.57	\$1.30	\$65.93
4	70	\$34.53	\$13.00	\$20.57	\$1.30	\$69.40
5	75	\$37.00	\$13.00	\$21.57	\$1.30	\$72.87
6	80	\$39.46	\$13.00	\$22.57	\$1.30	\$76.33
7	90	\$44.40	\$13.00	\$23.57	\$1.30	\$82.27

**Notes:**

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

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

<b>CHAIN SAW OPERATOR</b> <i>LABORERS - ZONE 1</i>	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
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For apprentice rates see "Apprentice- LABORER"

<b>CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES</b> <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$56.13	\$15.00	\$16.40	\$0.00	\$87.53
	06/01/2024	\$57.45	\$15.00	\$16.40	\$0.00	\$88.85
	12/01/2024	\$58.93	\$15.00	\$16.40	\$0.00	\$90.33
	06/01/2025	\$60.26	\$15.00	\$16.40	\$0.00	\$91.66
	12/01/2025	\$61.73	\$15.00	\$16.40	\$0.00	\$93.13
	06/01/2026	\$63.06	\$15.00	\$16.40	\$0.00	\$94.46
	12/01/2026	\$64.54	\$15.00	\$16.40	\$0.00	\$95.94

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

<b>COMPRESSOR OPERATOR</b> <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$35.62	\$15.00	\$16.40	\$0.00	\$67.02
	06/01/2024	\$36.47	\$15.00	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.42	\$15.00	\$16.40	\$0.00	\$68.82
	06/01/2025	\$38.27	\$15.00	\$16.40	\$0.00	\$69.67
	12/01/2025	\$39.22	\$15.00	\$16.40	\$0.00	\$70.62
	06/01/2026	\$40.08	\$15.00	\$16.40	\$0.00	\$71.48
	12/01/2026	\$41.03	\$15.00	\$16.40	\$0.00	\$72.43

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

<b>DELEADER (BRIDGE)</b> <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2024	\$56.06	\$9.95	\$23.95	\$0.00	\$89.96
	07/01/2024	\$57.26	\$9.95	\$23.95	\$0.00	\$91.16
	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36



Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$68.70	\$9.40	\$23.12	\$0.00	\$101.22
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$73.60	\$9.40	\$23.12	\$0.00	\$106.12
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) <i>DRAWBRIDGE - SEIU LOCAL 888</i>	07/01/2020	\$26.77	\$6.67	\$3.93	\$0.16	\$37.53
ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2024	\$61.86	\$13.00	\$22.21	\$0.00	\$97.07
	09/01/2024	\$63.78	\$13.00	\$22.26	\$0.00	\$99.04
	03/01/2025	\$64.98	\$13.00	\$22.30	\$0.00	\$100.28
	09/01/2025	\$66.89	\$13.00	\$22.36	\$0.00	\$102.25
	03/01/2026	\$68.09	\$13.00	\$22.39	\$0.00	\$103.48
	09/01/2026	\$70.00	\$13.00	\$22.45	\$0.00	\$105.45
	03/01/2027	\$71.19	\$13.00	\$22.49	\$0.00	\$106.68
	09/01/2027	\$73.11	\$13.00	\$22.54	\$0.00	\$108.65
	03/01/2028	\$74.31	\$13.00	\$22.58	\$0.00	\$109.89

**Classification**

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

**Apprentice - ELECTRICIAN - Local 103**

**Effective Date - 03/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$24.74	\$13.00	\$0.74	\$0.00	\$38.48
2	40	\$24.74	\$13.00	\$0.74	\$0.00	\$38.48
3	45	\$27.84	\$13.00	\$16.67	\$0.00	\$57.51
4	45	\$27.84	\$13.00	\$16.67	\$0.00	\$57.51
5	50	\$30.93	\$13.00	\$17.17	\$0.00	\$61.10
6	55	\$34.02	\$13.00	\$17.67	\$0.00	\$64.69
7	60	\$37.12	\$13.00	\$18.17	\$0.00	\$68.29
8	65	\$40.21	\$13.00	\$18.68	\$0.00	\$71.89
9	70	\$43.30	\$13.00	\$19.18	\$0.00	\$75.48
10	75	\$46.40	\$13.00	\$19.69	\$0.00	\$79.09

**Effective Date - 09/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$25.51	\$13.00	\$0.77	\$0.00	\$39.28
2	40	\$25.51	\$13.00	\$0.77	\$0.00	\$39.28
3	45	\$28.70	\$13.00	\$16.69	\$0.00	\$58.39
4	45	\$28.70	\$13.00	\$16.69	\$0.00	\$58.39
5	50	\$31.89	\$13.00	\$17.20	\$0.00	\$62.09
6	55	\$35.08	\$13.00	\$17.70	\$0.00	\$65.78
7	60	\$38.27	\$13.00	\$18.21	\$0.00	\$69.48
8	65	\$41.46	\$13.00	\$18.71	\$0.00	\$73.17
9	70	\$44.65	\$13.00	\$19.22	\$0.00	\$76.87
10	75	\$47.84	\$13.00	\$19.74	\$0.00	\$80.58

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

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

ELEVATOR CONSTRUCTOR	01/01/2022	\$65.62	\$16.03	\$20.21	\$0.00	\$101.86
ELEVATOR CONSTRUCTORS LOCAL 4						

**Apprentice - ELEVATOR CONSTRUCTOR - Local 4**

**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 <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2022	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17
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For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY &amp; HIGHWAY)</i>	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
	06/01/2024	\$46.06	\$9.65	\$18.07	\$0.00	\$73.78
	12/01/2024	\$47.53	\$9.65	\$18.07	\$0.00	\$75.25
	06/01/2025	\$49.03	\$9.65	\$18.07	\$0.00	\$76.75
	12/01/2025	\$50.53	\$9.65	\$18.07	\$0.00	\$78.25
	06/01/2026	\$52.08	\$9.65	\$18.07	\$0.00	\$79.80
	12/01/2026	\$53.58	\$9.65	\$18.07	\$0.00	\$81.30

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2023	\$50.30	\$14.50	\$16.15	\$0.00	\$80.95
	05/01/2024	\$51.54	\$14.50	\$16.15	\$0.00	\$82.19
	11/01/2024	\$52.83	\$14.50	\$16.15	\$0.00	\$83.48
	05/01/2025	\$54.27	\$14.50	\$16.15	\$0.00	\$84.92
	11/01/2025	\$55.56	\$14.50	\$16.15	\$0.00	\$86.21
	05/01/2026	\$57.00	\$14.50	\$16.15	\$0.00	\$87.65
	11/01/2026	\$58.29	\$14.50	\$16.15	\$0.00	\$88.94
	05/01/2027	\$59.72	\$14.50	\$16.15	\$0.00	\$90.37

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2023	\$51.87	\$14.50	\$16.15	\$0.00	\$82.52
	05/01/2024	\$53.12	\$14.50	\$16.15	\$0.00	\$83.77
	11/01/2024	\$54.42	\$14.50	\$16.15	\$0.00	\$85.07
	05/01/2025	\$55.87	\$14.50	\$16.15	\$0.00	\$86.52
	11/01/2025	\$57.17	\$14.50	\$16.15	\$0.00	\$87.82
	05/01/2026	\$58.62	\$14.50	\$16.15	\$0.00	\$89.27
	11/01/2026	\$59.92	\$14.50	\$16.15	\$0.00	\$90.57
	05/01/2027	\$61.37	\$14.50	\$16.15	\$0.00	\$92.02

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2023	\$24.93	\$14.50	\$16.15	\$0.00	\$55.58
	05/01/2024	\$25.66	\$14.50	\$16.15	\$0.00	\$56.31
	11/01/2024	\$26.42	\$14.50	\$16.15	\$0.00	\$57.07
	05/01/2025	\$27.27	\$14.50	\$16.15	\$0.00	\$57.92
	11/01/2025	\$28.03	\$14.50	\$16.15	\$0.00	\$58.68
	05/01/2026	\$28.88	\$14.50	\$16.15	\$0.00	\$59.53
	11/01/2026	\$29.64	\$14.50	\$16.15	\$0.00	\$60.29
	05/01/2027	\$30.49	\$14.50	\$16.15	\$0.00	\$61.14
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	03/01/2024	\$61.86	\$13.00	\$22.21	\$0.00	\$97.07
	09/01/2024	\$63.78	\$13.00	\$22.26	\$0.00	\$99.04
	03/01/2025	\$64.98	\$13.00	\$22.30	\$0.00	\$100.28
	09/01/2025	\$66.89	\$13.00	\$22.36	\$0.00	\$102.25
	03/01/2026	\$68.09	\$13.00	\$22.39	\$0.00	\$103.48
	09/01/2026	\$70.00	\$13.00	\$22.45	\$0.00	\$105.45
	03/01/2027	\$71.19	\$13.00	\$22.49	\$0.00	\$106.68
	09/01/2027	\$73.11	\$13.00	\$22.54	\$0.00	\$108.65
	03/01/2028	\$74.31	\$13.00	\$22.58	\$0.00	\$109.89
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS LOCAL 103</i>	03/01/2024	\$49.49	\$13.00	\$20.19	\$0.00	\$82.68
	09/01/2024	\$51.02	\$13.00	\$20.24	\$0.00	\$84.26
	03/01/2025	\$51.98	\$13.00	\$20.27	\$0.00	\$85.25
	09/01/2025	\$53.51	\$13.00	\$20.32	\$0.00	\$86.83
	03/01/2026	\$54.47	\$13.00	\$20.34	\$0.00	\$87.81
	09/01/2026	\$56.00	\$13.00	\$20.39	\$0.00	\$89.39
	03/01/2027	\$56.95	\$13.00	\$20.42	\$0.00	\$90.37
	09/01/2027	\$58.49	\$13.00	\$20.46	\$0.00	\$91.95
03/01/2028	\$59.45	\$13.00	\$20.49	\$0.00	\$92.94	
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$44.47	\$15.00	\$16.40	\$0.00	\$75.87
	06/01/2024	\$45.53	\$15.00	\$16.40	\$0.00	\$76.93
	12/01/2024	\$46.71	\$15.00	\$16.40	\$0.00	\$78.11
	06/01/2025	\$47.77	\$15.00	\$16.40	\$0.00	\$79.17
	12/01/2025	\$48.94	\$15.00	\$16.40	\$0.00	\$80.34
	06/01/2026	\$50.00	\$15.00	\$16.40	\$0.00	\$81.40
	12/01/2026	\$51.18	\$15.00	\$16.40	\$0.00	\$82.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY &amp; HIGHWAY)</i>	12/01/2023	\$25.48	\$9.65	\$18.07	\$0.00	\$53.20
	06/01/2024	\$26.51	\$9.65	\$18.07	\$0.00	\$54.23
	12/01/2024	\$26.51	\$9.65	\$18.07	\$0.00	\$54.23
	06/01/2025	\$27.59	\$9.65	\$18.07	\$0.00	\$55.31
	12/01/2025	\$27.59	\$9.65	\$18.07	\$0.00	\$55.31
	06/01/2026	\$28.71	\$9.65	\$18.07	\$0.00	\$56.43
	12/01/2026	\$28.71	\$9.65	\$18.07	\$0.00	\$56.43
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						



Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FLOORCOVERER	03/01/2024	\$54.73	\$8.83	\$20.27	\$0.00	\$83.83
<i>FLOORCOVERERS LOCAL 2168 ZONE I</i>	09/01/2024	\$56.23	\$8.83	\$20.27	\$0.00	\$85.33
	03/01/2025	\$57.73	\$8.83	\$20.27	\$0.00	\$86.83
	09/01/2025	\$59.23	\$8.83	\$20.27	\$0.00	\$88.33
	03/01/2026	\$60.73	\$8.83	\$20.27	\$0.00	\$89.83
	09/01/2026	\$62.23	\$8.83	\$20.27	\$0.00	\$91.33
	03/01/2027	\$63.73	\$8.83	\$20.27	\$0.00	\$92.83

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

**Effective Date - 03/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$24.63	\$8.83	\$1.76	\$0.00	\$35.22
2	45	\$24.63	\$8.83	\$1.76	\$0.00	\$35.22
3	55	\$30.10	\$8.83	\$3.52	\$0.00	\$42.45
4	55	\$30.10	\$8.83	\$3.52	\$0.00	\$42.45
5	70	\$38.31	\$8.83	\$16.75	\$0.00	\$63.89
6	70	\$38.31	\$8.83	\$16.75	\$0.00	\$63.89
7	80	\$43.78	\$8.83	\$18.51	\$0.00	\$71.12
8	80	\$43.78	\$8.83	\$18.51	\$0.00	\$71.12

**Effective Date - 09/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$25.30	\$8.83	\$1.76	\$0.00	\$35.89
2	45	\$25.30	\$8.83	\$1.76	\$0.00	\$35.89
3	55	\$30.93	\$8.83	\$3.52	\$0.00	\$43.28
4	55	\$30.93	\$8.83	\$3.52	\$0.00	\$43.28
5	70	\$39.36	\$8.83	\$16.75	\$0.00	\$64.94
6	70	\$39.36	\$8.83	\$16.75	\$0.00	\$64.94
7	80	\$44.98	\$8.83	\$18.51	\$0.00	\$72.32
8	80	\$44.98	\$8.83	\$18.51	\$0.00	\$72.32

**Notes:** Steps are 750 hrs.

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

FORK LIFT/CHERRY PICKER	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$35.62	\$15.00	\$16.40	\$0.00	\$67.02
	06/01/2024	\$36.47	\$15.00	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.42	\$15.00	\$16.40	\$0.00	\$68.82
	06/01/2025	\$38.27	\$15.00	\$16.40	\$0.00	\$69.67
	12/01/2025	\$39.22	\$15.00	\$16.40	\$0.00	\$70.62
	06/01/2026	\$40.08	\$15.00	\$16.40	\$0.00	\$71.48
	12/01/2026	\$41.03	\$15.00	\$16.40	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 2)</i>	01/01/2024	\$45.56	\$9.95	\$23.95	\$0.00	\$79.46
	07/01/2024	\$46.76	\$9.95	\$23.95	\$0.00	\$80.66
	01/01/2025	\$47.96	\$9.95	\$23.95	\$0.00	\$81.86

**Apprentice - GLAZIER - Local 35 Zone 2**

**Effective Date - 01/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.78	\$9.95	\$0.00	\$0.00	\$32.73
2	55	\$25.06	\$9.95	\$6.66	\$0.00	\$41.67
3	60	\$27.34	\$9.95	\$7.26	\$0.00	\$44.55
4	65	\$29.61	\$9.95	\$7.87	\$0.00	\$47.43
5	70	\$31.89	\$9.95	\$20.32	\$0.00	\$62.16
6	75	\$34.17	\$9.95	\$20.93	\$0.00	\$65.05
7	80	\$36.45	\$9.95	\$21.53	\$0.00	\$67.93
8	90	\$41.00	\$9.95	\$22.74	\$0.00	\$73.69

**Effective Date - 07/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.38	\$9.95	\$0.00	\$0.00	\$33.33
2	55	\$25.72	\$9.95	\$6.66	\$0.00	\$42.33
3	60	\$28.06	\$9.95	\$7.26	\$0.00	\$45.27
4	65	\$30.39	\$9.95	\$7.87	\$0.00	\$48.21
5	70	\$32.73	\$9.95	\$20.32	\$0.00	\$63.00
6	75	\$35.07	\$9.95	\$20.93	\$0.00	\$65.95
7	80	\$37.41	\$9.95	\$21.53	\$0.00	\$68.89
8	90	\$42.08	\$9.95	\$22.74	\$0.00	\$74.77

**Notes:**  
Steps are 750 hrs.

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

HOISTING ENGINEER/CRANES/GRADALLS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68

**Classification**

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

**Apprentice - OPERATING ENGINEERS - Local 4**

**Effective Date - 12/01/2023**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$30.27	\$15.00	\$0.00	\$0.00	\$45.27
2	60	\$33.02	\$15.00	\$16.40	\$0.00	\$64.42
3	65	\$35.77	\$15.00	\$16.40	\$0.00	\$67.17
4	70	\$38.52	\$15.00	\$16.40	\$0.00	\$69.92
5	75	\$41.27	\$15.00	\$16.40	\$0.00	\$72.67
6	80	\$44.02	\$15.00	\$16.40	\$0.00	\$75.42
7	85	\$46.78	\$15.00	\$16.40	\$0.00	\$78.18
8	90	\$49.53	\$15.00	\$16.40	\$0.00	\$80.93

**Effective Date - 06/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$30.98	\$15.00	\$0.00	\$0.00	\$45.98
2	60	\$33.80	\$15.00	\$16.40	\$0.00	\$65.20
3	65	\$36.61	\$15.00	\$16.40	\$0.00	\$68.01
4	70	\$39.43	\$15.00	\$16.40	\$0.00	\$70.83
5	75	\$42.25	\$15.00	\$16.40	\$0.00	\$73.65
6	80	\$45.06	\$15.00	\$16.40	\$0.00	\$76.46
7	85	\$47.88	\$15.00	\$16.40	\$0.00	\$79.28
8	90	\$50.70	\$15.00	\$16.40	\$0.00	\$82.10

**Notes:**

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

HVAC (DUCTWORK)	02/01/2024	\$57.22	\$14.59	\$27.50	\$2.98	\$102.29
SHEETMETAL WORKERS LOCAL 17 - A	08/01/2024	\$58.97	\$14.59	\$27.50	\$2.98	\$104.04
	02/01/2025	\$60.72	\$14.59	\$27.50	\$2.98	\$105.79
	08/01/2025	\$62.57	\$14.59	\$27.50	\$2.98	\$107.64
	02/01/2026	\$64.52	\$14.59	\$27.50	\$2.98	\$109.59

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS)	03/01/2024	\$61.86	\$13.00	\$22.21	\$0.00	\$97.07
ELECTRICIANS LOCAL 103	09/01/2024	\$63.78	\$13.00	\$22.26	\$0.00	\$99.04
	03/01/2025	\$64.98	\$13.00	\$22.30	\$0.00	\$100.28
	09/01/2025	\$66.89	\$13.00	\$22.36	\$0.00	\$102.25
	03/01/2026	\$68.09	\$13.00	\$22.39	\$0.00	\$103.48
	09/01/2026	\$70.00	\$13.00	\$22.45	\$0.00	\$105.45
	03/01/2027	\$71.19	\$13.00	\$22.49	\$0.00	\$106.68
	09/01/2027	\$73.11	\$13.00	\$22.54	\$0.00	\$108.65
	03/01/2028	\$74.31	\$13.00	\$22.58	\$0.00	\$109.89

For apprentice rates see "Apprentice- ELECTRICIAN"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING - AIR) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2024	\$57.22	\$14.59	\$27.50	\$2.98	\$102.29
	08/01/2024	\$58.97	\$14.59	\$27.50	\$2.98	\$104.04
	02/01/2025	\$60.72	\$14.59	\$27.50	\$2.98	\$105.79
	08/01/2025	\$62.57	\$14.59	\$27.50	\$2.98	\$107.64
	02/01/2026	\$64.52	\$14.59	\$27.50	\$2.98	\$109.59
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) <i>PIPEFITTERS LOCAL 537</i>	03/01/2024	\$65.28	\$12.70	\$21.80	\$0.00	\$99.78
	09/01/2024	\$67.08	\$12.70	\$21.80	\$0.00	\$101.58
	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537</i>	03/01/2024	\$65.28	\$12.70	\$21.80	\$0.00	\$99.78
	09/01/2024	\$67.08	\$12.70	\$21.80	\$0.00	\$101.58
	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 1</i>	12/01/2023	\$45.08	\$9.65	\$18.07	\$0.00	\$72.80
For apprentice rates see "Apprentice- LABORER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY &amp; HIGHWAY)</i>	12/01/2023	\$45.08	\$9.65	\$18.07	\$0.00	\$72.80
	06/01/2024	\$46.56	\$9.65	\$18.07	\$0.00	\$74.28
	12/01/2024	\$48.03	\$9.65	\$18.07	\$0.00	\$75.75
	06/01/2025	\$49.53	\$9.65	\$18.07	\$0.00	\$77.25
	12/01/2025	\$51.03	\$9.65	\$18.07	\$0.00	\$78.75
	06/01/2026	\$52.58	\$9.65	\$18.07	\$0.00	\$80.30
	12/01/2026	\$54.08	\$9.65	\$18.07	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
INSULATOR (PIPES & TANKS) <i>HEAT &amp; FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2023	\$53.50	\$14.75	\$19.61	\$0.00	\$87.86
	09/01/2024	\$56.92	\$14.75	\$19.61	\$0.00	\$91.28
	09/01/2025	\$60.34	\$14.75	\$19.61	\$0.00	\$94.70
	09/01/2026	\$63.76	\$14.75	\$19.61	\$0.00	\$98.12

**Classification**

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

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

**Effective Date - 09/01/2023**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.75	\$14.75	\$14.32	\$0.00	\$55.82
2	60	\$32.10	\$14.75	\$15.37	\$0.00	\$62.22
3	70	\$37.45	\$14.75	\$16.43	\$0.00	\$68.63
4	80	\$42.80	\$14.75	\$17.49	\$0.00	\$75.04

**Effective Date - 09/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.46	\$14.75	\$14.32	\$0.00	\$57.53
2	60	\$34.15	\$14.75	\$15.37	\$0.00	\$64.27
3	70	\$39.84	\$14.75	\$16.43	\$0.00	\$71.02
4	80	\$45.54	\$14.75	\$17.49	\$0.00	\$77.78

**Notes:**

Steps are 1 year

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

IRONWORKER/WELDER IRONWORKERS LOCAL 7 (BOSTON AREA)	03/16/2024	\$53.97	\$8.35	\$26.70	\$0.00	\$89.02
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**Apprentice - IRONWORKER - Local 7 Boston**

**Effective Date - 03/16/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$32.38	\$8.35	\$26.70	\$0.00	\$67.43
2	70	\$37.78	\$8.35	\$26.70	\$0.00	\$72.83
3	75	\$40.48	\$8.35	\$26.70	\$0.00	\$75.53
4	80	\$43.18	\$8.35	\$26.70	\$0.00	\$78.23
5	85	\$45.87	\$8.35	\$26.70	\$0.00	\$80.92
6	90	\$48.57	\$8.35	\$26.70	\$0.00	\$83.62

**Notes:**

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

JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 1	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
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For apprentice rates see "Apprentice- LABORER"

LABORER LABORERS - ZONE 1	12/01/2023	\$44.33	\$9.65	\$18.07	\$0.00	\$72.05
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**Classification**

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

**Apprentice - LABORER - Zone 1**

**Effective Date - 12/01/2023**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.60	\$9.65	\$18.07	\$0.00	\$54.32
2	70	\$31.03	\$9.65	\$18.07	\$0.00	\$58.75
3	80	\$35.46	\$9.65	\$18.07	\$0.00	\$63.18
4	90	\$39.90	\$9.65	\$18.07	\$0.00	\$67.62

**Notes:**

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

LABORER (HEAVY & HIGHWAY)	12/01/2023	\$44.33	\$9.65	\$18.07	\$0.00	\$72.05
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	06/01/2024	\$45.81	\$9.65	\$18.07	\$0.00	\$73.53
	12/01/2024	\$47.28	\$9.65	\$18.07	\$0.00	\$75.00
	06/01/2025	\$48.78	\$9.65	\$18.07	\$0.00	\$76.50
	12/01/2025	\$50.28	\$9.65	\$18.07	\$0.00	\$78.00
	06/01/2026	\$51.83	\$9.65	\$18.07	\$0.00	\$79.55
	12/01/2026	\$53.33	\$9.65	\$18.07	\$0.00	\$81.05

**Apprentice - LABORER (Heavy & Highway) - Zone 1**

**Effective Date - 12/01/2023**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.60	\$9.65	\$18.07	\$0.00	\$54.32
2	70	\$31.03	\$9.65	\$18.07	\$0.00	\$58.75
3	80	\$35.46	\$9.65	\$18.07	\$0.00	\$63.18
4	90	\$39.90	\$9.65	\$18.07	\$0.00	\$67.62

**Effective Date - 06/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$27.49	\$9.65	\$18.07	\$0.00	\$55.21
2	70	\$32.07	\$9.65	\$18.07	\$0.00	\$59.79
3	80	\$36.65	\$9.65	\$18.07	\$0.00	\$64.37
4	90	\$41.23	\$9.65	\$18.07	\$0.00	\$68.95

**Notes:**

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

LABORER: CARPENTER TENDER	12/01/2023	\$44.33	\$9.65	\$18.07	\$0.00	\$72.05
LABORERS - ZONE 1						

For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER	12/01/2023	\$44.33	\$9.65	\$18.07	\$0.00	\$72.05
LABORERS - ZONE 1						

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER <i>LABORERS - ZONE 1</i>	12/01/2023	\$44.48	\$9.65	\$18.07	\$0.00	\$72.20
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER <i>LABORERS - ZONE 1</i>	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
	06/01/2024	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY &amp; HIGHWAY)</i>	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
	06/01/2024	\$46.06	\$9.65	\$18.07	\$0.00	\$73.78
	12/01/2024	\$47.53	\$9.65	\$18.07	\$0.00	\$75.25
	06/01/2025	\$49.03	\$9.65	\$18.07	\$0.00	\$76.75
	12/01/2025	\$50.53	\$9.65	\$18.07	\$0.00	\$78.25
	06/01/2026	\$52.08	\$9.65	\$18.07	\$0.00	\$79.80
	12/01/2026	\$53.58	\$9.65	\$18.07	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 1</i>	12/01/2023	\$44.33	\$9.65	\$18.07	\$0.00	\$72.05
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER <i>LABORERS - ZONE 1</i>	12/01/2023	\$44.33	\$9.65	\$18.07	\$0.00	\$72.05
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"						
LASER BEAM OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY &amp; HIGHWAY)</i>	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
	06/01/2024	\$46.06	\$9.65	\$18.07	\$0.00	\$73.78
	12/01/2024	\$47.53	\$9.65	\$18.07	\$0.00	\$75.25
	06/01/2025	\$49.03	\$9.65	\$18.07	\$0.00	\$76.75
	12/01/2025	\$50.53	\$9.65	\$18.07	\$0.00	\$78.25
	06/01/2026	\$52.08	\$9.65	\$18.07	\$0.00	\$79.80
	12/01/2026	\$53.58	\$9.65	\$18.07	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE &amp; TILE</i>	02/01/2024	\$47.89	\$11.49	\$21.37	\$0.00	\$80.75
	08/01/2024	\$49.57	\$11.49	\$21.37	\$0.00	\$82.43
	02/01/2025	\$50.61	\$11.49	\$21.37	\$0.00	\$83.47
	08/01/2025	\$52.33	\$11.49	\$21.37	\$0.00	\$85.19
	02/01/2026	\$53.41	\$11.49	\$21.37	\$0.00	\$86.27
	08/01/2026	\$55.17	\$11.49	\$21.37	\$0.00	\$88.03
	02/01/2027	\$56.29	\$11.49	\$21.37	\$0.00	\$89.15

**Classification**

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

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

**Effective Date - 02/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.95	\$11.49	\$21.37	\$0.00	\$56.81
2	60	\$28.73	\$11.49	\$21.37	\$0.00	\$61.59
3	70	\$33.52	\$11.49	\$21.37	\$0.00	\$66.38
4	80	\$38.31	\$11.49	\$21.37	\$0.00	\$71.17
5	90	\$43.10	\$11.49	\$21.37	\$0.00	\$75.96

**Effective Date - 08/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.79	\$11.49	\$21.37	\$0.00	\$57.65
2	60	\$29.74	\$11.49	\$21.37	\$0.00	\$62.60
3	70	\$34.70	\$11.49	\$21.37	\$0.00	\$67.56
4	80	\$39.66	\$11.49	\$21.37	\$0.00	\$72.52
5	90	\$44.61	\$11.49	\$21.37	\$0.00	\$77.47

**Notes:**

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

MARBLE MASONS, TILELAYERS & TERRAZZO MECH	02/01/2024	\$62.42	\$11.49	\$23.56	\$0.00	\$97.47
BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2024	\$64.52	\$11.49	\$23.56	\$0.00	\$99.57
	02/01/2025	\$65.82	\$11.49	\$23.56	\$0.00	\$100.87
	08/01/2025	\$67.97	\$11.49	\$23.56	\$0.00	\$103.02
	02/01/2026	\$69.32	\$11.49	\$23.56	\$0.00	\$104.37
	08/01/2026	\$71.52	\$11.49	\$23.56	\$0.00	\$106.57
	02/01/2027	\$72.92	\$11.49	\$23.56	\$0.00	\$107.97



**Classification**

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

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

**Effective Date - 02/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.21	\$11.49	\$23.56	\$0.00	\$66.26
2	60	\$37.45	\$11.49	\$23.56	\$0.00	\$72.50
3	70	\$43.69	\$11.49	\$23.56	\$0.00	\$78.74
4	80	\$49.94	\$11.49	\$23.56	\$0.00	\$84.99
5	90	\$56.18	\$11.49	\$23.56	\$0.00	\$91.23

**Effective Date - 08/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.26	\$11.49	\$23.56	\$0.00	\$67.31
2	60	\$38.71	\$11.49	\$23.56	\$0.00	\$73.76
3	70	\$45.16	\$11.49	\$23.56	\$0.00	\$80.21
4	80	\$51.62	\$11.49	\$23.56	\$0.00	\$86.67
5	90	\$58.07	\$11.49	\$23.56	\$0.00	\$93.12

**Notes:**

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

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 1) <i>MILLWRIGHTS LOCAL 1121 - Zone 1</i>	01/01/2024	\$48.03	\$10.08	\$21.72	\$0.00	\$79.83
	01/06/2025	\$50.53	\$10.08	\$21.72	\$0.00	\$82.33
	01/05/2026	\$53.03	\$10.08	\$21.72	\$0.00	\$84.83

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

**Effective Date - 01/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$26.42	\$10.08	\$5.64	\$0.00	\$42.14
2	65	\$31.22	\$10.08	\$6.66	\$0.00	\$47.96
3	75	\$36.02	\$10.08	\$19.16	\$0.00	\$65.26
4	85	\$40.83	\$10.08	\$20.18	\$0.00	\$71.09

**Effective Date - 01/06/2025**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$27.79	\$10.08	\$5.64	\$0.00	\$43.51
2	65	\$32.84	\$10.08	\$6.66	\$0.00	\$49.58
3	75	\$37.90	\$10.08	\$19.16	\$0.00	\$67.14
4	85	\$42.95	\$10.08	\$20.18	\$0.00	\$73.21

**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:1:4**

<b>MORTAR MIXER</b> <i>LABORERS - ZONE 1</i>	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
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For apprentice rates see "Apprentice- LABORER"

<b>OILER (OTHER THAN TRUCK CRANES,GRADALLS)</b> <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$24.41	\$15.00	\$16.40	\$0.00	\$55.81
	06/01/2024	\$25.01	\$15.00	\$16.40	\$0.00	\$56.41
	12/01/2024	\$25.67	\$15.00	\$16.40	\$0.00	\$57.07
	06/01/2025	\$26.27	\$15.00	\$16.40	\$0.00	\$57.67
	12/01/2025	\$26.93	\$15.00	\$16.40	\$0.00	\$58.33
	06/01/2026	\$27.52	\$15.00	\$16.40	\$0.00	\$58.92
	12/01/2026	\$28.19	\$15.00	\$16.40	\$0.00	\$59.59

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

<b>OILER (TRUCK CRANES, GRADALLS)</b> <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$29.86	\$15.00	\$16.40	\$0.00	\$61.26
	06/01/2024	\$30.58	\$15.00	\$16.40	\$0.00	\$61.98
	12/01/2024	\$31.38	\$15.00	\$16.40	\$0.00	\$62.78
	06/01/2025	\$32.10	\$15.00	\$16.40	\$0.00	\$63.50
	12/01/2025	\$32.90	\$15.00	\$16.40	\$0.00	\$64.30
	06/01/2026	\$33.62	\$15.00	\$16.40	\$0.00	\$65.02
	12/01/2026	\$34.42	\$15.00	\$16.40	\$0.00	\$65.82

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

<b>OTHER POWER DRIVEN EQUIPMENT - CLASS II</b> <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2024	\$56.06	\$9.95	\$23.95	\$0.00	\$89.96
	07/01/2024	\$57.26	\$9.95	\$23.95	\$0.00	\$91.16
	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36

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

**Effective Date - 01/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.03	\$9.95	\$0.00	\$0.00	\$37.98
2	55	\$30.83	\$9.95	\$6.66	\$0.00	\$47.44
3	60	\$33.64	\$9.95	\$7.26	\$0.00	\$50.85
4	65	\$36.44	\$9.95	\$7.87	\$0.00	\$54.26
5	70	\$39.24	\$9.95	\$20.32	\$0.00	\$69.51
6	75	\$42.05	\$9.95	\$20.93	\$0.00	\$72.93
7	80	\$44.85	\$9.95	\$21.53	\$0.00	\$76.33
8	90	\$50.45	\$9.95	\$22.74	\$0.00	\$83.14

**Effective Date - 07/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.63	\$9.95	\$0.00	\$0.00	\$38.58
2	55	\$31.49	\$9.95	\$6.66	\$0.00	\$48.10
3	60	\$34.36	\$9.95	\$7.26	\$0.00	\$51.57
4	65	\$37.22	\$9.95	\$7.87	\$0.00	\$55.04
5	70	\$40.08	\$9.95	\$20.32	\$0.00	\$70.35
6	75	\$42.95	\$9.95	\$20.93	\$0.00	\$73.83
7	80	\$45.81	\$9.95	\$21.53	\$0.00	\$77.29
8	90	\$51.53	\$9.95	\$22.74	\$0.00	\$84.22

**Notes:**

Steps are 750 hrs.

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

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2024	\$46.96	\$9.95	\$23.95	\$0.00	\$80.86
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. <i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2024	\$48.16	\$9.95	\$23.95	\$0.00	\$82.06
	01/01/2025	\$49.36	\$9.95	\$23.95	\$0.00	\$83.26

**Classification**

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

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

**Effective Date - 01/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.48	\$9.95	\$0.00	\$0.00	\$33.43
2	55	\$25.83	\$9.95	\$6.66	\$0.00	\$42.44
3	60	\$28.18	\$9.95	\$7.26	\$0.00	\$45.39
4	65	\$30.52	\$9.95	\$7.87	\$0.00	\$48.34
5	70	\$32.87	\$9.95	\$20.32	\$0.00	\$63.14
6	75	\$35.22	\$9.95	\$20.93	\$0.00	\$66.10
7	80	\$37.57	\$9.95	\$21.53	\$0.00	\$69.05
8	90	\$42.26	\$9.95	\$22.74	\$0.00	\$74.95

**Effective Date - 07/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.08	\$9.95	\$0.00	\$0.00	\$34.03
2	55	\$26.49	\$9.95	\$6.66	\$0.00	\$43.10
3	60	\$28.90	\$9.95	\$7.26	\$0.00	\$46.11
4	65	\$31.30	\$9.95	\$7.87	\$0.00	\$49.12
5	70	\$33.71	\$9.95	\$20.32	\$0.00	\$63.98
6	75	\$36.12	\$9.95	\$20.93	\$0.00	\$67.00
7	80	\$38.53	\$9.95	\$21.53	\$0.00	\$70.01
8	90	\$43.34	\$9.95	\$22.74	\$0.00	\$76.03

**Notes:**

Steps are 750 hrs.

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

PAINTER (SPRAY OR SANDBLAST, REPAINT)	01/01/2024	\$45.02	\$9.95	\$23.95	\$0.00	\$78.92
PAINTERS LOCAL 35 - ZONE 2	07/01/2024	\$46.22	\$9.95	\$23.95	\$0.00	\$80.12
	01/01/2025	\$47.42	\$9.95	\$23.95	\$0.00	\$81.32

**Classification**

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

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

**Effective Date - 01/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.51	\$9.95	\$0.00	\$0.00	\$32.46
2	55	\$24.76	\$9.95	\$6.66	\$0.00	\$41.37
3	60	\$27.01	\$9.95	\$7.26	\$0.00	\$44.22
4	65	\$29.26	\$9.95	\$7.87	\$0.00	\$47.08
5	70	\$31.51	\$9.95	\$20.32	\$0.00	\$61.78
6	75	\$33.77	\$9.95	\$20.93	\$0.00	\$64.65
7	80	\$36.02	\$9.95	\$21.53	\$0.00	\$67.50
8	90	\$40.52	\$9.95	\$22.74	\$0.00	\$73.21

**Effective Date - 07/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.11	\$9.95	\$0.00	\$0.00	\$33.06
2	55	\$25.42	\$9.95	\$6.66	\$0.00	\$42.03
3	60	\$27.73	\$9.95	\$7.26	\$0.00	\$44.94
4	65	\$30.04	\$9.95	\$7.87	\$0.00	\$47.86
5	70	\$32.35	\$9.95	\$20.32	\$0.00	\$62.62
6	75	\$34.67	\$9.95	\$20.93	\$0.00	\$65.55
7	80	\$36.98	\$9.95	\$21.53	\$0.00	\$68.46
8	90	\$41.60	\$9.95	\$22.74	\$0.00	\$74.29

**Notes:**

Steps are 750 hrs.

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

PAINTER / TAPER (BRUSH, NEW) *	01/01/2024	\$45.56	\$9.95	\$23.95	\$0.00	\$79.46
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2	07/01/2024	\$46.76	\$9.95	\$23.95	\$0.00	\$80.66
	01/01/2025	\$47.96	\$9.95	\$23.95	\$0.00	\$81.86

**Classification**

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

**Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW**

**Effective Date - 01/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.78	\$9.95	\$0.00	\$0.00	\$32.73
2	55	\$25.06	\$9.95	\$6.66	\$0.00	\$41.67
3	60	\$27.34	\$9.95	\$7.26	\$0.00	\$44.55
4	65	\$29.61	\$9.95	\$7.87	\$0.00	\$47.43
5	70	\$31.89	\$9.95	\$20.32	\$0.00	\$62.16
6	75	\$34.17	\$9.95	\$20.93	\$0.00	\$65.05
7	80	\$36.45	\$9.95	\$21.53	\$0.00	\$67.93
8	90	\$41.00	\$9.95	\$22.74	\$0.00	\$73.69

**Effective Date - 07/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.38	\$9.95	\$0.00	\$0.00	\$33.33
2	55	\$25.72	\$9.95	\$6.66	\$0.00	\$42.33
3	60	\$28.06	\$9.95	\$7.26	\$0.00	\$45.27
4	65	\$30.39	\$9.95	\$7.87	\$0.00	\$48.21
5	70	\$32.73	\$9.95	\$20.32	\$0.00	\$63.00
6	75	\$35.07	\$9.95	\$20.93	\$0.00	\$65.95
7	80	\$37.41	\$9.95	\$21.53	\$0.00	\$68.89
8	90	\$42.08	\$9.95	\$22.74	\$0.00	\$74.77

**Notes:**

Steps are 750 hrs.

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

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2024	\$43.62	\$9.95	\$23.95	\$0.00	\$77.52
PAINTERS LOCAL 35 - ZONE 2	07/01/2024	\$44.82	\$9.95	\$23.95	\$0.00	\$78.72
	01/01/2025	\$46.02	\$9.95	\$23.95	\$0.00	\$79.92

**Classification**

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

**Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT**

**Effective Date - 01/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.81	\$9.95	\$0.00	\$0.00	\$31.76
2	55	\$23.99	\$9.95	\$6.66	\$0.00	\$40.60
3	60	\$26.17	\$9.95	\$7.26	\$0.00	\$43.38
4	65	\$28.35	\$9.95	\$7.87	\$0.00	\$46.17
5	70	\$30.53	\$9.95	\$20.32	\$0.00	\$60.80
6	75	\$32.72	\$9.95	\$20.93	\$0.00	\$63.60
7	80	\$34.90	\$9.95	\$21.53	\$0.00	\$66.38
8	90	\$39.26	\$9.95	\$22.74	\$0.00	\$71.95

**Effective Date - 07/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.41	\$9.95	\$0.00	\$0.00	\$32.36
2	55	\$24.65	\$9.95	\$6.66	\$0.00	\$41.26
3	60	\$26.89	\$9.95	\$7.26	\$0.00	\$44.10
4	65	\$29.13	\$9.95	\$7.87	\$0.00	\$46.95
5	70	\$31.37	\$9.95	\$20.32	\$0.00	\$61.64
6	75	\$33.62	\$9.95	\$20.93	\$0.00	\$64.50
7	80	\$35.86	\$9.95	\$21.53	\$0.00	\$67.34
8	90	\$40.34	\$9.95	\$22.74	\$0.00	\$73.03

**Notes:**  
Steps are 750 hrs.

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

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY)	12/01/2023	\$44.33	\$9.65	\$18.07	\$0.00	\$72.05
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	06/01/2024	\$45.81	\$9.65	\$18.07	\$0.00	\$73.53
	12/01/2024	\$47.28	\$9.65	\$18.07	\$0.00	\$75.00
	06/01/2025	\$48.78	\$9.65	\$18.07	\$0.00	\$76.50
	12/01/2025	\$50.28	\$9.65	\$18.07	\$0.00	\$78.00
	06/01/2026	\$51.83	\$9.65	\$18.07	\$0.00	\$79.55
	12/01/2026	\$53.33	\$9.65	\$18.07	\$0.00	\$81.05

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)

PANEL & PICKUP TRUCKS DRIVER	12/01/2023	\$39.88	\$14.41	\$18.67	\$0.00	\$72.96
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	06/01/2024	\$40.88	\$14.41	\$18.67	\$0.00	\$73.96
	08/01/2024	\$40.88	\$14.91	\$18.67	\$0.00	\$74.46
	12/01/2024	\$40.88	\$14.91	\$20.17	\$0.00	\$75.96
	06/01/2025	\$41.88	\$14.91	\$20.17	\$0.00	\$76.96
	08/01/2025	\$41.88	\$15.41	\$20.17	\$0.00	\$77.46
	12/01/2025	\$41.88	\$15.41	\$21.78	\$0.00	\$79.07
	06/01/2026	\$42.88	\$15.41	\$21.78	\$0.00	\$80.07
	08/01/2026	\$42.88	\$15.91	\$21.78	\$0.00	\$80.57
	12/01/2026	\$42.88	\$15.91	\$23.52	\$0.00	\$82.31

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59

**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 <i>PIPEFITTERS LOCAL 537</i>	03/01/2024	\$65.28	\$12.70	\$21.80	\$0.00	\$99.78
	09/01/2024	\$67.08	\$12.70	\$21.80	\$0.00	\$101.58
	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38



**Classification**

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

**Apprentice - PIPEFITTER - Local 537**

**Effective Date - 03/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$26.11	\$12.70	\$9.05	\$0.00	\$47.86
2	45	\$29.38	\$12.70	\$21.80	\$0.00	\$63.88
3	60	\$39.17	\$12.70	\$21.80	\$0.00	\$73.67
4	70	\$45.70	\$12.70	\$21.80	\$0.00	\$80.20
5	80	\$52.22	\$12.70	\$21.80	\$0.00	\$86.72

**Effective Date - 09/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$26.83	\$12.70	\$9.05	\$0.00	\$48.58
2	45	\$30.19	\$12.70	\$21.80	\$0.00	\$64.69
3	60	\$40.25	\$12.70	\$21.80	\$0.00	\$74.75
4	70	\$46.96	\$12.70	\$21.80	\$0.00	\$81.46
5	80	\$53.66	\$12.70	\$21.80	\$0.00	\$88.16

**Notes:**  
 \*\* 1:3; 3:15; 1:10 thereafter / Steps are 1 yr.  
 Refrig/AC Mechanic \*\*1:1;1:2;2:4;3:6;4:8;5:10;6:12;7:14;8:17;9:20;10:23(Max)

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

PIPELAYER LABORERS - ZONE 1	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
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For apprentice rates see "Apprentice- LABORER"

PIPELAYER (HEAVY & HIGHWAY) LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
	06/01/2024	\$46.06	\$9.65	\$18.07	\$0.00	\$73.78
	12/01/2024	\$47.53	\$9.65	\$18.07	\$0.00	\$75.25
	06/01/2025	\$49.03	\$9.65	\$18.07	\$0.00	\$76.75
	12/01/2025	\$50.53	\$9.65	\$18.07	\$0.00	\$78.25
	06/01/2026	\$52.08	\$9.65	\$18.07	\$0.00	\$79.80
	12/01/2026	\$53.58	\$9.65	\$18.07	\$0.00	\$81.30

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

PLUMBERS & GASFITTERS PLUMBERS & GASFITTERS LOCAL 12	03/03/2024	\$67.74	\$14.32	\$19.11	\$0.00	\$101.17
	09/01/2024	\$69.54	\$14.32	\$19.11	\$0.00	\$102.97
	03/02/2025	\$71.34	\$14.32	\$19.11	\$0.00	\$104.77

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

**Effective Date - 03/03/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$23.71	\$14.32	\$6.88	\$0.00	\$44.91
2	40	\$27.10	\$14.32	\$7.82	\$0.00	\$49.24
3	55	\$37.26	\$14.32	\$10.65	\$0.00	\$62.23
4	65	\$44.03	\$14.32	\$12.53	\$0.00	\$70.88
5	75	\$50.81	\$14.32	\$14.41	\$0.00	\$79.54

**Effective Date - 09/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$24.34	\$14.32	\$6.88	\$0.00	\$45.54
2	40	\$27.82	\$14.32	\$7.82	\$0.00	\$49.96
3	55	\$38.25	\$14.32	\$10.65	\$0.00	\$63.22
4	65	\$45.20	\$14.32	\$12.53	\$0.00	\$72.05
5	75	\$52.16	\$14.32	\$14.41	\$0.00	\$80.89

**Notes:**

\*\* 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr  
Step4 with lic\$69.00, Step5 with lic\$76.87

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

PNEUMATIC CONTROLS (TEMP.) <i>PIPEFITTERS LOCAL 537</i>	03/01/2024	\$65.28	\$12.70	\$21.80	\$0.00	\$99.78
	09/01/2024	\$67.08	\$12.70	\$21.80	\$0.00	\$101.58
	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38

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

PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
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For apprentice rates see "Apprentice- LABORER"

PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY &amp; HIGHWAY)</i>	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
	06/01/2024	\$46.06	\$9.65	\$18.07	\$0.00	\$73.78
	12/01/2024	\$47.53	\$9.65	\$18.07	\$0.00	\$75.25
	06/01/2025	\$49.03	\$9.65	\$18.07	\$0.00	\$76.75
	12/01/2025	\$50.53	\$9.65	\$18.07	\$0.00	\$78.25
	06/01/2026	\$52.08	\$9.65	\$18.07	\$0.00	\$79.80
	12/01/2026	\$53.58	\$9.65	\$18.07	\$0.00	\$81.30

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

POWDERMAN & BLASTER <i>LABORERS - ZONE 1</i>	12/01/2023	\$45.33	\$9.65	\$18.07	\$0.00	\$73.05
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For apprentice rates see "Apprentice- LABORER"

POWDERMAN & BLASTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY &amp; HIGHWAY)</i>	12/01/2023	\$45.33	\$9.65	\$18.07	\$0.00	\$73.05
	06/01/2024	\$46.81	\$9.65	\$18.07	\$0.00	\$74.53
	12/01/2024	\$48.28	\$9.65	\$18.07	\$0.00	\$76.00
	06/01/2025	\$49.78	\$9.65	\$18.07	\$0.00	\$77.50
	12/01/2025	\$51.28	\$9.65	\$18.07	\$0.00	\$79.00
	06/01/2026	\$52.83	\$9.65	\$18.07	\$0.00	\$80.55
	12/01/2026	\$54.33	\$9.65	\$18.07	\$0.00	\$82.05

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$35.62	\$15.00	\$16.40	\$0.00	\$67.02
	06/01/2024	\$36.47	\$15.00	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.42	\$15.00	\$16.40	\$0.00	\$68.82
	06/01/2025	\$38.27	\$15.00	\$16.40	\$0.00	\$69.67
	12/01/2025	\$39.22	\$15.00	\$16.40	\$0.00	\$70.62
	06/01/2026	\$40.08	\$15.00	\$16.40	\$0.00	\$71.48
	12/01/2026	\$41.03	\$15.00	\$16.40	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS 653 - Southeastern Concrete (Weymouth)</i>	08/01/2023	\$25.00	\$13.91	\$6.90	\$0.00	\$45.81
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"						
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ROOFER (Inc.Roofer Waterproofing &Roofer Damproofg) ROOFERS LOCAL 33	02/01/2024	\$50.03	\$12.78	\$21.45	\$0.00	\$84.26
	08/01/2024	\$51.53	\$12.78	\$21.45	\$0.00	\$85.76
	02/01/2025	\$52.78	\$12.78	\$21.45	\$0.00	\$87.01
	08/01/2025	\$54.28	\$12.78	\$21.45	\$0.00	\$88.51
	02/01/2026	\$55.53	\$12.78	\$21.45	\$0.00	\$89.76

**Apprentice - ROOFER - Local 33**

**Effective Date - 02/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.02	\$12.78	\$6.21	\$0.00	\$44.01
2	60	\$30.02	\$12.78	\$21.45	\$0.00	\$64.25
3	65	\$32.52	\$12.78	\$21.45	\$0.00	\$66.75
4	75	\$37.52	\$12.78	\$21.45	\$0.00	\$71.75
5	85	\$42.53	\$12.78	\$21.45	\$0.00	\$76.76

**Effective Date - 08/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.77	\$12.78	\$6.21	\$0.00	\$44.76
2	60	\$30.92	\$12.78	\$21.45	\$0.00	\$65.15
3	65	\$33.49	\$12.78	\$21.45	\$0.00	\$67.72
4	75	\$38.65	\$12.78	\$21.45	\$0.00	\$72.88
5	85	\$43.80	\$12.78	\$21.45	\$0.00	\$78.03

**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	02/01/2024	\$50.28	\$12.78	\$21.45	\$0.00	\$84.51
	08/01/2024	\$51.78	\$12.78	\$21.45	\$0.00	\$86.01
	02/01/2025	\$53.03	\$12.78	\$21.45	\$0.00	\$87.26
	08/01/2025	\$54.53	\$12.78	\$21.45	\$0.00	\$88.76
	02/01/2026	\$55.78	\$12.78	\$21.45	\$0.00	\$90.01

For apprentice rates see "Apprentice- ROOFER"

SHEETMETAL WORKER SHEETMETAL WORKERS LOCAL 17 - A	02/01/2024	\$57.22	\$14.59	\$27.50	\$2.98	\$102.29
	08/01/2024	\$58.97	\$14.59	\$27.50	\$2.98	\$104.04
	02/01/2025	\$60.72	\$14.59	\$27.50	\$2.98	\$105.79
	08/01/2025	\$62.57	\$14.59	\$27.50	\$2.98	\$107.64
	02/01/2026	\$64.52	\$14.59	\$27.50	\$2.98	\$109.59

**Classification**

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

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

**Effective Date - 02/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$24.03	\$14.59	\$6.13	\$0.00	\$44.75
2	42	\$24.03	\$14.59	\$6.13	\$0.00	\$44.75
3	47	\$26.89	\$14.59	\$12.11	\$1.61	\$55.20
4	47	\$26.89	\$14.59	\$12.11	\$1.61	\$55.20
5	52	\$29.75	\$14.59	\$13.09	\$1.72	\$59.15
6	52	\$29.75	\$14.59	\$13.34	\$1.73	\$59.41
7	60	\$34.33	\$14.59	\$14.75	\$1.91	\$65.58
8	65	\$37.19	\$14.59	\$15.73	\$2.03	\$69.54
9	75	\$42.92	\$14.59	\$17.69	\$2.26	\$77.46
10	85	\$48.64	\$14.59	\$19.15	\$2.47	\$84.85

**Effective Date - 08/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$24.77	\$14.59	\$6.13	\$0.00	\$45.49
2	42	\$24.77	\$14.59	\$6.13	\$0.00	\$45.49
3	47	\$27.72	\$14.59	\$12.11	\$1.63	\$56.05
4	47	\$27.72	\$14.59	\$12.11	\$1.63	\$56.05
5	52	\$30.66	\$14.59	\$13.09	\$1.75	\$60.09
6	52	\$30.66	\$14.59	\$13.34	\$1.76	\$60.35
7	60	\$35.38	\$14.59	\$14.75	\$1.94	\$66.66
8	65	\$38.33	\$14.59	\$15.73	\$2.06	\$70.71
9	75	\$44.23	\$14.59	\$17.69	\$2.30	\$78.81
10	85	\$50.12	\$14.59	\$19.15	\$2.52	\$86.38

**Notes:**  
Steps are 6 mos.

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

SPECIALIZED EARTH MOVING EQUIP < 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	12/01/2023	\$40.34	\$14.41	\$18.67	\$0.00	\$73.42
	06/01/2024	\$41.34	\$14.41	\$18.67	\$0.00	\$74.42
	08/01/2024	\$41.34	\$14.91	\$18.67	\$0.00	\$74.92
	12/01/2024	\$41.34	\$14.91	\$20.17	\$0.00	\$76.42
	06/01/2025	\$42.34	\$14.91	\$20.17	\$0.00	\$77.42
	08/01/2025	\$42.34	\$15.41	\$20.17	\$0.00	\$77.92
	12/01/2025	\$42.34	\$15.41	\$21.78	\$0.00	\$79.53
	06/01/2026	\$43.34	\$15.41	\$21.78	\$0.00	\$80.53
	08/01/2026	\$43.34	\$15.91	\$21.78	\$0.00	\$81.03
	12/01/2026	\$43.34	\$15.91	\$23.52	\$0.00	\$82.77

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2023	\$40.63	\$14.41	\$18.67	\$0.00	\$73.71
	06/01/2024	\$41.63	\$14.41	\$18.67	\$0.00	\$74.71
	08/01/2024	\$41.63	\$14.91	\$18.67	\$0.00	\$75.21
	12/01/2024	\$41.63	\$14.91	\$20.17	\$0.00	\$76.71
	06/01/2025	\$42.63	\$14.91	\$20.17	\$0.00	\$77.71
	08/01/2025	\$42.63	\$15.41	\$20.17	\$0.00	\$78.21
	12/01/2025	\$42.63	\$15.41	\$21.78	\$0.00	\$79.82
	06/01/2026	\$43.63	\$15.41	\$21.78	\$0.00	\$80.82
	08/01/2026	\$43.63	\$15.91	\$21.78	\$0.00	\$81.32
	12/01/2026	\$43.63	\$15.91	\$23.52	\$0.00	\$83.06
SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1</i>	03/01/2024	\$69.75	\$10.90	\$23.20	\$0.00	\$103.85
	10/01/2024	\$71.55	\$10.90	\$23.20	\$0.00	\$105.65
	03/01/2025	\$73.35	\$10.90	\$23.20	\$0.00	\$107.45

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

**Effective Date - 03/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$24.41	\$10.90	\$12.80	\$0.00	\$48.11
2	40	\$27.90	\$10.90	\$13.60	\$0.00	\$52.40
3	45	\$31.39	\$10.90	\$14.40	\$0.00	\$56.69
4	50	\$34.88	\$10.90	\$15.20	\$0.00	\$60.98
5	55	\$38.36	\$10.90	\$16.00	\$0.00	\$65.26
6	60	\$41.85	\$10.90	\$16.80	\$0.00	\$69.55
7	65	\$45.34	\$10.90	\$17.60	\$0.00	\$73.84
8	70	\$48.83	\$10.90	\$18.40	\$0.00	\$78.13
9	75	\$52.31	\$10.90	\$19.20	\$0.00	\$82.41
10	80	\$55.80	\$10.90	\$20.00	\$0.00	\$86.70

**Effective Date - 10/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$25.04	\$10.90	\$12.80	\$0.00	\$48.74
2	40	\$28.62	\$10.90	\$13.60	\$0.00	\$53.12
3	45	\$32.20	\$10.90	\$14.40	\$0.00	\$57.50
4	50	\$35.78	\$10.90	\$15.20	\$0.00	\$61.88
5	55	\$39.35	\$10.90	\$16.00	\$0.00	\$66.25
6	60	\$42.93	\$10.90	\$16.80	\$0.00	\$70.63
7	65	\$46.51	\$10.90	\$17.60	\$0.00	\$75.01
8	70	\$50.09	\$10.90	\$18.40	\$0.00	\$79.39
9	75	\$53.66	\$10.90	\$19.20	\$0.00	\$83.76
10	80	\$57.24	\$10.90	\$20.00	\$0.00	\$88.14

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**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2024	\$49.49	\$13.00	\$20.19	\$0.00	\$82.68
	09/01/2024	\$51.02	\$13.00	\$20.24	\$0.00	\$84.26
	03/01/2025	\$51.98	\$13.00	\$20.27	\$0.00	\$85.25
	09/01/2025	\$53.51	\$13.00	\$20.32	\$0.00	\$86.83
	03/01/2026	\$54.47	\$13.00	\$20.34	\$0.00	\$87.81
	09/01/2026	\$56.00	\$13.00	\$20.39	\$0.00	\$89.39
	03/01/2027	\$56.95	\$13.00	\$20.42	\$0.00	\$90.37
	09/01/2027	\$58.49	\$13.00	\$20.46	\$0.00	\$91.95
	03/01/2028	\$59.45	\$13.00	\$20.49	\$0.00	\$92.94

**Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103**

**Effective Date - 03/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$22.27	\$13.00	\$0.67	\$0.00	\$35.94
2	45	\$22.27	\$13.00	\$0.67	\$0.00	\$35.94
3	50	\$24.75	\$13.00	\$16.16	\$0.00	\$53.91
4	50	\$24.75	\$13.00	\$16.16	\$0.00	\$53.91
5	55	\$27.22	\$13.00	\$16.57	\$0.00	\$56.79
6	60	\$29.69	\$13.00	\$16.97	\$0.00	\$59.66
7	65	\$32.17	\$13.00	\$17.38	\$0.00	\$62.55
8	70	\$34.64	\$13.00	\$17.78	\$0.00	\$65.42
9	75	\$37.12	\$13.00	\$18.18	\$0.00	\$68.30
10	80	\$39.59	\$13.00	\$18.58	\$0.00	\$71.17

**Effective Date - 09/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$22.96	\$13.00	\$0.69	\$0.00	\$36.65
2	45	\$22.96	\$13.00	\$0.69	\$0.00	\$36.65
3	50	\$25.51	\$13.00	\$16.16	\$0.00	\$54.67
4	50	\$25.51	\$13.00	\$16.16	\$0.00	\$54.67
5	55	\$28.06	\$13.00	\$16.57	\$0.00	\$57.63
6	60	\$30.61	\$13.00	\$16.97	\$0.00	\$60.58
7	65	\$33.16	\$13.00	\$17.38	\$0.00	\$63.54
8	70	\$35.71	\$13.00	\$17.78	\$0.00	\$66.49
9	75	\$38.27	\$13.00	\$18.18	\$0.00	\$69.45
10	80	\$40.82	\$13.00	\$18.58	\$0.00	\$72.40

**Notes:**

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

TERRAZZO FINISHERS	02/01/2024	\$61.34	\$11.49	\$23.59	\$0.00	\$96.42
BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2024	\$63.44	\$11.49	\$23.59	\$0.00	\$98.52
	02/01/2025	\$64.74	\$11.49	\$23.59	\$0.00	\$99.82
	08/01/2025	\$66.89	\$11.49	\$23.59	\$0.00	\$101.97
	02/01/2026	\$68.24	\$11.49	\$23.59	\$0.00	\$103.32
	08/01/2026	\$70.44	\$11.49	\$23.59	\$0.00	\$105.52
	02/01/2027	\$71.84	\$11.49	\$23.59	\$0.00	\$106.92



**Classification**

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

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

**Effective Date - 02/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$30.67	\$11.49	\$23.59	\$0.00	\$65.75
2	60	\$36.80	\$11.49	\$23.59	\$0.00	\$71.88
3	70	\$42.94	\$11.49	\$23.59	\$0.00	\$78.02
4	80	\$49.07	\$11.49	\$23.59	\$0.00	\$84.15
5	90	\$55.21	\$11.49	\$23.59	\$0.00	\$90.29

**Effective Date - 08/01/2024**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.72	\$11.49	\$23.59	\$0.00	\$66.80
2	60	\$38.06	\$11.49	\$23.59	\$0.00	\$73.14
3	70	\$44.41	\$11.49	\$23.59	\$0.00	\$79.49
4	80	\$50.75	\$11.49	\$23.59	\$0.00	\$85.83
5	90	\$57.10	\$11.49	\$23.59	\$0.00	\$92.18

**Notes:**

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

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2023	\$48.33	\$9.65	\$18.22	\$0.00	\$76.20
	06/01/2024	\$49.81	\$9.65	\$18.22	\$0.00	\$77.68
	12/01/2024	\$51.28	\$9.65	\$18.22	\$0.00	\$79.15
	06/01/2025	\$52.78	\$9.65	\$18.22	\$0.00	\$80.65
	12/01/2025	\$54.28	\$9.65	\$18.22	\$0.00	\$82.15
	06/01/2026	\$55.83	\$9.65	\$18.22	\$0.00	\$83.70
	12/01/2026	\$57.33	\$9.65	\$18.22	\$0.00	\$85.20

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2023	\$44.45	\$9.65	\$18.22	\$0.00	\$72.32
	06/01/2024	\$45.93	\$9.65	\$18.22	\$0.00	\$73.80
	12/01/2024	\$47.40	\$9.65	\$18.22	\$0.00	\$75.27
	06/01/2025	\$48.90	\$9.65	\$18.22	\$0.00	\$76.77
	12/01/2025	\$50.40	\$9.65	\$18.22	\$0.00	\$78.27
	06/01/2026	\$51.95	\$9.65	\$18.22	\$0.00	\$79.82
	12/01/2026	\$53.45	\$9.65	\$18.22	\$0.00	\$81.32

For apprentice rates see "Apprentice- LABORER"

TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2023	\$44.33	\$9.65	\$18.22	\$0.00	\$72.20
	06/01/2024	\$45.81	\$9.65	\$18.22	\$0.00	\$73.68
	12/01/2024	\$47.28	\$9.65	\$18.22	\$0.00	\$75.15
	06/01/2025	\$48.78	\$9.65	\$18.22	\$0.00	\$76.65
	12/01/2025	\$50.28	\$9.65	\$18.22	\$0.00	\$78.15
	06/01/2026	\$51.83	\$9.65	\$18.22	\$0.00	\$79.70
	12/01/2026	\$53.33	\$9.65	\$18.22	\$0.00	\$81.20

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2023	\$40.92	\$14.41	\$18.67	\$0.00	\$74.00
	06/01/2024	\$41.92	\$14.41	\$18.67	\$0.00	\$75.00
	08/01/2024	\$41.92	\$14.91	\$18.67	\$0.00	\$75.50
	12/01/2024	\$41.92	\$14.91	\$20.17	\$0.00	\$77.00
	06/01/2025	\$42.92	\$14.91	\$20.17	\$0.00	\$78.00
	08/01/2025	\$42.92	\$15.41	\$20.17	\$0.00	\$78.50
	12/01/2025	\$42.92	\$15.41	\$21.78	\$0.00	\$80.11
	06/01/2026	\$43.92	\$15.41	\$21.78	\$0.00	\$81.11
	08/01/2026	\$43.92	\$15.91	\$21.78	\$0.00	\$81.61
	12/01/2026	\$43.92	\$15.91	\$23.52	\$0.00	\$83.35
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	12/01/2023	\$56.56	\$9.65	\$18.67	\$0.00	\$84.88
	06/01/2024	\$58.04	\$9.65	\$18.67	\$0.00	\$86.36
	12/01/2024	\$59.51	\$9.65	\$18.67	\$0.00	\$87.83
	06/01/2025	\$61.01	\$9.65	\$18.67	\$0.00	\$89.33
	12/01/2025	\$62.51	\$9.65	\$18.67	\$0.00	\$90.83
	06/01/2026	\$64.06	\$9.65	\$18.67	\$0.00	\$92.38
	12/01/2026	\$65.56	\$9.65	\$18.67	\$0.00	\$93.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2023	\$58.56	\$9.65	\$18.67	\$0.00	\$86.88
	06/01/2024	\$60.04	\$9.65	\$18.67	\$0.00	\$88.36
	12/01/2024	\$61.51	\$9.65	\$18.67	\$0.00	\$89.83
	06/01/2025	\$63.01	\$9.65	\$18.67	\$0.00	\$91.33
	12/01/2025	\$64.51	\$9.65	\$18.67	\$0.00	\$92.83
	06/01/2026	\$66.06	\$9.65	\$18.67	\$0.00	\$94.38
	12/01/2026	\$67.56	\$9.65	\$18.67	\$0.00	\$95.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2023	\$48.63	\$9.65	\$18.67	\$0.00	\$76.95
	06/01/2024	\$50.11	\$9.65	\$18.67	\$0.00	\$78.43
	12/01/2024	\$51.58	\$9.65	\$18.67	\$0.00	\$79.90
	06/01/2025	\$53.08	\$9.65	\$18.67	\$0.00	\$81.40
	12/01/2025	\$54.58	\$9.65	\$18.67	\$0.00	\$82.90
	06/01/2026	\$56.13	\$9.65	\$18.67	\$0.00	\$84.45
	12/01/2026	\$57.63	\$9.65	\$18.67	\$0.00	\$85.95
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2023	\$50.63	\$9.65	\$18.67	\$0.00	\$78.95
	06/01/2024	\$52.11	\$9.65	\$18.67	\$0.00	\$80.43
	12/01/2024	\$53.58	\$9.65	\$18.67	\$0.00	\$81.90
	06/01/2025	\$55.08	\$9.65	\$18.67	\$0.00	\$83.40
	12/01/2025	\$56.58	\$9.65	\$18.67	\$0.00	\$84.90
	06/01/2026	\$58.13	\$9.65	\$18.67	\$0.00	\$86.45
	12/01/2026	\$59.63	\$9.65	\$18.67	\$0.00	\$87.95
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2023	\$40.34	\$14.41	\$18.67	\$0.00	\$73.42
	06/01/2024	\$41.34	\$14.41	\$18.67	\$0.00	\$74.42
	08/01/2024	\$41.34	\$14.91	\$18.67	\$0.00	\$74.92
	12/01/2024	\$41.34	\$14.91	\$20.17	\$0.00	\$76.42
	06/01/2025	\$42.34	\$14.91	\$20.17	\$0.00	\$77.42
	08/01/2025	\$42.34	\$15.41	\$20.17	\$0.00	\$77.92
	12/01/2025	\$42.34	\$15.41	\$21.78	\$0.00	\$79.53
	06/01/2026	\$43.34	\$15.41	\$21.78	\$0.00	\$80.53
	08/01/2026	\$43.34	\$15.91	\$21.78	\$0.00	\$81.03
	12/01/2026	\$43.34	\$15.91	\$23.52	\$0.00	\$82.77
WAGON DRILL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY &amp; HIGHWAY)</i>	12/01/2023	\$44.58	\$9.65	\$18.07	\$0.00	\$72.30
	06/01/2024	\$46.06	\$9.65	\$18.07	\$0.00	\$73.78
	12/01/2024	\$47.53	\$9.65	\$18.07	\$0.00	\$75.25
	06/01/2025	\$49.03	\$9.65	\$18.07	\$0.00	\$76.75
	12/01/2025	\$50.53	\$9.65	\$18.07	\$0.00	\$78.25
	06/01/2026	\$52.08	\$9.65	\$18.07	\$0.00	\$79.80
12/01/2026	\$53.58	\$9.65	\$18.07	\$0.00	\$81.30	
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68	
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS &amp; GASFITTERS LOCAL 12</i>	03/03/2024	\$67.74	\$14.32	\$19.11	\$0.00	\$101.17
	09/01/2024	\$69.54	\$14.32	\$19.11	\$0.00	\$102.97
	03/02/2025	\$71.34	\$14.32	\$19.11	\$0.00	\$104.77
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
<b>Outside Electrical - East</b>						
CABLE TECHNICIAN (Power Zone) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$29.67	\$9.25	\$1.89	\$0.00	\$40.81
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$42.03	\$9.25	\$10.27	\$0.00	\$61.55
For apprentice rates see "Apprentice- LINEMAN"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DRIVER / GROUNDMAN CDL <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$34.62	\$9.25	\$10.07	\$0.00	\$53.94
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$27.20	\$9.25	\$1.82	\$0.00	\$38.27
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$42.03	\$9.25	\$14.35	\$0.00	\$65.63
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$37.09	\$9.25	\$10.87	\$0.00	\$57.21
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$27.20	\$9.25	\$1.82	\$0.00	\$38.27
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$22.25	\$9.25	\$1.82	\$0.00	\$33.32
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$49.45	\$9.25	\$17.48	\$0.00	\$76.18

**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 <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	02/04/2019	\$30.73	\$4.70	\$3.17	\$0.00	\$38.60
TELEDATA LINEMAN/EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	02/04/2019	\$28.93	\$4.70	\$3.14	\$0.00	\$36.77
TELEDATA WIREMAN/INSTALLER/TECHNICIAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	02/04/2019	\$28.93	\$4.70	\$3.14	\$0.00	\$36.77

## Additional Apprentices Information:

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

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

All steps are six months (1000 hours.)

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

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

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

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

**ATTACHMENT TWO**  
**CONTRACT ROADWAY SUMMARY**

Updated: 3/25/2024

**Summary of Work  
Road Improvements 2024 Contract 3**

Street Name	Ward	Street Limits		Description of Work
		From	To	
<b>Cummings Avenue</b> Length = 1677'	5&6	Billings Road	Beach Street	Full Depth Reclamation Install Binder 2 1/2" and Top @ 1 1/2" Install New Cem. Conc. Sidewalks and Driveway Apron's Install New Concrete WCR's w/ Detectable Warning Panels Install New Vertical Granite Curb Drop and Adjust All Utilities as Required Loam and Seed as Required Install Epoxy Linework as Required
<b>Linden Street</b> Length = 738'	5	Hancock Street	Dead End	Full Depth Reclamation Install Binder 2 1/2" and Top @ 1 1/2" Install New Cem. Conc. Sidewalks and Driveway Apron's Install New Concrete WCR's w/ Detectable Warning Panels Reset Existing Granite Curb + Install New Vertical Granite Curb Drop and Adjust All Utilities as Required Loam and Seed as Required Install Epoxy Linework as Required
<b>Weston Street</b> Length = 601'	5	Linden Street	Wayland Street	Full Depth Reclamation Install Binder 2 1/2" and Top @ 1 1/2" Install New Cem. Conc. Sidewalks and Driveway Apron's Install New Concrete WCR's w/ Detectable Warning Panels Reset Existing Granite Curb + Install New Vertical Granite Curb Drop and Adjust All Utilities as Required Loam and Seed as Required Install Epoxy Linework as Required
<b>Thorton Street</b> Length = 432'	5	Meadowbrook Road	Fenno Street	Full Depth Reclamation Install Binder 2 1/2" and Top @ 1 1/2" Install New Cem. Conc. Sidewalks and Driveway Apron's Install New Concrete WCR's w/ Detectable Warning Panels Install New Vertical Granite Curb Drop and Adjust All Utilities as Required Loam and Seed as Required Install Epoxy Linework as Required
<b>Andrews Road</b> Length = 1098'	5	Fenno Street	Havilend Street	Full Depth Reclamation Install Binder 2 1/2" and Top @ 1 1/2" Install New Cem. Conc. Sidewalks and Driveway Apron's Install New Concrete WCR's w/ Detectable Warning Panels Install New Vertical Granite Curb Drop and Adjust All Utilities as Required Loam and Seed as Required Install Epoxy Linework as Required
<b>Arnold Road</b> Length = 1095'	6	Quincy Shore Drive	Marshall Street	Full Depth Reclamation Install Binder 2 1/2" and Top @ 1 1/2" Install New Cem. Conc. Sidewalks and Driveway Apron's Install New Concrete WCR's w/ Detectable Warning Panels Install New Vertical Granite Curb Drop and Adjust All Utilities as Required Loam and Seed as Required Install Epoxy Linework as Required
<b>Vane Street</b> Length = 822'	6	Billings Road	Dead End	Full Depth Reclamation Install Binder 2 1/2" and Top @ 1 1/2" Install New Cem. Conc. Sidewalks and Driveway Apron's Install New Concrete WCR's w/ Detectable Warning Panels Reset Existing Granite Curb + Install New Vertical Granite Curb Drop and Adjust All Utilities as Required Loam and Seed as Required Install Epoxy Linework as Required
<b>Billings Road</b> Length = 4687'	6	West Elm Avenue	Dead End	Full Depth Reclamation Install Binder 2 1/2" and Top @ 1 1/2" Install New Cem. Conc. Sidewalks and Driveway Apron's Install New Concrete WCR's w/ Detectable Warning Panels Reset Existing Granite Curb + Install New Vertical Granite Curb Drop and Adjust All Utilities as Required Loam and Seed as Required Install Epoxy Linework as Required
<b>Bishop Road</b> Length = 585'	3	Beale Street	Dead End	Full Depth Reclamation Install Binder 2 1/2" and Top @ 1 1/2" Install New Cem. Conc. Sidewalks and Driveway Apron's Install New Concrete WCR's w/ Detectable Warning Panels Reset Existing Granite Curb Drop and Adjust All Utilities as Required Loam and Seed as Required Install Epoxy Linework as Required

**ATTACHMENT THREE**

**STANDARD GENERAL CONDITIONS**

**\*Standard General Conditions are on the City's website  
for your convenience and reference.**



**ATTACHMENT FOUR**

**SUPPLEMENTAL GENERAL CONDITIONS**

**\*Supplemental General Conditions are on the City's website  
for your convenience and reference.**

**ATTACHMENT FIVE**

**DRAWINGS**



# CITY OF QUINCY, MASSACHUSETTS

## DEPARTMENT OF PUBLIC WORKS

### ROAD IMPROVEMENTS 2024

### CONTRACT 3

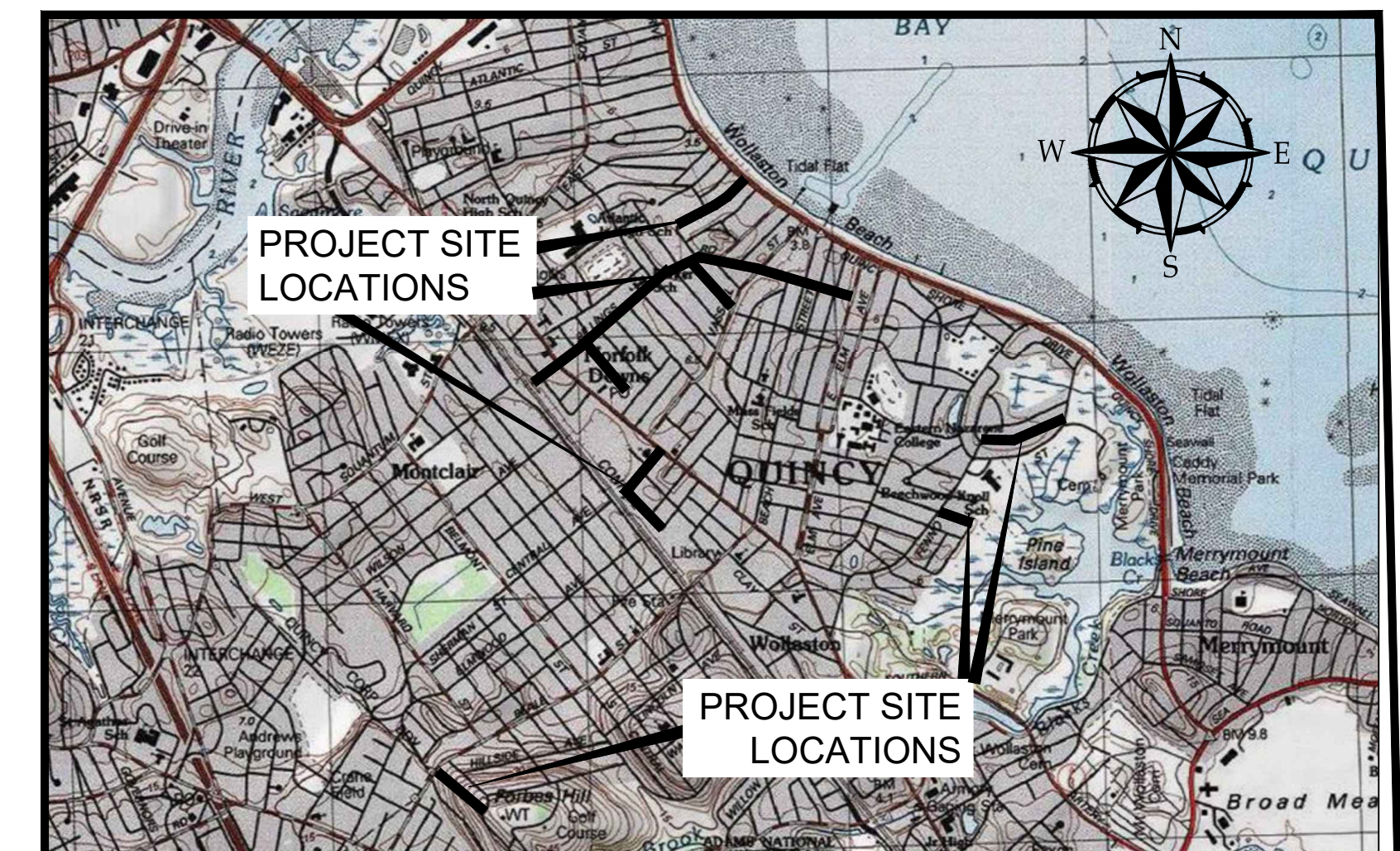
Mayor: Thomas P. Koch  
 Public Works Commissioner: Alfred J. Grazioso  
 Purchasing Agent: Kathryn R. Logan

DRAWING INDEX

DWG. NO.	DESCRIPTION
	<b>COVER SHEET</b>
G-001	GENERAL NOTES, LEGEND & ABBREVIATIONS
C-101	CONSTRUCTION PLAN - CUMMINGS AVENUE 1 of 2
C-102	CONSTRUCTION PLAN - CUMMINGS AVENUE 2 of 2
C-103	CONSTRUCTION PLAN - LINDEN STREET
C-104	CONSTRUCTION PLAN - WESTON AVENUE
C-105	CONSTRUCTION PLAN - THORNTON STREET
C-106	CONSTRUCTION PLAN - ANDREWS ROAD
C-107	CONSTRUCTION PLAN - ARNOLD ROAD
C-108	CONSTRUCTION PLAN - VANE STREET
C-109	CONSTRUCTION PLAN - BILLINGS ROAD 1 of 4
C-110	CONSTRUCTION PLAN - BILLINGS ROAD 2 of 4
C-111	CONSTRUCTION PLAN - BILLINGS ROAD 3 of 4
C-112	CONSTRUCTION PLAN - BILLINGS ROAD 4 of 4
C-113	CONSTRUCTION PLAN - BISHOP STREET
D-501	ROADWAY DETAILS - SHEET 1
D-502	ROADWAY DETAILS - SHEET 2



May 2024



**SITE LOCATION MAP**

NOT TO SCALE

City of **Quincy**  
 Massachusetts  
 Department of Engineering  
 55 Sea Street  
 Quincy, Massachusetts 02169  
 1(617) 376-1950 | www.quincyma.gov

**BID SET**  
 NOT FOR CONSTRUCTION

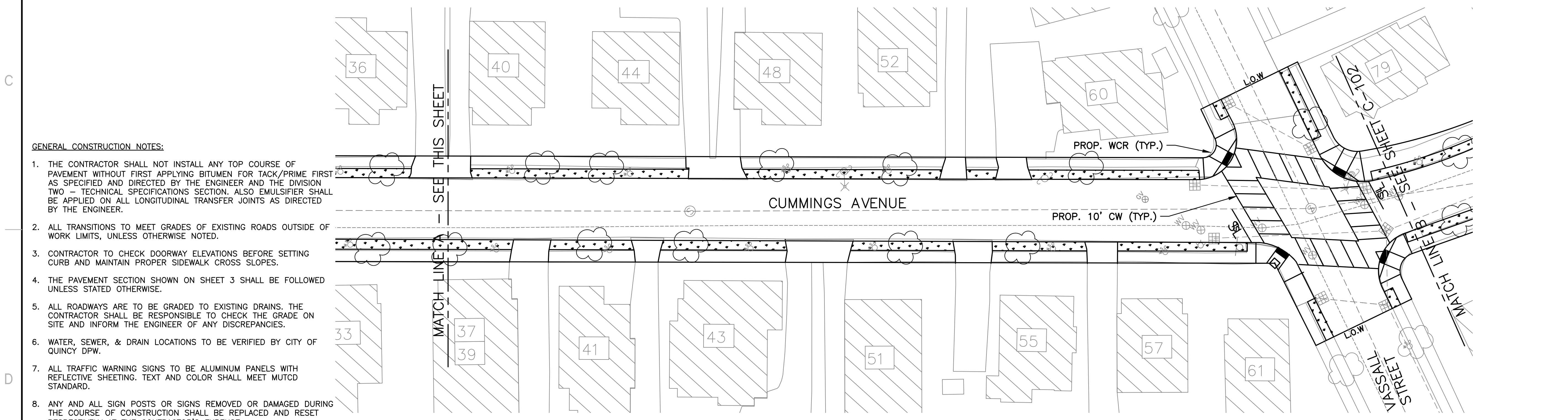
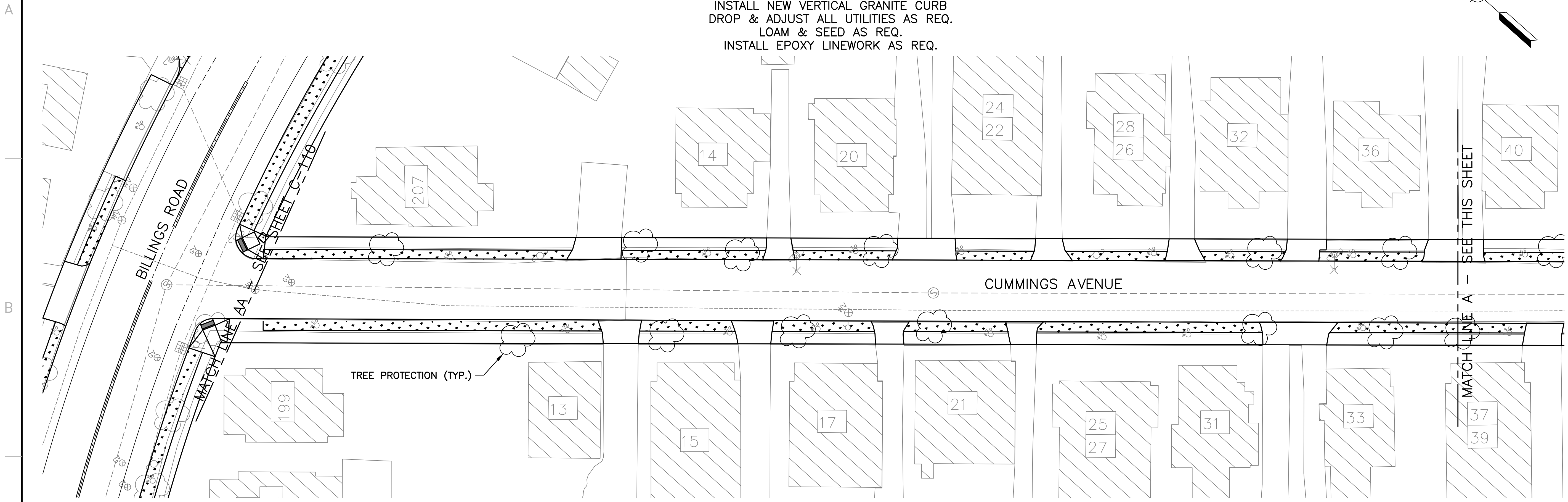
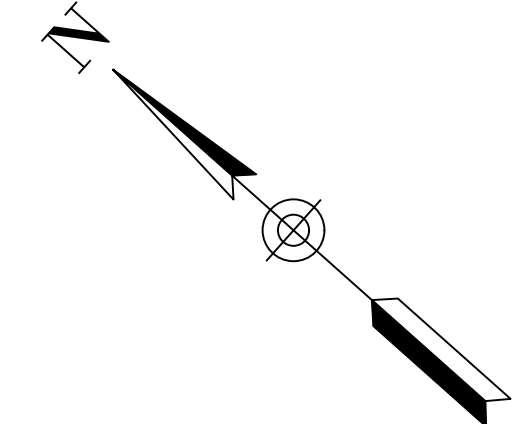






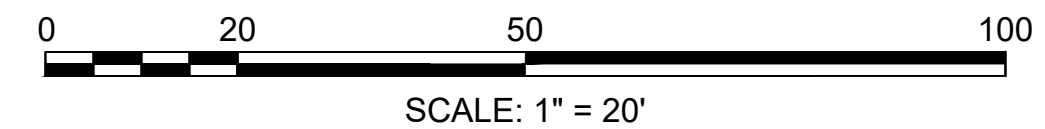
SCOPE OF WORK

- FULL DEPTH RECLAMATION
- INSTALL BINDER 2.5" & 1.5" TOP COURSE
- INSTALL NEW CEM. CONC. SIDEWALKS & DRIVEWAY APRONS
- INSTALL NEW CONC. WCR'S W/ DETECTABLE WARNING PANELS
- INSTALL NEW VERTICAL GRANITE CURB
- DROP & ADJUST ALL UTILITIES AS REQ.
- LOAM & SEED AS REQ.
- INSTALL EPOXY LINEWORK AS REQ.



GENERAL CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL NOT INSTALL ANY TOP COURSE OF PAVEMENT WITHOUT FIRST APPLYING BITUMEN FOR TACK/PRIME FIRST AS SPECIFIED AND DIRECTED BY THE ENGINEER AND THE DIVISION TWO - TECHNICAL SPECIFICATIONS SECTION. ALSO EMULSIFIER SHALL BE APPLIED ON ALL LONGITUDINAL TRANSFER JOINTS AS DIRECTED BY THE ENGINEER.
2. ALL TRANSITIONS TO MEET GRADES OF EXISTING ROADS OUTSIDE OF WORK LIMITS, UNLESS OTHERWISE NOTED.
3. CONTRACTOR TO CHECK DOORWAY ELEVATIONS BEFORE SETTING CURB AND MAINTAIN PROPER SIDEWALK CROSS SLOPES.
4. THE PAVEMENT SECTION SHOWN ON SHEET 3 SHALL BE FOLLOWED UNLESS STATED OTHERWISE.
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6. WATER, SEWER, & DRAIN LOCATIONS TO BE VERIFIED BY CITY OF QUINCY DPW.
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8. ANY AND ALL SIGN POSTS OR SIGNS REMOVED OR DAMAGED DURING THE COURSE OF CONSTRUCTION SHALL BE REPLACED AND RESET RESPECTIVELY AT THE CONTRACTOR'S EXPENSE.
9. THE CONTRACTOR IS TO COORDINATE WITH T.P.A.L. FOR DIRECTIVES REGARDING LOOP DETECTOR SIZE, INSTALLATION, LOCATION, AND PAVEMENT MARKINGS PRIOR TO PLACEMENT.



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**City of Quincy**  
*Massachusetts*  
Department of Engineering  
55 Sea Street  
Quincy, Massachusetts 02169  
1 (617) 376-1950 | www.quincy.ma.gov

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DRAWN BY: NRO    CY2024\_C3\_C-101.DWG

CUMMINGS AVENUE  
SHEET 1 OF 2

CITY OF QUINCY, MASSACHUSETTS  
DEPARTMENT OF PUBLIC WORKS  
55 SEA STREET, QUINCY, MA

ROAD IMPROVEMENTS 2024  
CONTRACT 3

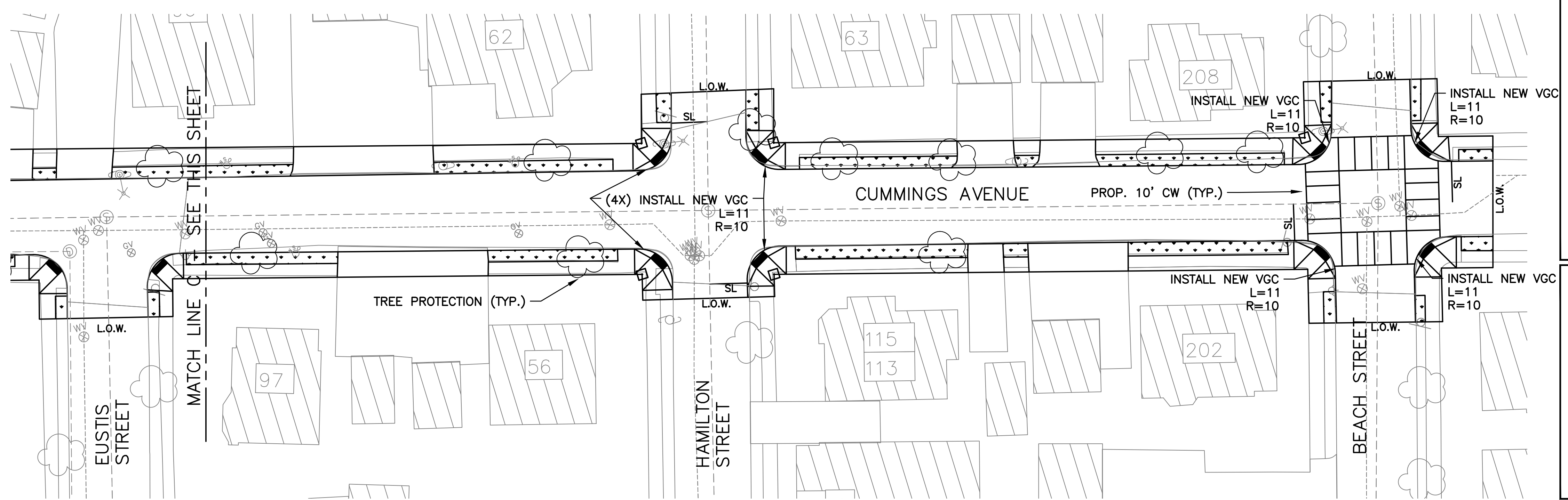
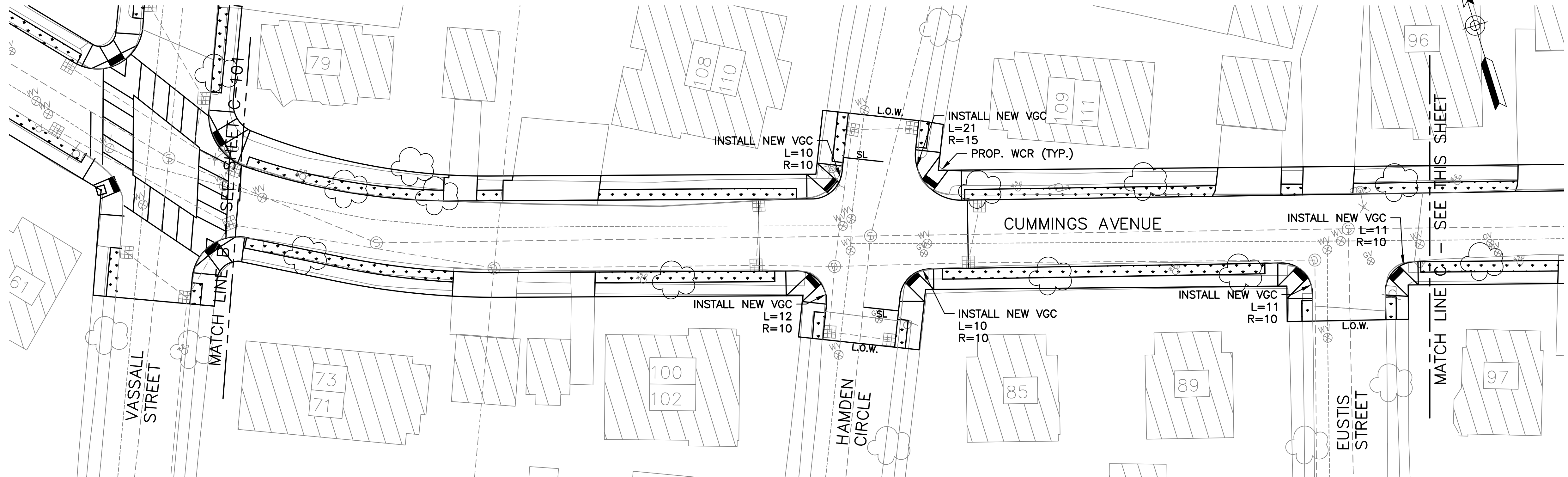
JOB NO.: CY2024_C3
DATE: May 9th, 2024
SCALE: AS SHOWN
SHEET: 3 OF 17

C-101



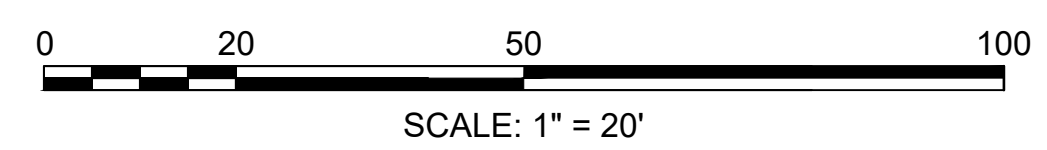
SCOPE OF WORK

- FULL DEPTH RECLAMATION
- INSTALL BINDER 2.5" & 1.5" TOP COURSE
- INSTALL NEW CEM. CONC. SIDEWALKS & DRIVEWAY APRONS
- INSTALL NEW CONC. WCR'S W/ DETECTABLE WARNING PANELS
- INSTALL NEW VERTICAL GRANITE CURB
- DROP & ADJUST ALL UTILITIES AS REQ.
- LOAM & SEED AS REQ.
- INSTALL EPOXY LINEWORK AS REQ.



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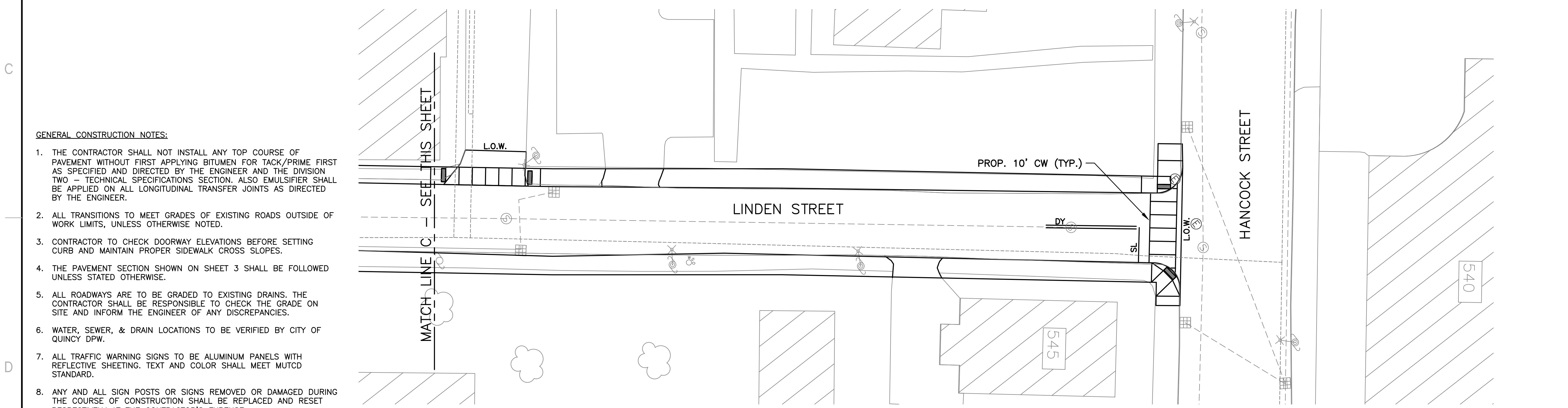
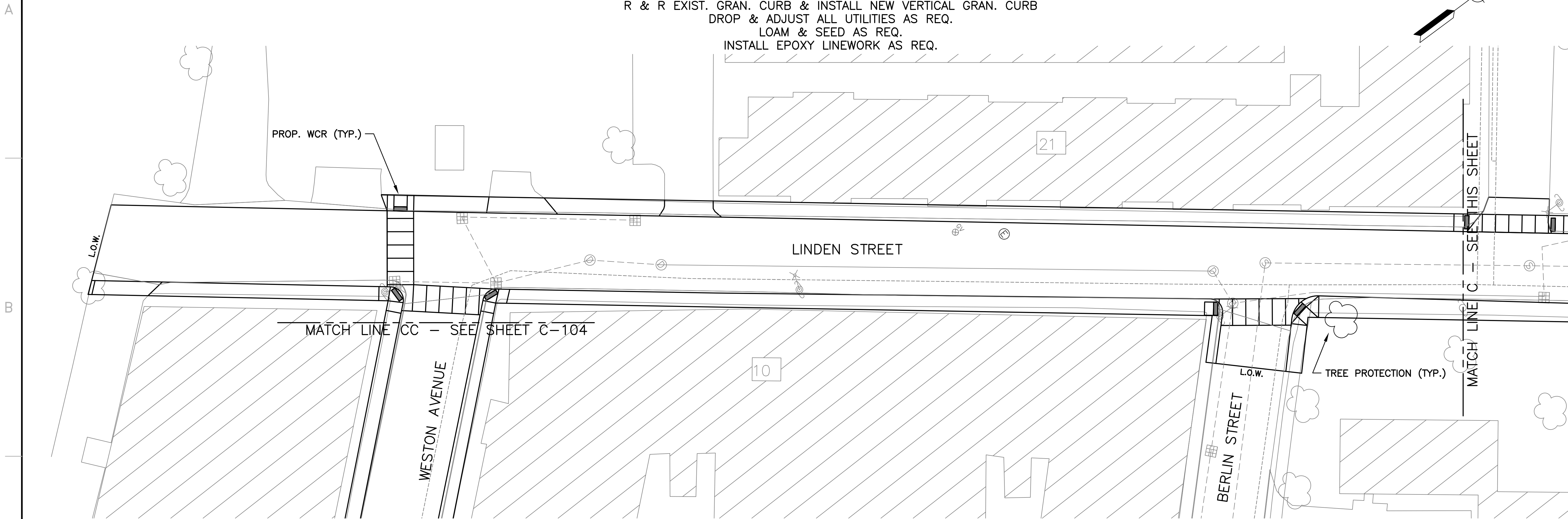
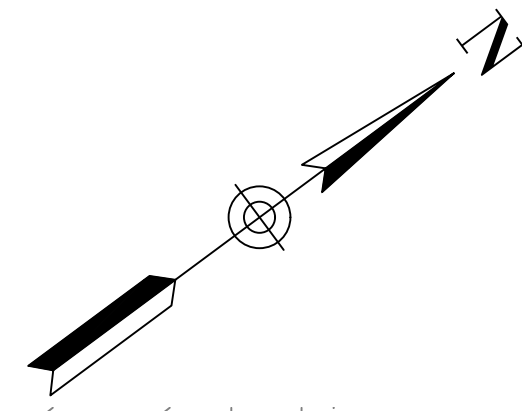
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 <b>City of Quincy</b> Massachusetts Department of Engineering 55 Sea Street Quincy, Massachusetts 02169 1(617) 376-1950   www.quincyma.gov													
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<b>CUMMINGS AVENUE</b> <b>SHEET 2 OF 2</b>													
CITY OF QUINCY, MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS 55 SEA STREET, QUINCY, MA													
ROAD IMPROVEMENTS 2024 CONTRACT 3													
JOB NO.: CY2024_C3 DATE: May 9th, 2024 SCALE: AS SHOWN SHEET: 4 OF 17													
<b>C-102</b>													



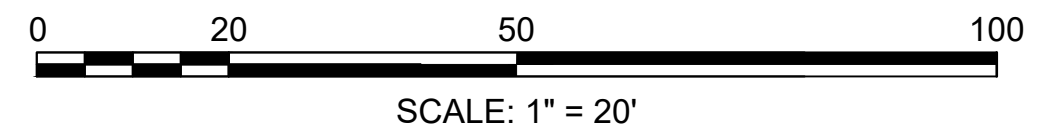
SCOPE OF WORK

FULL DEPTH RECLAMATION  
 INSTALL BINDER 2.5" & 1.5" TOP COURSE  
 INSTALL NEW CEM. CONC. SIDEWALKS & DRIVEWAY APRONS  
 INSTALL NEW CONC. WCR'S W/ DETECTABLE WARNING PANELS  
 R & R EXIST. GRAN. CURB & INSTALL NEW VERTICAL GRAN. CURB  
 DROP & ADJUST ALL UTILITIES AS REQ.  
 LOAM & SEED AS REQ.  
 INSTALL EPOXY LINEWORK AS REQ.



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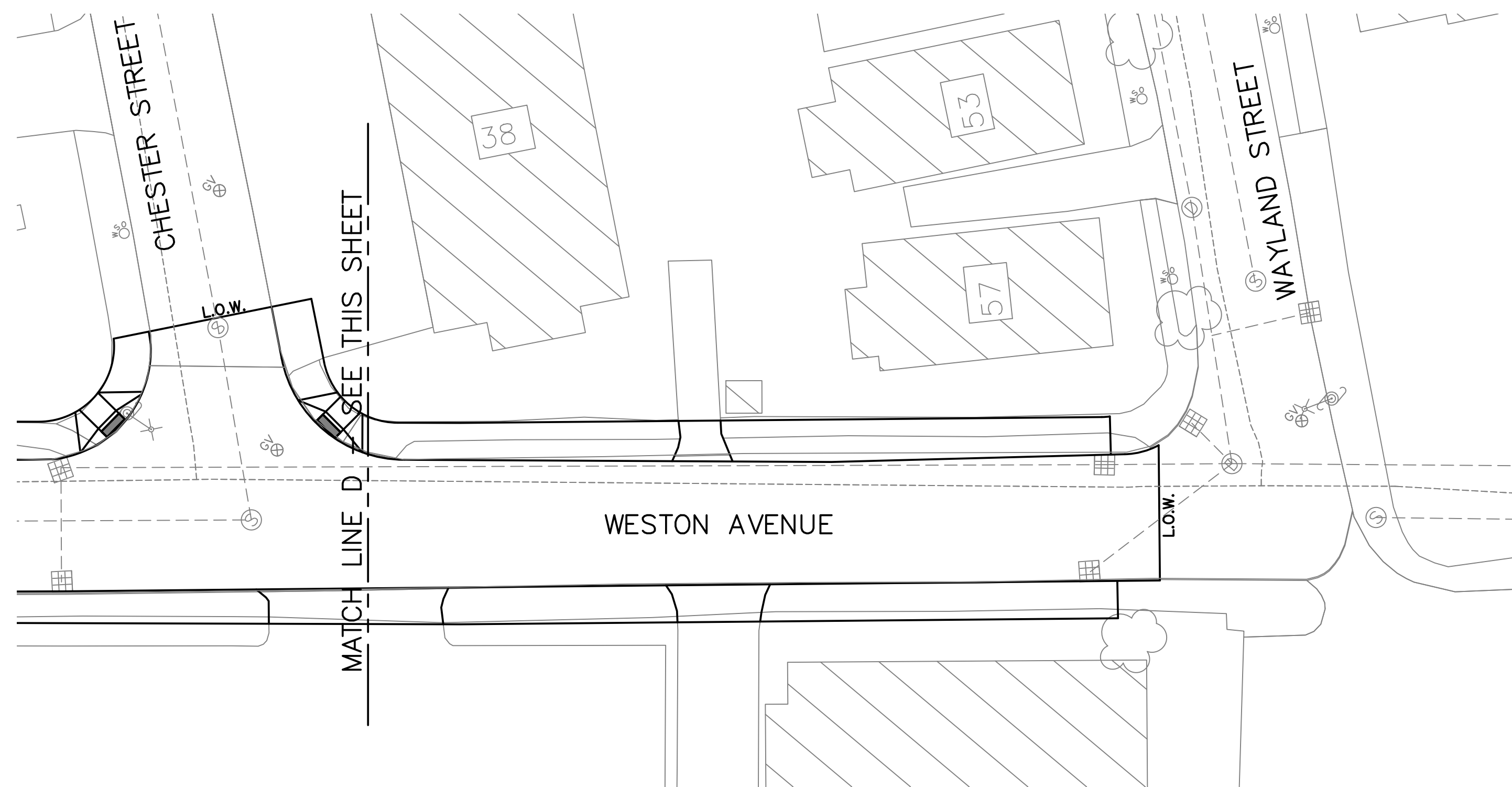
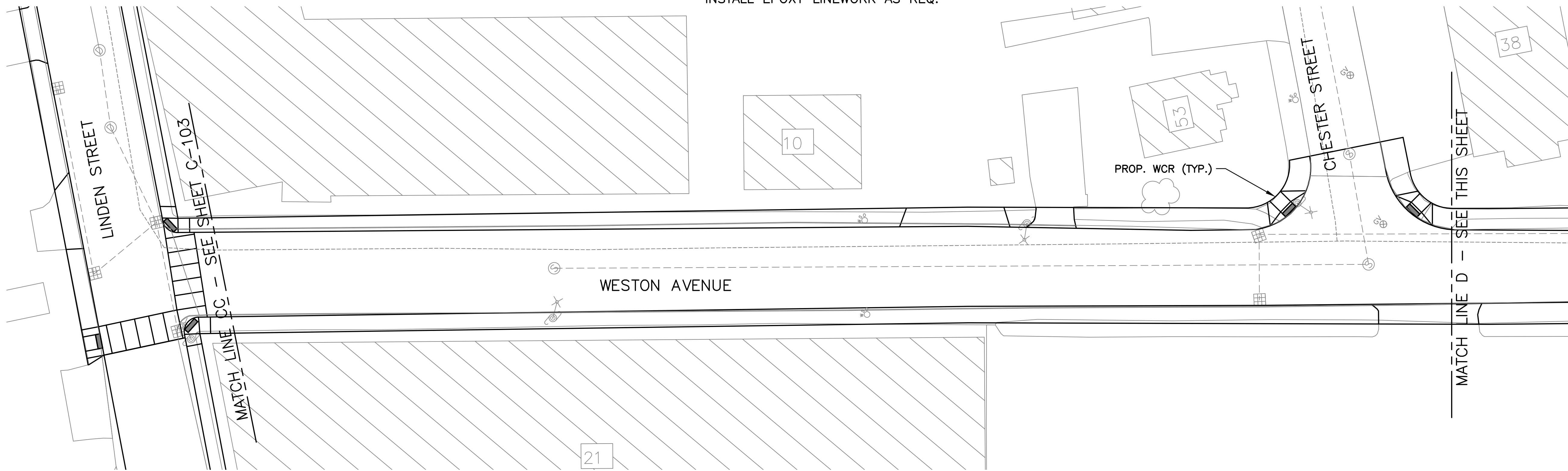
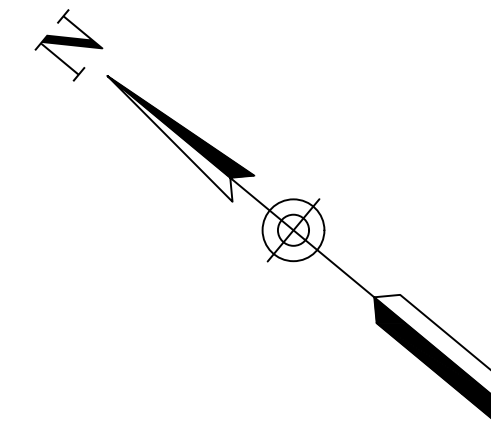
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LINDEN STREET							
CITY OF QUINCY, MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS 55 SEA STREET, QUINCY, MA							
ROAD IMPROVEMENTS 2024 CONTRACT 3							
JOB NO.: CY2024_C3 DATE: May 9th, 2024 SCALE: AS SHOWN SHEET: 5 OF 17							
<b>C-103</b>							



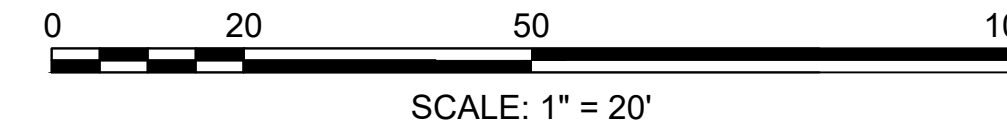
SCOPE OF WORK

FULL DEPTH RECLAMATION  
 INSTALL BINDER 2.5" & 1.5" TOP COURSE  
 INSTALL NEW CEM. CONC. SIDEWALKS & DRIVEWAY APRONS  
 INSTALL NEW CONC. WCR'S W/ DETECTABLE WARNING PANELS  
 R & R EXIST. GRAN. CURB + INSTALL NEW VERTICAL GRANITE CURB  
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REV	DESCRIPTION	DATE					
WESTON AVENUE							
CITY OF QUINCY, MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS 55 SEA STREET, QUINCY, MA							
ROAD IMPROVEMENTS 2024 CONTRACT 3							
JOB NO.: CY2024_C3 DATE: May 9th, 2024 SCALE: AS SHOWN SHEET: 6 OF 17							
<b>C-104</b>							



SCOPE OF WORK

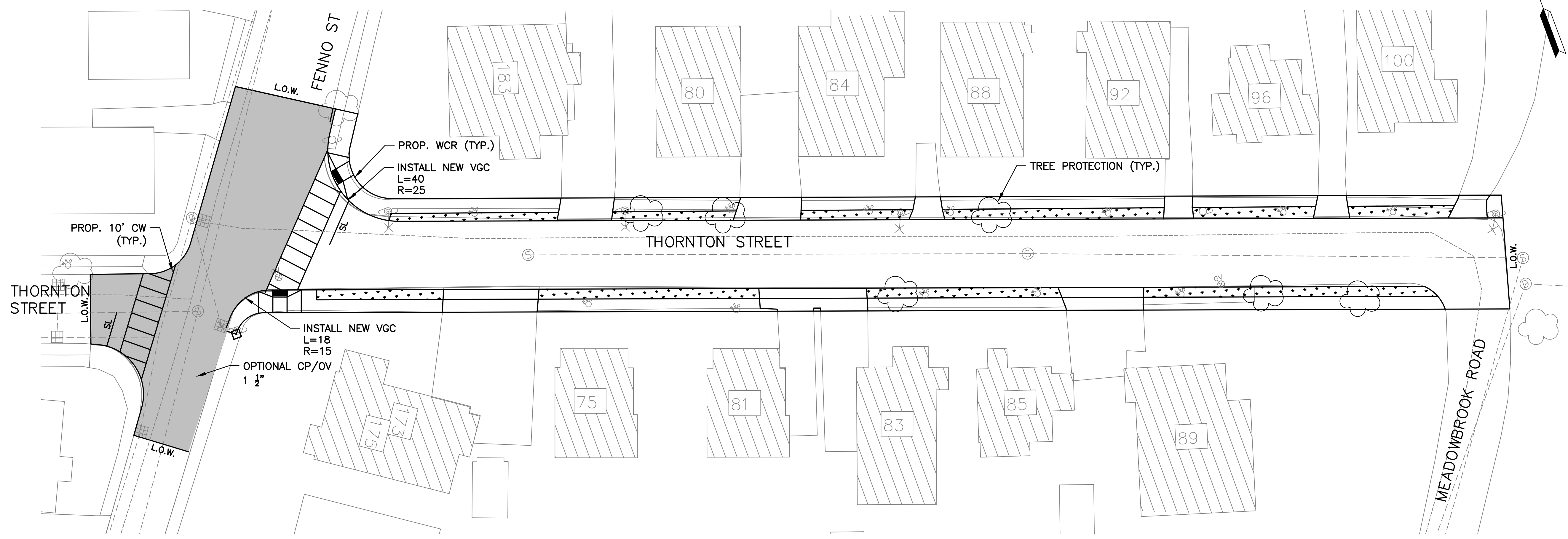
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- DROP & ADJUST ALL UTILITIES AS REQ.
- LOAM & SEED AS REQ.
- INSTALL EPOXY LINEWORK AS REQ.

A

B

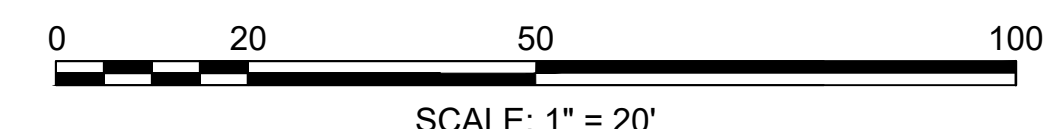
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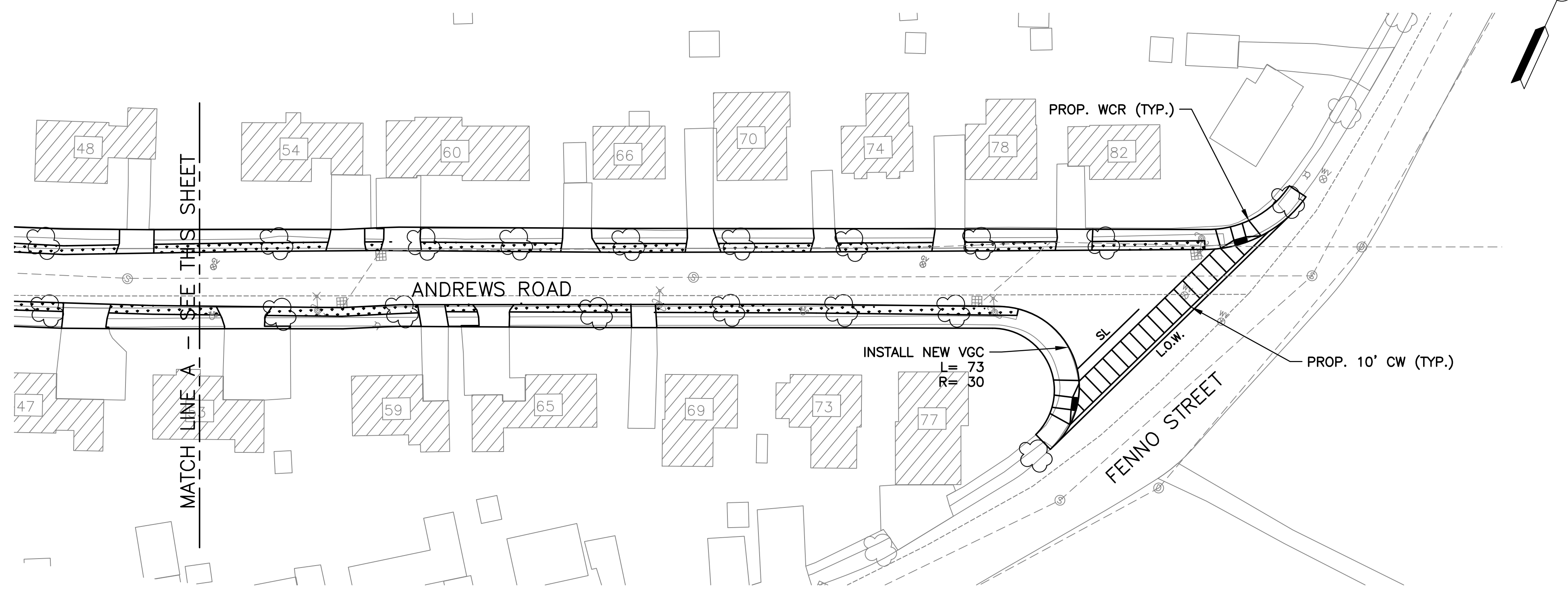
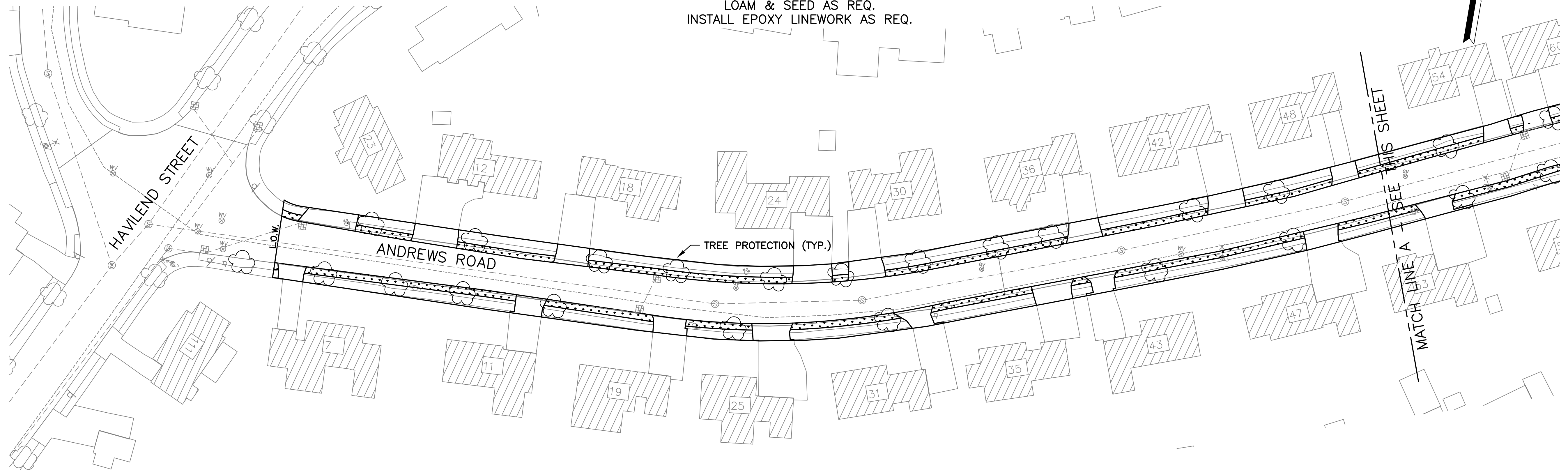
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THORNTON ROAD	ROAD IMPROVEMENTS 2024 CONTRACT 3
CITY OF QUINCY, MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS 55 SEA STREET, QUINCY, MA	
JOB NO.: CY2024_C3 DATE: May 9th, 2024 SCALE: AS SHOWN SHEET: 7 OF 17	
<b>C-105</b>	

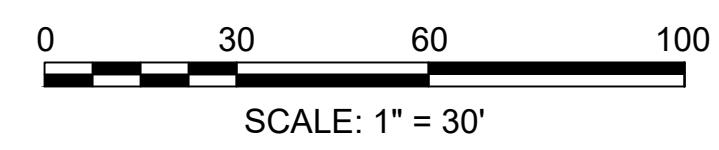


SCOPE OF WORK

- FULL DEPTH RECLAMATION
- INSTALL BINDER 2.5" & 1.5" TOP COURSE
- INSTALL NEW CEM. CONC. SIDEWALKS & DRIVEWAY APRONS
- INSTALL NEW CONC. WCR'S W/ DETECTABLE WARNING PANELS
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CITY OF QUINCY, MASSACHUSETTS  
DEPARTMENT OF PUBLIC WORKS  
55 SEA STREET, QUINCY, MA

ROAD IMPROVEMENTS 2024  
CONTRACT 3

JOB NO.: CY2024\_C3

DATE: May 9th, 2024

SCALE: AS SHOWN

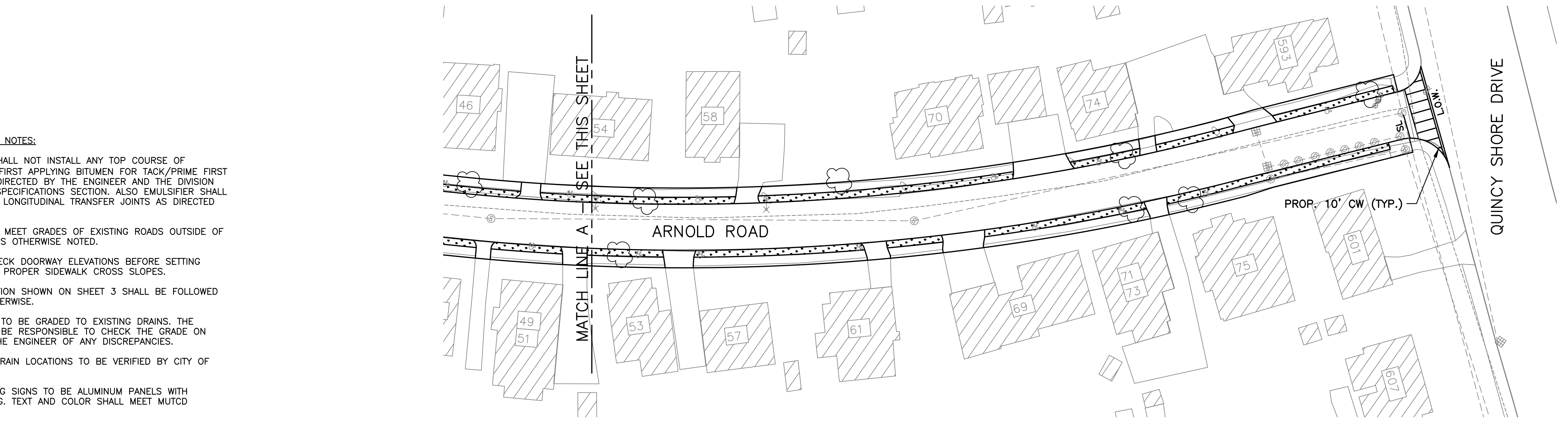
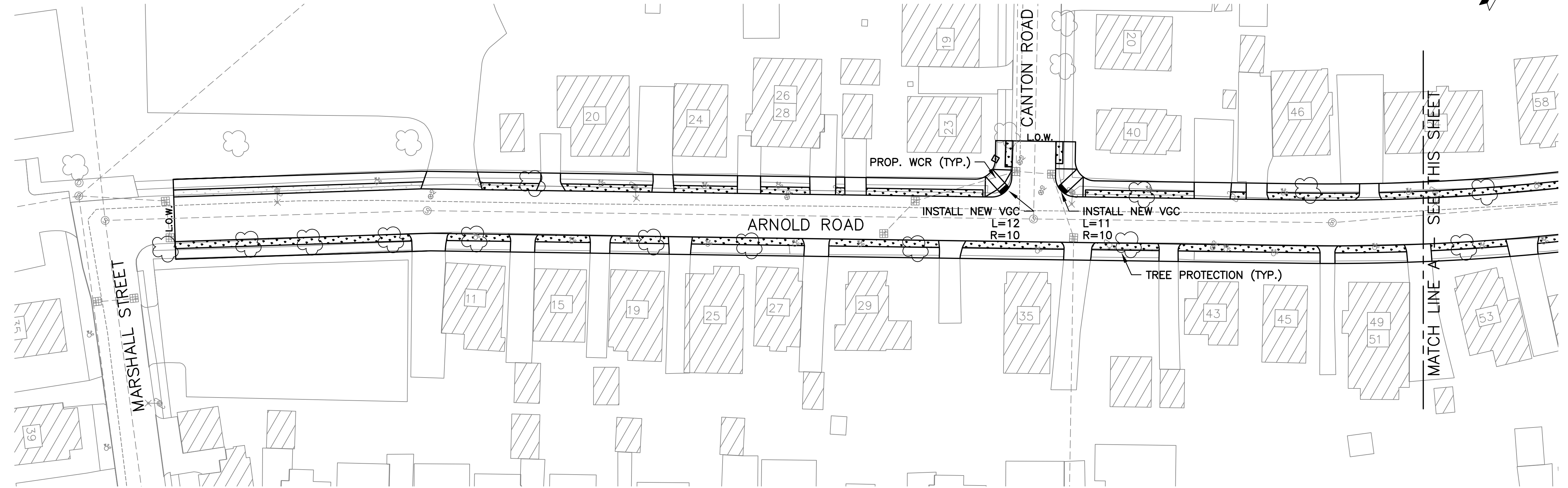
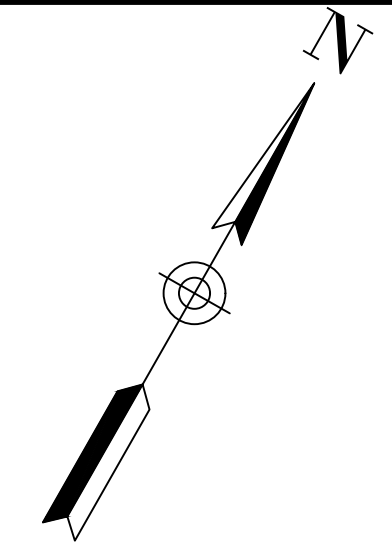
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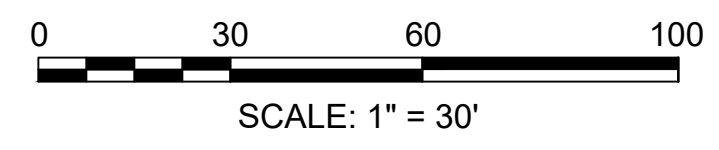
SCOPE OF WORK

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<p style="font-size: x-small;">CITY OF QUINCY, MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS 55 SEA STREET, QUINCY, MA</p>																	
<p style="font-size: x-small;">ROAD IMPROVEMENTS 2024 CONTRACT 3</p>																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">JOB NO.: CY2024_C3</td> <td style="width: 50%;">DATE: May 9th, 2024</td> </tr> <tr> <td colspan="2">SCALE: AS SHOWN</td> </tr> <tr> <td colspan="2">SHEET: 9 OF 17</td> </tr> </table>		JOB NO.: CY2024_C3	DATE: May 9th, 2024	SCALE: AS SHOWN		SHEET: 9 OF 17											
JOB NO.: CY2024_C3	DATE: May 9th, 2024																
SCALE: AS SHOWN																	
SHEET: 9 OF 17																	
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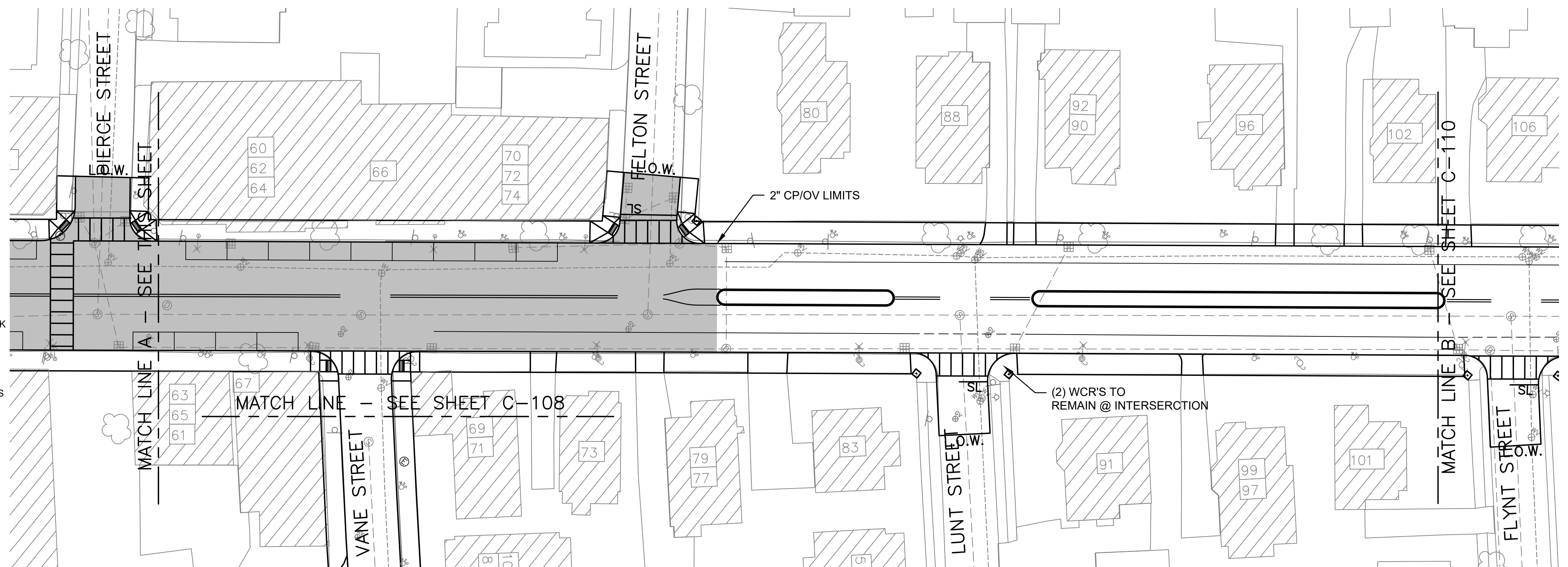
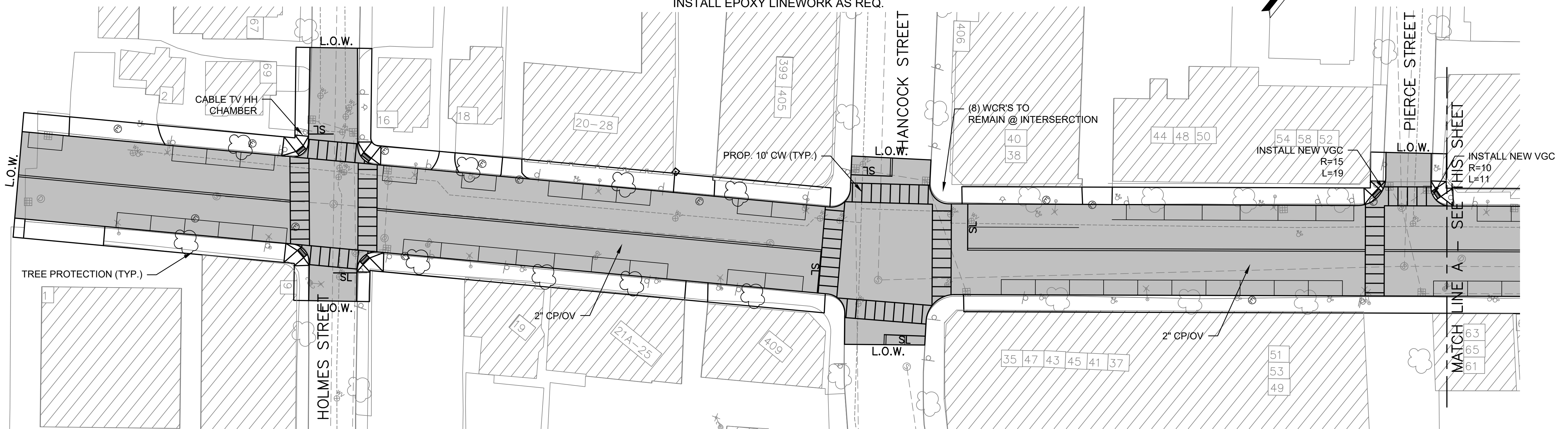






**SCOPE OF WORK**

- FULL DEPTH RECLAMATION
- INSTALL BINDER 2.5" & 1.5" TOP COURSE
- INSTALL NEW CEM. CONC. SIDEWALKS & DRIVEWAY APRONS
- INSTALL NEW CONC. WCR'S W/ DETECTABLE WARNING PANELS
- R & R EXIST. GRAN. CURB
- DROP & ADJUST ALL UTILITIES AS REQ.
- LOAM & SEED AS REQ.
- INSTALL EPOXY LINEWORK AS REQ.

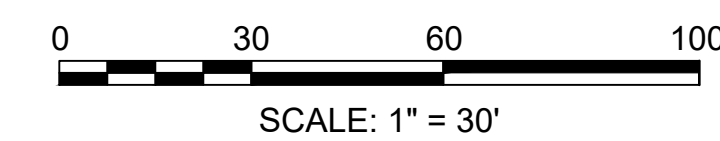


**CONSTRUCTION NOTES:**

1. WCR'S NOTED AS TO REMAIN MAY NEED TO BE REPLACED IF ALIGNMENT OF CURB ON BILLINGS ROAD CHANGES

**GENERAL CONSTRUCTION NOTES:**

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2. ALL TRANSITIONS TO MEET GRADES OF EXISTING ROADS OUTSIDE OF WORK LIMITS, UNLESS OTHERWISE NOTED.
3. CONTRACTOR TO CHECK DOORWAY ELEVATIONS BEFORE SETTING CURB AND MAINTAIN PROPER SIDEWALK CROSS SLOPES.
4. THE PAVEMENT SECTION SHOWN ON SHEET 3 SHALL BE FOLLOWED UNLESS STATED OTHERWISE.
5. ALL ROADWAYS ARE TO BE GRADED TO EXISTING DRAINS. THE CONTRACTOR SHALL BE RESPONSIBLE TO CHECK THE GRADE ON SITE AND INFORM THE ENGINEER OF ANY DISCREPANCIES.
6. WATER, SEWER, & DRAIN LOCATIONS TO BE VERIFIED BY CITY OF QUINCY DPW.
7. ALL TRAFFIC WARNING SIGNS TO BE ALUMINUM PANELS WITH REFLECTIVE SHEETING. TEXT AND COLOR SHALL MEET MUTCD STANDARD.
8. ANY AND ALL SIGN POSTS OR SIGNS REMOVED OR DAMAGED DURING THE COURSE OF CONSTRUCTION SHALL BE REPLACED AND RESET RESPECTIVELY AT THE CONTRACTOR'S EXPENSE.
9. THE CONTRACTOR IS TO COORDINATE WITH T.P.A.L. FOR DIRECTIVES REGARDING LOOP DETECTOR SIZE, INSTALLATION, LOCATION, AND PAVEMENT MARKINGS PRIOR TO PLACEMENT.



**BID SET**  
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SCOPE OF WORK

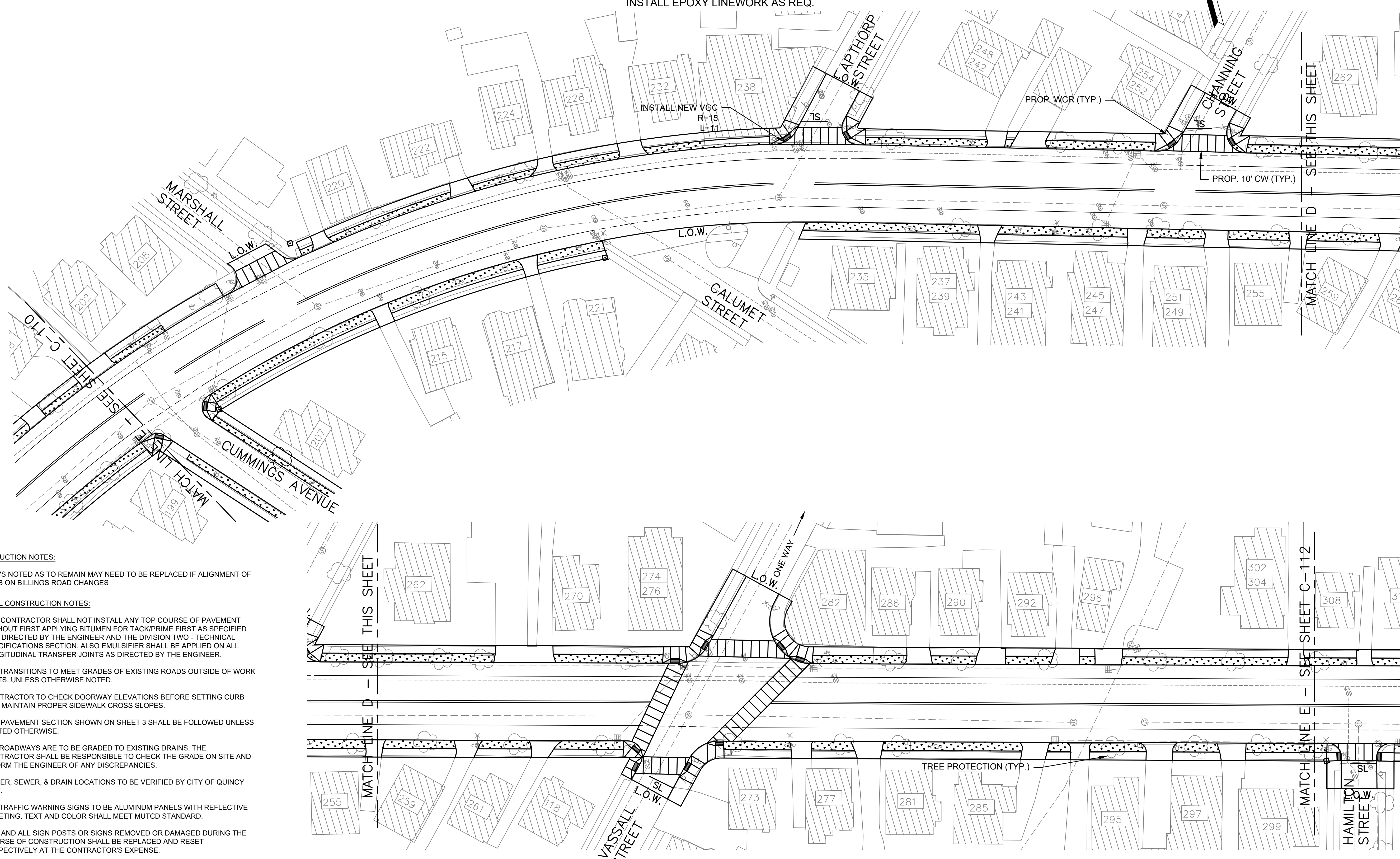
FULL DEPTH RECLAMATION  
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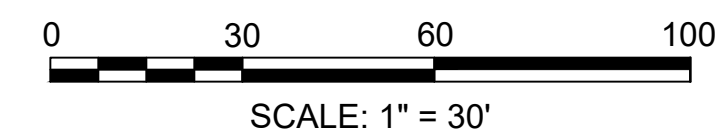


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**BID SET**  
 NOT FOR CONSTRUCTION

City of Quincy  
 Massachusetts  
 Department of Engineering  
 55 Sea Street  
 Quincy, Massachusetts 02169  
 1(617) 376-1950 | www.quincyma.gov

REV	DESCRIPTION	DATE

DESIGNED BY: JVG  
 CHECKED BY: PGC  
 DRAWN BY: NRO  
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BILLINGS ROAD  
 SHEET 3 OF 4

CITY OF QUINCY, MASSACHUSETTS  
 DEPARTMENT OF PUBLIC WORKS  
 55 SEA STREET, QUINCY, MA

ROAD IMPROVEMENTS 2024  
 CONTRACT 3

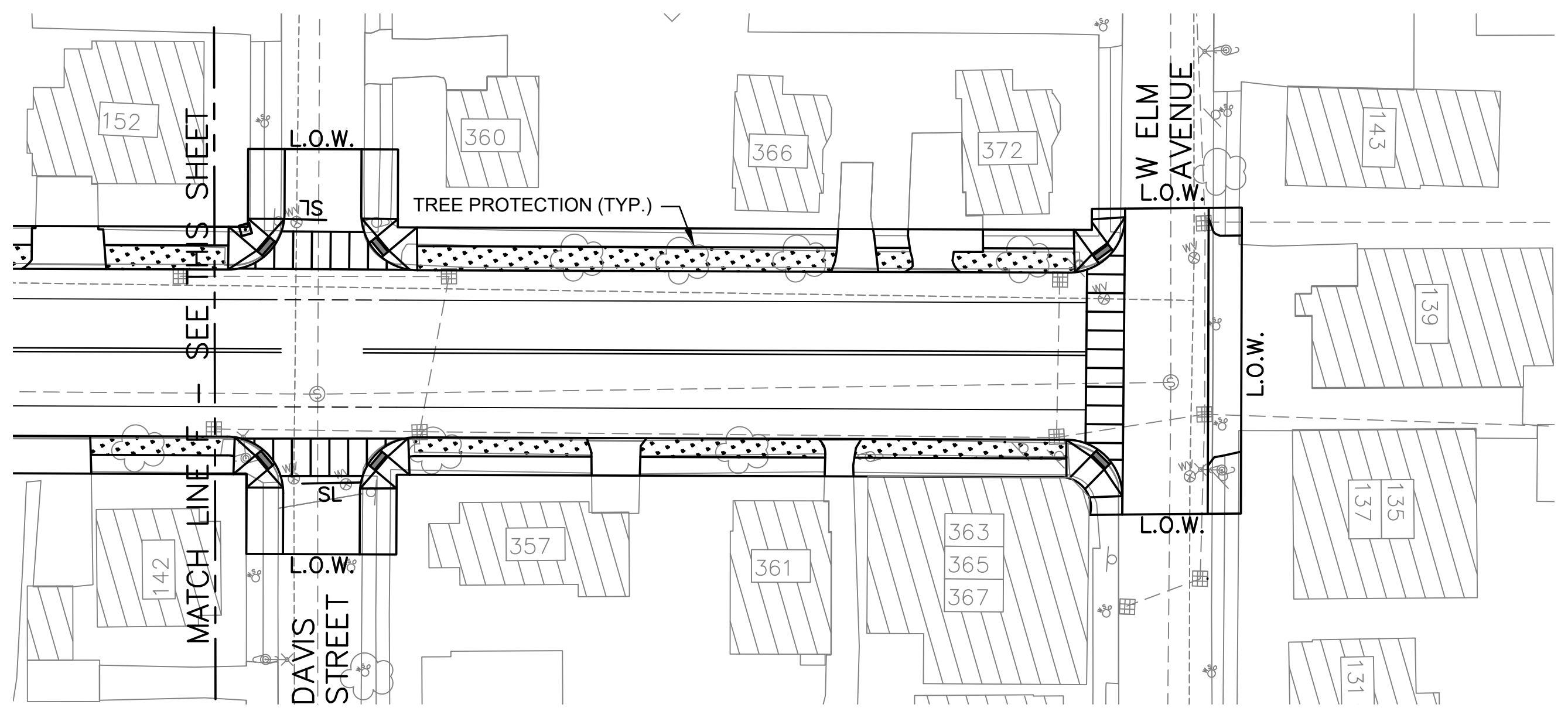
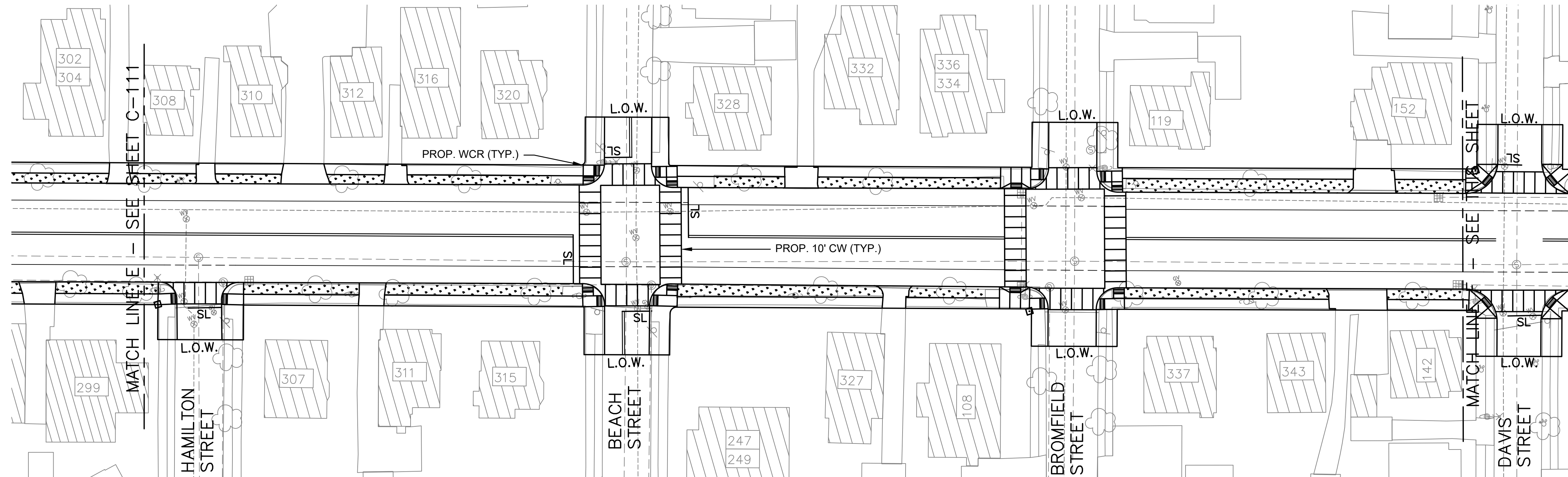
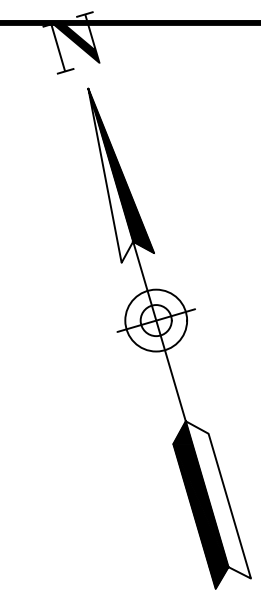
JOB NO.: CY2024\_C3  
 DATE: May 9th, 2024  
 SCALE: AS SHOWN  
 SHEET: 13 OF 17

**C-111**



SCOPE OF WORK

- FULL DEPTH RECLAMATION
- INSTALL BINDER 2.5" & 1.5" TOP COURSE
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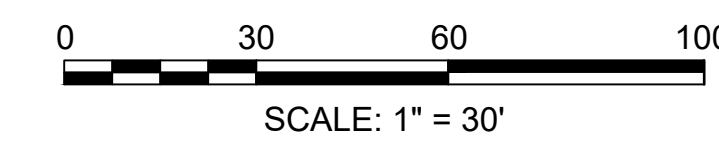


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**City of Quincy**  
Massachusetts  
Department of Engineering  
55 Sea Street  
Quincy, Massachusetts 02169  
1(617) 376-1950 | www.quincyma.gov

REV	DESCRIPTION	CHECKED BY: PGC	DATE

DESIGNED BY: JVG	DRAWN BY: NRO
CHECKED BY: PGC	CY2024_C3_C-112.dwg

**BILLINGS ROAD  
SHEET 4 OF 4**

CITY OF QUINCY, MASSACHUSETTS  
DEPARTMENT OF PUBLIC WORKS  
55 SEA STREET, QUINCY, MA

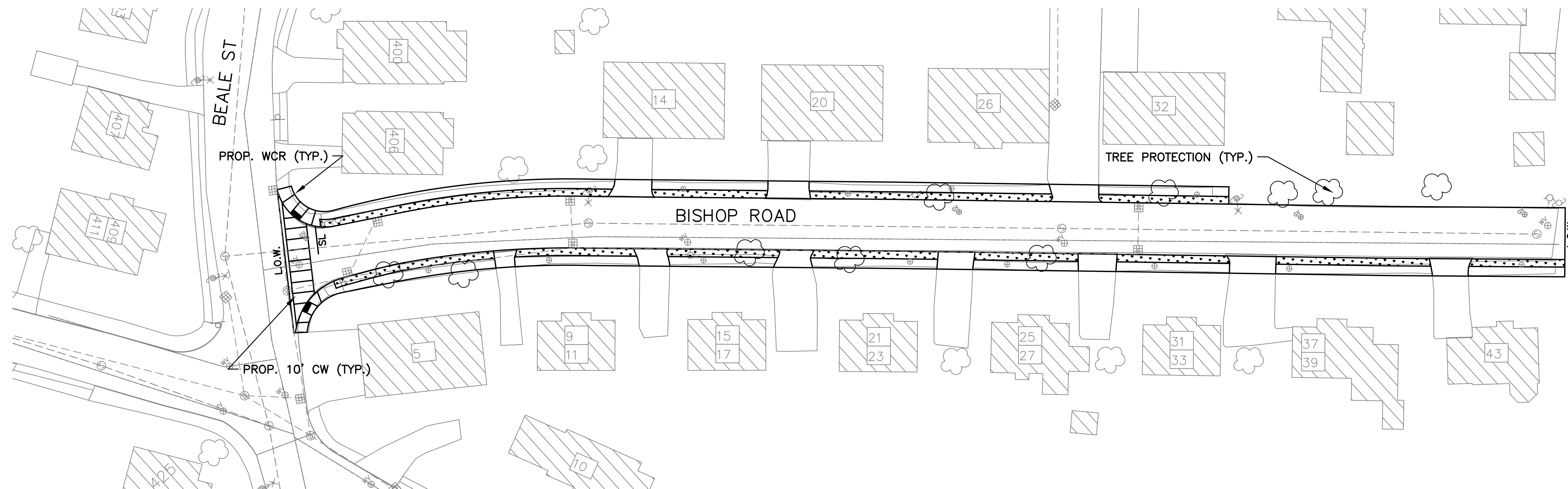
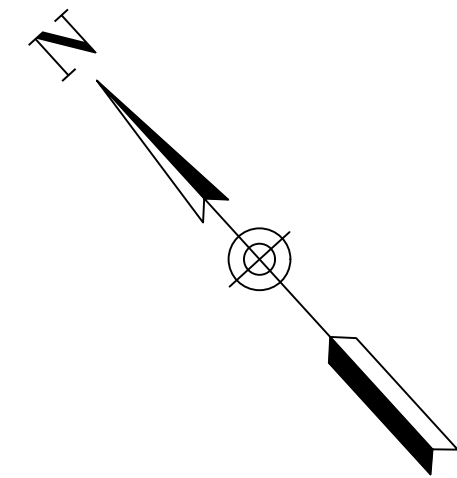
ROAD IMPROVEMENTS 2024  
CONTRACT 3

JOB NO.: CY2024_C3	DATE: May 9th, 2024	SCALE: AS SHOWN
SHEET: 14 OF 17		<b>C-112</b>



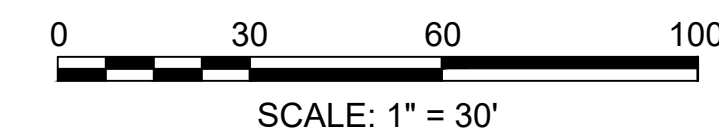
SCOPE OF WORK

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- DROP & ADJUST ALL UTILITIES AS REQ.
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GENERAL CONSTRUCTION NOTES:

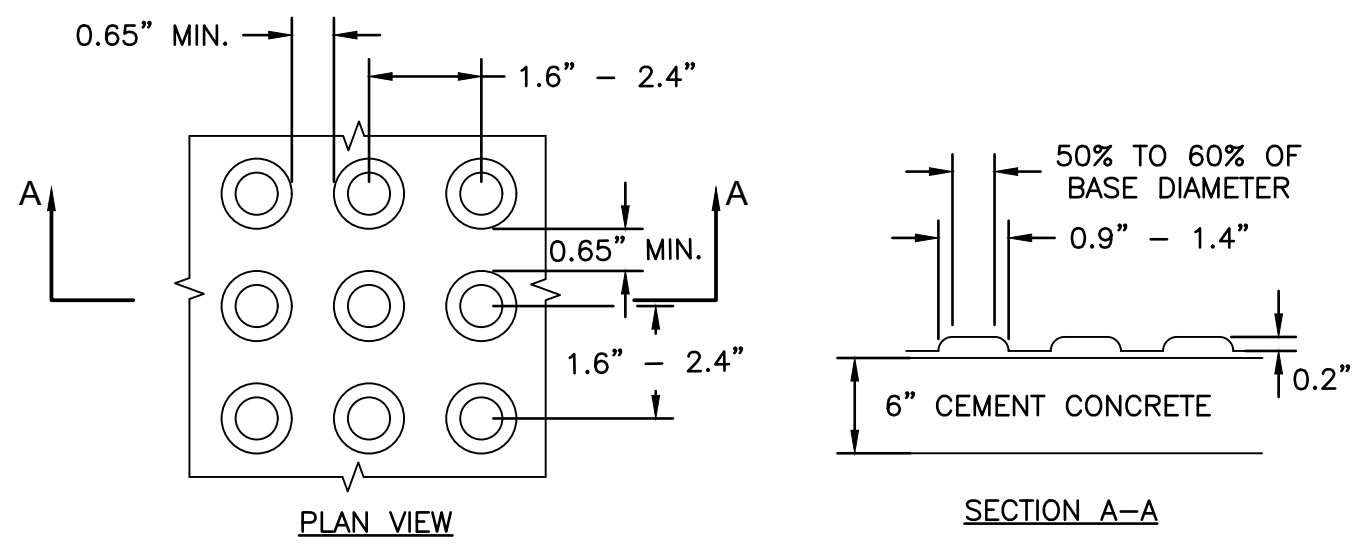
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**BID SET**  
NOT FOR CONSTRUCTION

	
<p><b>City of Quincy</b> Massachusetts Department of Engineering 55 Sea Street Quincy, Massachusetts 02169 1(617) 376-1950   www.quincy.ma.gov</p>	
<p><b>BISHOP ROAD</b></p>	<p>ROAD IMPROVEMENTS 2024 CONTRACT 3</p>
<p>CITY OF QUINCY, MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS 55 SEA STREET, QUINCY, MA</p>	
<p>JOB NO.: CY2024_C3 DATE: May 9th, 2024 SCALE: AS SHOWN SHEET: 15 OF 17</p>	
<p><b>C-113</b></p>	

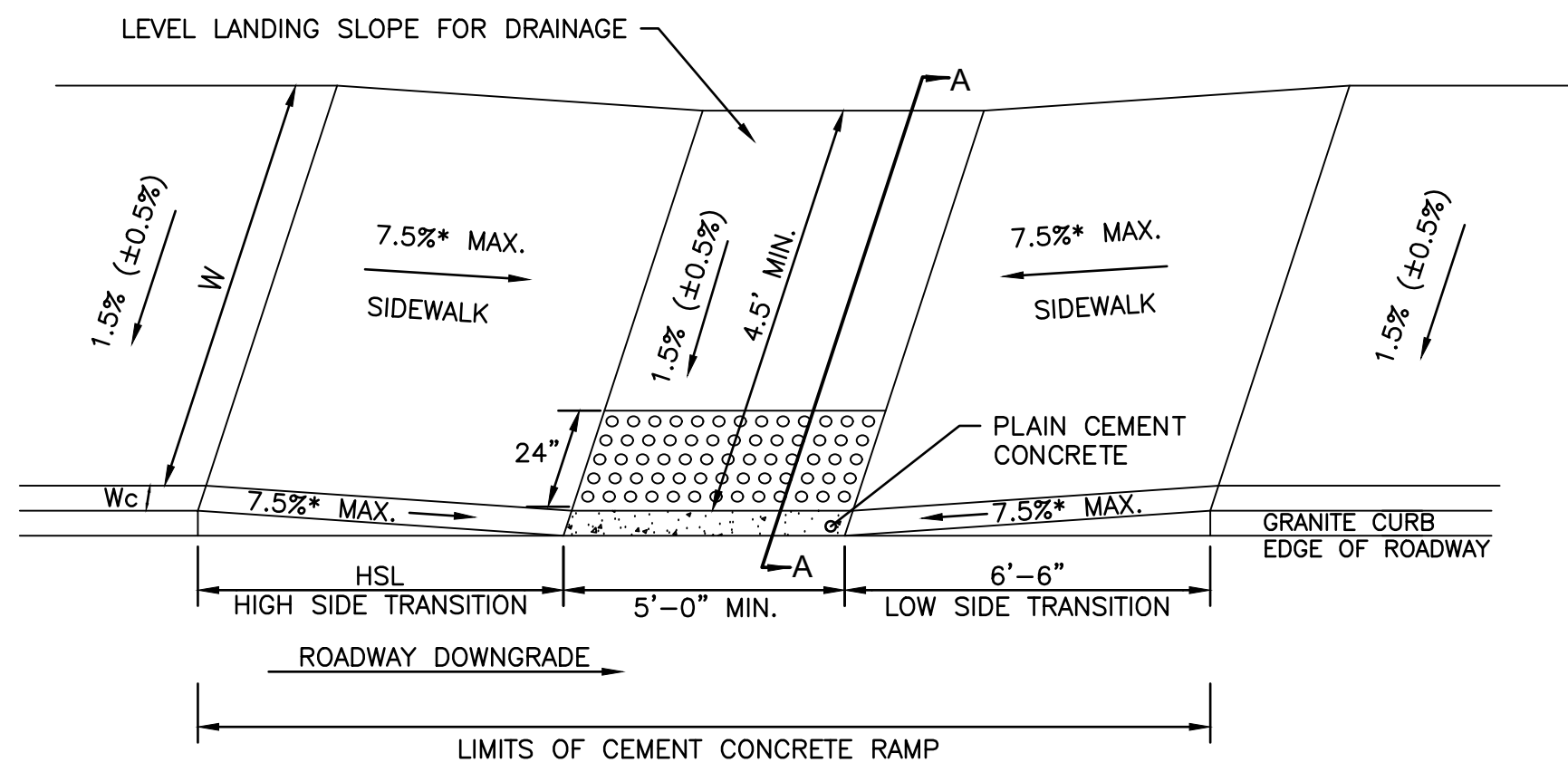




DETAIL OF DETECTABLE WARNING PANEL

NOTES:

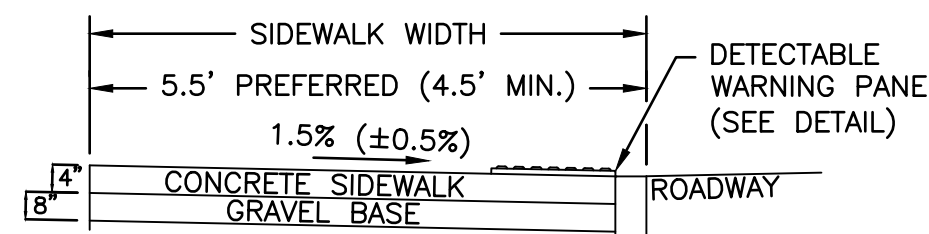
1. DETECTABLE WARNING PANELS SHALL BE PERMANENTLY APPLIED TO THE CURB RAMP.
2. DETECTABLE WARNING PANELS SHALL BE GRAY IN COLOR, CONFORMING TO FEDERAL NO. 23594, UNLESS OTHERWISE SPECIFIED BY FWD.
3. DETECTABLE WARNING PANELS SHALL BE COMPOSITE.
4. DETECTABLE WARNING PANELS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.



FRONT VIEW

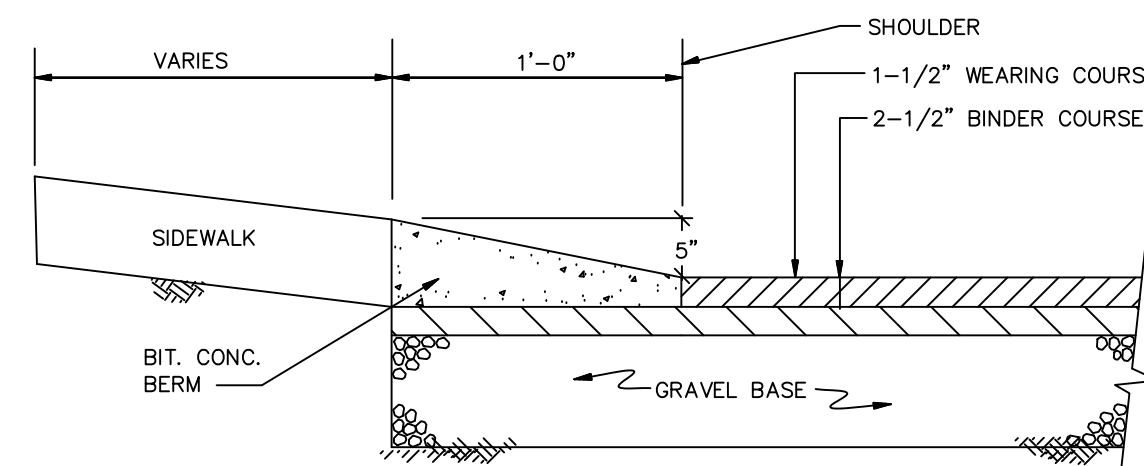
LEGEND

HSL = HIGH SIDE TRANSITION LENGTH (SEE MASSDOT CONSTRUCTION STANDARD E 107.9.0)  
 \* = TOLERANCE FOR CONSTRUCTION ±0.5%  
 W = SIDEWALK WIDTH  
 Wc = CURB WIDTH  
 USABLE SIDEWALK WIDTH PER AAB = W-Wc  
 USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0"  
 SEE DETAIL OF DETECTABLE WARNING PANEL

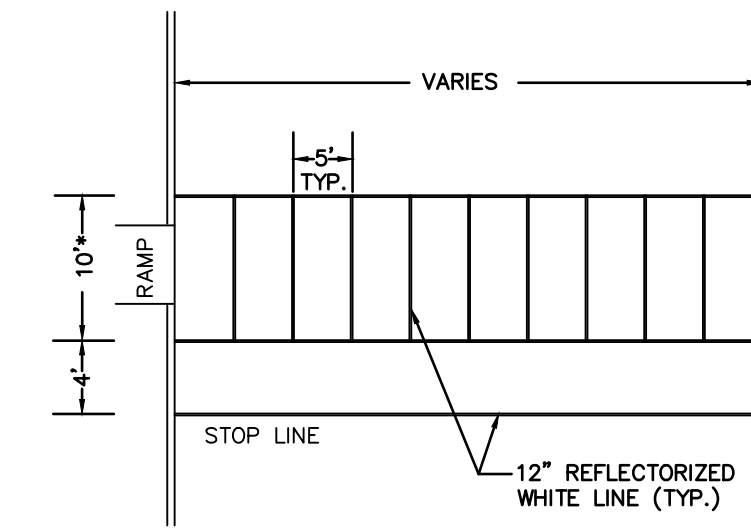


SECTION A - A

PEDESTRIAN RAMP SIDEWALK DETAIL (TYP.)

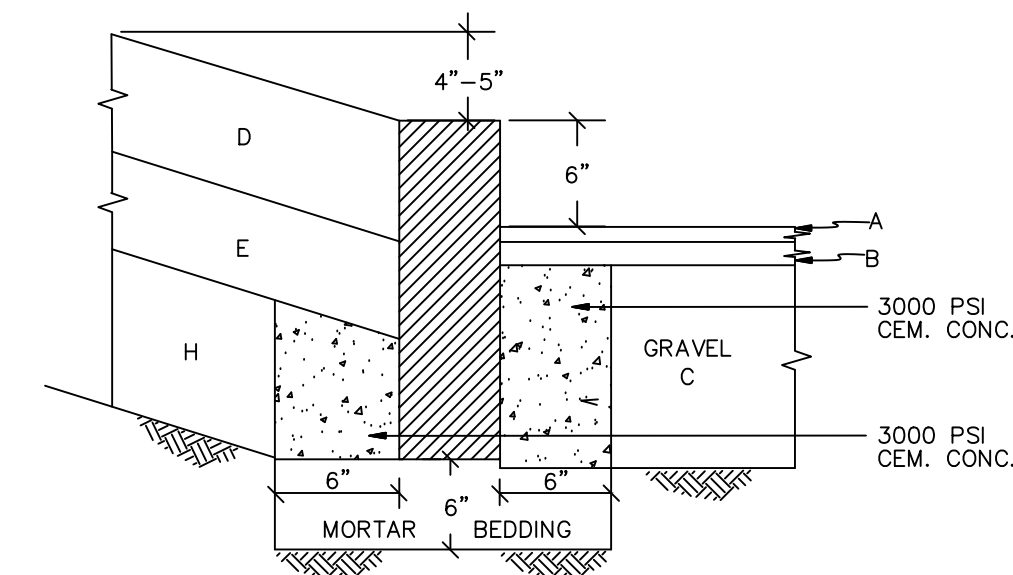


CAPE COD BERM

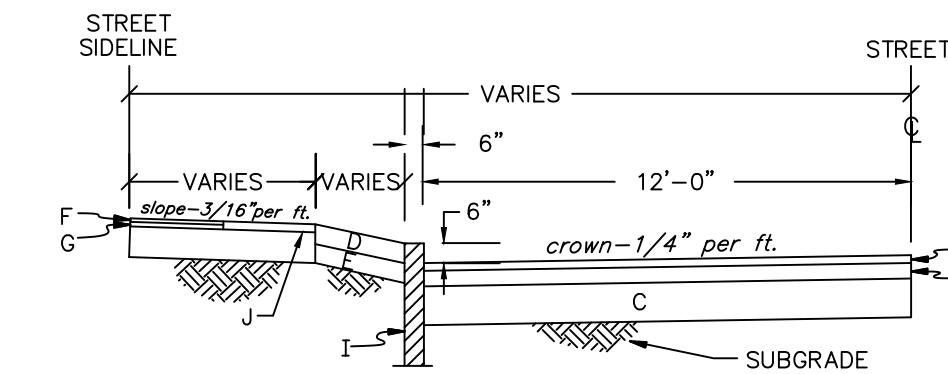


\* NOTE: CROSSWALK SHALL BE 10' WIDE UNLESS NOTED OTHERWISE ON THE PLANS.

CROSSWALK AND STOPLINE PAVEMENT MARKING DETAIL (TYP.)



GRANITE CURB DETAIL



HALF CROSS SECTION

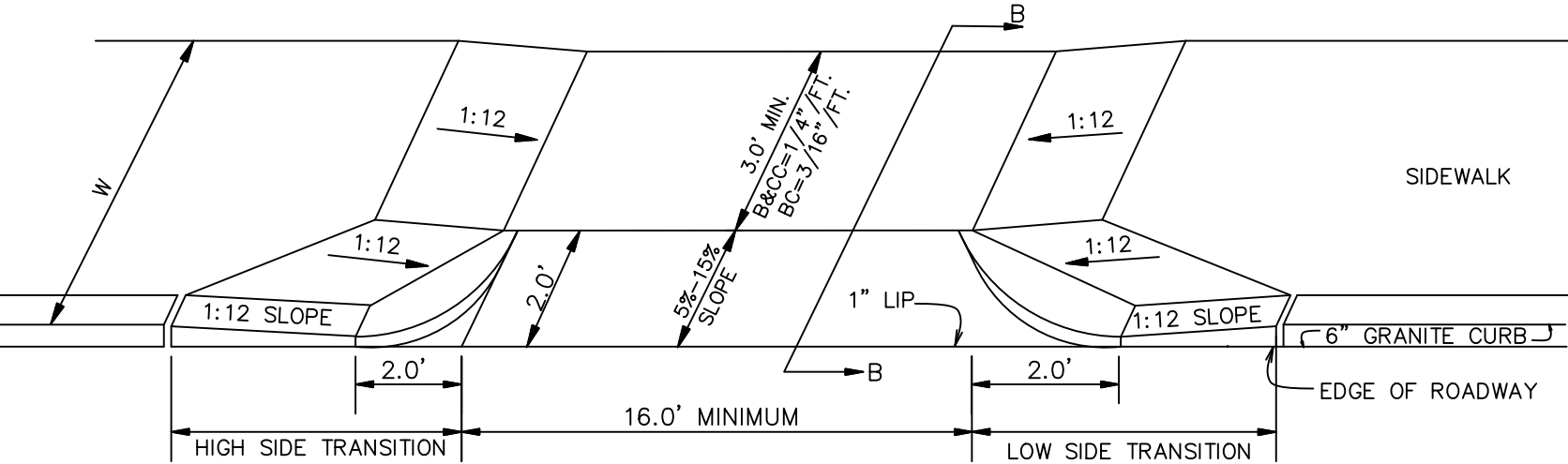
TABLE 2 - PAVEMENT STRUCTURE

MINIMUM REQUIREMENTS	
A	FINISH COURSE (BIT) 1 1/2"
B	BASE COURSE (BIT) 2 1/2"
C	GRAVEL SUB-BASE 12"
D	LOAM BORDER 8"
E	SUB-SOIL 6"
F	FINISH COURSE (BIT) 1"
G	BASE COURSE (BIT) 1 1/2"
H	GRAVEL SUB-BASE 8"
I	VA3 GRANITE CURB 19"-21"
J	CEMENT CONCRETE SIDEWALK 4"

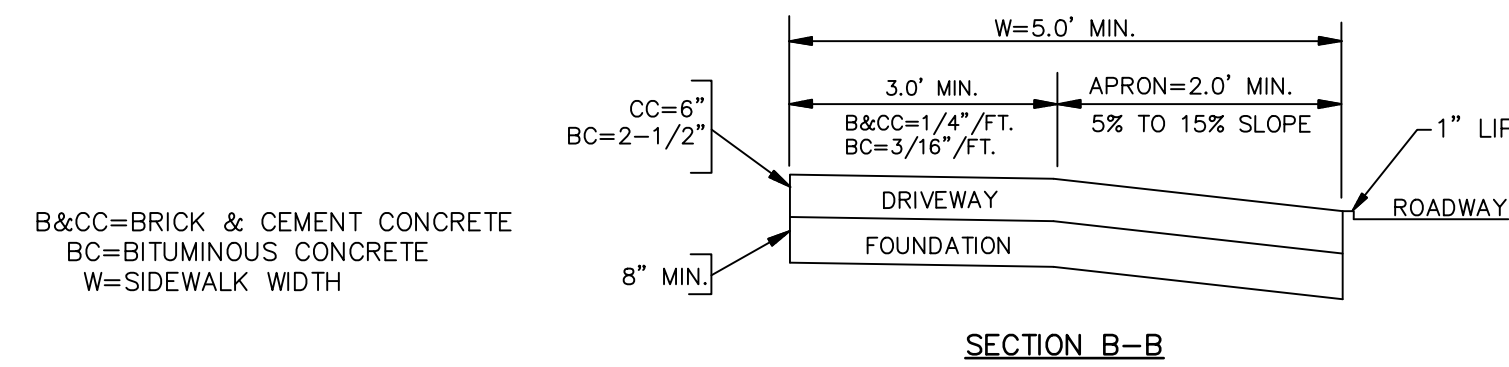
TYPICAL STREET SECTION 40 FT. R.O.W.

NOTES:

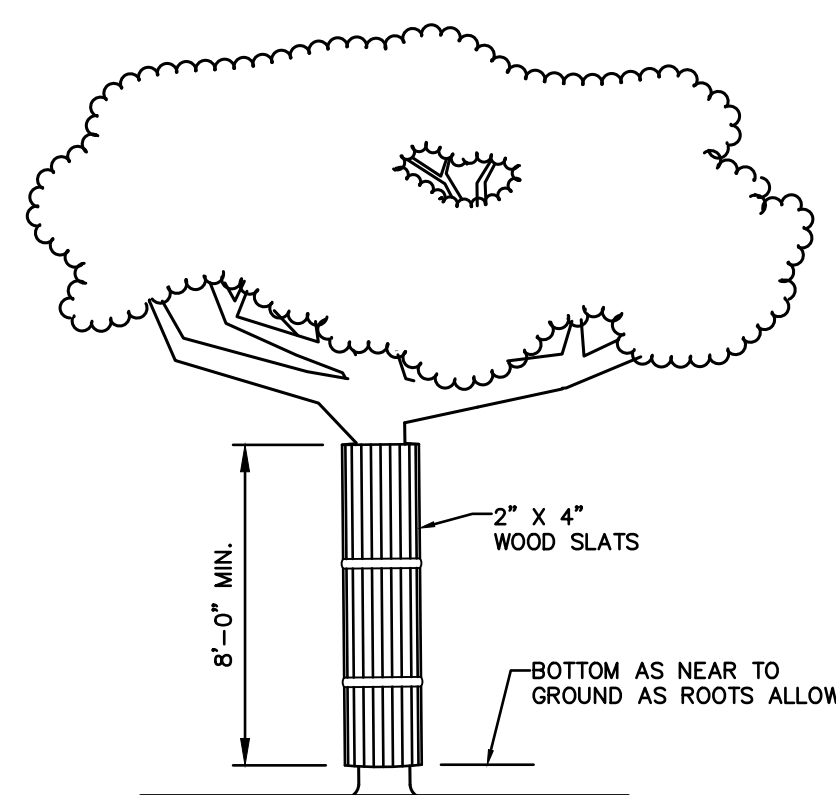
1. ALL THICKNESSES ARE THE COMPACTED MINIMUM DEPTHS. ALL MATERIALS PLACED SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY.
2. THE PAVEMENT STRUCTURE SPECIFIED IN TABLE 2 ABOVE APPLIES TO ALL STREETS WITH RIGHT OF WAY WIDTHS OF UP TO 50 FEET. ITEMS C & H ABOVE COULD BE GREATER THAN THE SPECIFIED DEPTH DEPENDING ON THE SUBGRADE CONDITIONS.



DRIVEWAYS  
2.0' CURB CORNERS: 5.0' MIN. SIDEWALK



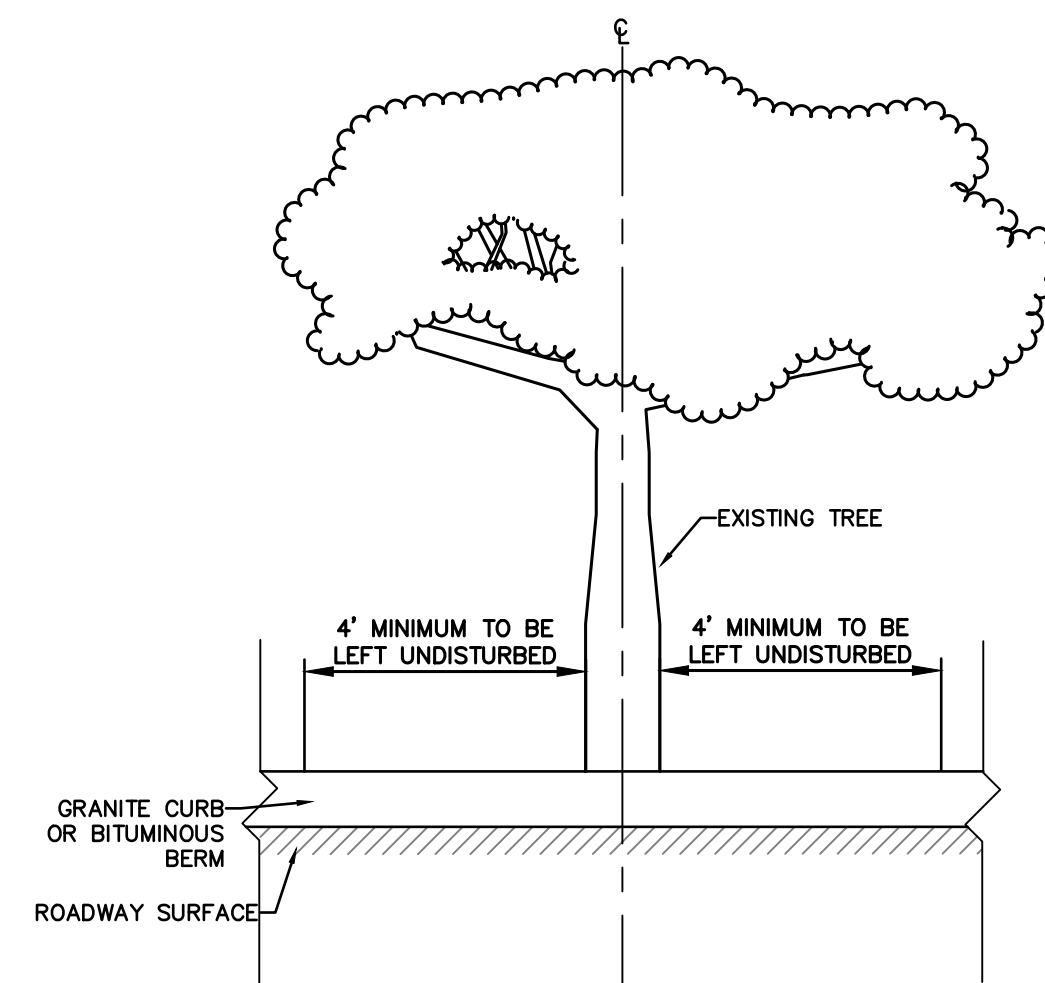
SECTION B-B



TREE PROTECTION (TYP.)

NOTES:

1. THE CONTRACTOR MUST INSTALL TREE PROTECTION ON ANY TREE WHOSE TRUNK WILL BE WITHIN 5' OF CONSTRUCTION, AND/OR IS SITUATED IN A SMALL TREE WELL, SIDEWALK PLANTER PIT, OR GRASS STRIP WITHIN THE LIMIT OF WORK, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITY.
2. THE MINIMUM HEIGHT OF TREE PROTECTION IS TO BE 8' OR TO THE LIMITS OF THE LOWER BRANCHES

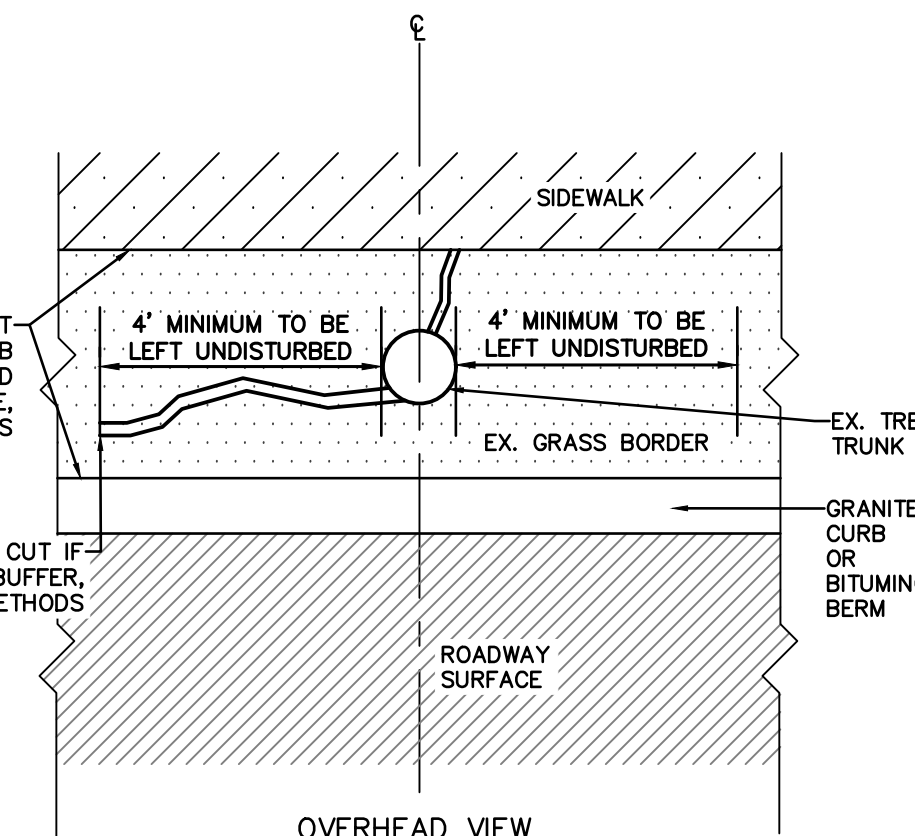


FRONT VIEW

PROTECTION OF TREE ROOT MASS

NOTES:

1. THE CONTRACTOR IS TO PROTECT THE EXISTING TREE ROOT MASS TO THE MAXIMUM EXTENT PRACTICABLE IN ACCORDANCE WITH SECTION 28 OF THE CONTRACT SPECIFICATIONS AND THE TECHNICAL SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO SECTION 01050 CONTROL OF WORK - PROTECTION OF TREES AND SHRUBS (PAGE 01050-5) AND SECTION 02105 TREE ROOT SYSTEM REMOVED
2. ALL CUT ROOTS MUST BE CLEAN SAW CUTS
3. EXISTING ROOTS, GRASS, AND LOAM, WITHIN 4' OF AN EXISTING TREE TRUNK MUST BE LEFT UNDISTURBED (SEE ABOVE DETAIL FOR CLARIFICATION)
4. OUTSIDE THE 4' BUFFER ROOTS CAN BE CUT AS APPROVED
5. WHEN IT IS NECESSARY TO DISTURB MATERIAL WITHIN THE 4' BUFFER BACKFILL MUST BE PLACED OVER ROOTS WITHIN 48 HOURS OF ADJACENT SIDEWALK COMPLETION
6. NO CONCRETE TRUCK WASHOUT SHALL OCCUR WITHIN A PLANNED GRASS STRIP, PLANNED TREE BOX, OR NEAR AN EXISTING TREE WASHOUTS SHOULD OCCUR IN AN UN-POURED DRIVEWAY APRON WHENEVER POSSIBLE



OVERHEAD VIEW



REV	DESCRIPTION	DATE
DESIGNED BY: JVG	CHECKED BY: PGC	
DRAWN BY: NFO	CY2024_C3_D-501.dwg	





**ATTACHMENT SIX**  
**TECHNICAL SPECIFICATIONS**

## TECHNICAL SPECIFICATIONS

### DIVISION ONE (No Payment Items)

<u>Section No.</u>	<u>Description/Title</u>	<u>No. Pages</u>
01045	Safety Controls and Signs for Construction Operations	3
01050	Control of Work	6
01055	Temporary Construction Facilities	2
01150	Measurement and Payment	5
01170	Special Provisions	7
01300	Submittal Requirements	5
01605	Use and Control of Materials	3
01625	Environmental Protection	5

### DIVISION TWO

<u>Section No.</u>	<u>Description/Title</u>	<u>No. Pages</u>	<u>Pay Item</u>
02000	Index	1	
02105	Tree Stump Removed	3	102.09
	Tree Root System Removed		102.19
	Tree Removed		103.10
02120	Unclassified Excavation	1	120.10
02130	Bituminous Concrete Excavation By Cold Planing	1	129.00
02150	Gravel Borrow for Sidewalks	1	151.22
02170	Fine Grading & Compaction of Sub-Grade/Sub-Base	1	170.00
02200	Drainage Structure Remodeled	2	220.50
	Sanitary Structure Remodeled		220.80
02220	Drainage Structure Adjusted	2	220.00
	Sanitary Structure Adjusted		220.70
02225	Replacement Frame with Grate or Cover	1	222.00
02350	Gate Box Adjusted	1	358.00
02351	Service Box	1	381.00
02400	Reclaimed Base Course	1	403.00
02410	Gravel for Base Course	1	405.00
02420	Class I Bituminous Concrete Type I-1 (Base)	1	420.00
02460	Class I Bituminous Concrete Type I-1 (Top)	9	460.00
	Class I Bituminous Concrete Type I-1 (Levelling)		460.50
	Bitumen for Tack/Prime Coat		463.00
02470	Class I Bituminous Concrete Berm	1	470.00
02471	Hot Mix Asphalt for Misc. Use	1	472.00
02505	Granite Curb-Type VA-3 Straight	1	503.00
	Granite Curb-Type VA-3 Curved		503.10
02510	Granite Curb Corner	1	517.00
02580	Curb Removed & Reset	1	580.00
	Curb Corner Removed & Reset		583.00

**DIVISION TWO (Continued)**

<u>Section No.</u>	<u>Description/Title</u>	<u>No. Pages</u>	<u>Pay Item</u>
02705	Cement Concrete Sidewalk - 1 course	1	701.00
	Cement Concrete @ Drives		701.10
	Cement Concrete Wheelchair Ramps		701.31
02710	Bituminous Concrete Sidewalks	1	702.10
	Bituminous Concrete Wheelchair Ramps		
	Bituminous Concrete @ Drives		
02740	Mobilization/Demobilization	1	748.00
02750	Loam Borrow	1	751.00
02765	Seeding (Supplement with Planting)	13	765.00
02860	4-Inch White Line (Epoxy)	6	860.104
	12-Inch White Line (Epoxy)		860.112
	4-Inch Yellow Line (Epoxy)		861.104
02910	Concrete (Miscellaneous)	1	904.00
02990	Traffic Police Details	1	999.001
02999	Allowance for Survey Services	1	999.100
	Allowance for Private Property Restoration	1	999.200

## **SAFETY CONTROLS & SIGNS FOR CONSTRUCTION OPERATIONS**

### **DESCRIPTION**

The work under this Item shall conform to the relevant provisions of Section 850 of the Standard Specifications, the Manual on Uniform Traffic Control Devices (Part IV, as amended), requirements of this section, and work as shown or as directed.

The work shall include furnishing, installing and maintaining various traffic control devices for the protection of area residents, the traveling public and workers during construction operations.

All signs, barricades, cones and drums shall have Encapsulated Lens Reflective Sheeting in accordance with Section M9.30.2 of the Standard Specifications.

### **FLAGS FOR ADVANCE WARNING SIGNS**

Standard orange and red-orange flags (16-inch minimum) shall be mounted on all signs in advance of starting the work.

Flags shall be mounted as shown on page 6B-13 of the Mass. Manual on Uniform Traffic Control Devices (MUTCD) and shall not interfere with a clear view of the sign face.

Reflectorized plastic drums and the reflectorized plastic drums with flashers (Type A) shall be placed as directed by the Engineer.

Plastic drums shall not be less than 19-inches in any diameter transverse to the direction of traffic flow, nor less than 14-inches in any diameter.

Flexible reflective sheeting shall be applied to all plastic drums in accordance with the Drawings in the Standard Specifications.

### **PROVISIONS FOR TRAVEL AND PROSECUTION OF THE WORK**

The Contractor shall submit a Schedule of Operations as provided for in the Standard Specifications, for the Engineer's approval before any work is started. The schedule of operations shall include a plan of construction procedures and the safety measures to be used during the execution of the work.

A work schedule incorporating all traffic control appurtenances and defining utilization of access points shall be submitted to the Engineer for approval. All temporary work shall be in conformance with Section 850 of the Standard Specifications, as last amended and supplemented by the following:

1. The Contractor shall provide such temporary bridging, steel plates, temporary pavement, wood-framed walkways, caution safety and other necessary signs directing the pedestrian/vehicular traffic towards unblocked and safe areas.  
In areas where the construction activity is in progress, the Contractor is required to install directional signs in front of businesses saying "OPEN FOR BUSINESS" or something similar for guidance of the shoppers. The Contractor shall provide safe access/egress, as defined above, to all businesses and abutters within the project area.
2. The Contractor shall schedule its operations so as to cause the least interruption at all times in the flow of traffic on existing roads during construction and shall provide for the safe and convenient passage of pedestrians and vehicles throughout the project area and the adjacent areas impacted by the construction operations.
3. During construction hours, traffic flow must be controlled by Uniformed Traffic Police Officers, in accordance with Section 7.0 of the Standard Specifications. Between the hours of 9:00 AM and 3:30 PM, a minimum of one moving lane shall be maintained on the roadways in each direction. During peak traffic hours, the Contractor may be required to open more than one moving lane in one or both directions, as directed by the Engineer.
4. For construction after normal work hours, on weekends, and holidays, at least one traffic lane with pull out areas must be made available to pedestrian and vehicular traffic. Gravel borrow and bituminous concrete needed to maintain temporary passable travel lane ramps to allow access and egress to abutting properties shall be provided as needed, by the Contractor.
5. Certain construction operations such as utility work and roadway/sidewalk reconstruction may restrict access/egress on some roads and to businesses and abutters. Under these circumstances, the Contractor is required to schedule his operations during off-peak hours or late evenings and in small stretches so that a particular work activity can be completed in the shortest possible time.

**The Contractor is required to give abutting property owners 48 hours notice of periods when access/egress will not be available. It is again stressed that the City of Quincy considers the access/egress to abutting residences and businesses of critical importance and the Contractor must implement provisions of safe access/egress.**

6. Particular care shall be exercised to establish and maintain such methods and procedures that will not create hazards of any nature. Traffic control, safety devices and/or signs having messages that are irrelevant to normal traffic conditions will be removed or properly covered at the end of each work period. Signs are to be kept clean at all times and legends shall be distinctive and unmarred.
7. In areas of high pedestrian and vehicular traffic volume, the Contractor is required to remove all waste materials and construction equipment from the work site and clean and make the site and its approaches safe on a daily basis. The construction equipment shall not be parked overnight on the site or the adjacent roads unless permitted by the Engineer.



8. In the event that the digital controllers are not available from the manufacturer when needed, the Contractor shall provide temporary mechanical controllers at no extra cost.
9. Night watchmen may be required where special hazards exist.
10. Unless permission to close a street is received in writing from the City, all excavated materials shall be placed so that vehicular and pedestrian traffic is maintained at all times. If the Contractor's operations cause traffic hazards, appropriate safety measures satisfactory to the Engineer shall be implemented immediately.
11. Detours around construction will be subject to the approval of the City Traffic Engineer. where detours are permitted, the Contractor shall provide all necessary barricades, flashers, flashing arrows and signs in conformance with the Local and State regulations and standards to divert the flow of traffic. The Engineer will strictly control the periods when traffic is being detoured.
12. The Contractor will be responsible for posting signage that clearly states that any vehicle impeding the progress of construction will be towed at the Owner's expense. If Contractor fails to post such signs, Contractor will be responsible for all towing charges.
13. The Contractor will be fully responsible for all injuries or claims, damage to public and private properties, and any violations of the local, state or federal regulations resulting from his construction operations whether or not police protection has been provided. The services of uniformed traffic police shall in no way relieve the Contractor of its responsibilities under the Contract.

## **CONTROL OF WORK**

### **PROJECT SCHEDULES**

The Contractor shall furnish plant and equipment to secure a satisfactory quality of Work and a rate of progress to insure a timely completion of the work.

The Contractor shall follow the agreed construction schedule, and all work progress shall be monitored against the on a bi-weekly basis, as required.

### **SITE SUPERINTENDENCE & WORK FORCE**

The Contractor shall provide, at its own expense, during the entire course of the work, a competent full-time job superintendent to supervise the Contractor's employees, equipment operations and the general coordination and management of the project. The superintendent shall not work part-time as a tradesman, nor shall he be removed from the job except with the written permission of the Engineer.

The Contractor shall furnish a labor force, which will work in harmony and accord with all other labor forces taking part in, or connected with this project. The Contractor shall promptly remove from the work of this project any superintendent, assistant or workman who, in the opinion of the Engineer, is incompetent, unskillful, disruptive, or disorderly, and no person so removed from the work shall be re-employed on this project without the Engineer's written consent.

### **COORDINATION WITH LOCAL AGENCIES**

The Contractor shall coordinate its activities with the Police, Traffic, Fire and Public Works Departments in the City, as required.

The Contractor shall maintain all area services and public amenities at all times and shall provide the Public Works Department with an address at which it can be contacted in an emergency. Upon notification by the City or the Engineer, the Contractor shall promptly restore services or make repairs as necessary or as directed.

The Contractor shall immediately notify utility companies of any damage to their utilities resulting from its construction operations.

The Contractor shall notify **DIGSAFE** at **1-800-322-4844** at least 72 hours before excavating in any public way.

The Contractor shall give at least 48 hours written notice to the Engineer and the effected businesses, utilities, residents and abutters prior to the commencement of work on roads and utilities effecting traffic safety and safe access for abutters and performance of other normal area activities.

During the progress of the work, the Contractor shall remove debris, sweep and sprinkle water in work areas, maintain the area as necessary to minimize the creation and dispersion of dust. Calcium chloride shall not be used to control the dust problems.

## **SITE WORK**

The Contractor shall, without additional compensation, be required to provide safe and convenient access to all abutters during the prosecution of the Work.

All construction areas shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons, and damage to property. The Contractor shall, at its own expense, provide suitable crossing from travel by pedestrians and workmen and take precautions to prevent injury to the public due to its construction operations. All excavated materials, equipment, or stockpiles that could be dangerous to the public shall be protected, barricaded, well lighted at nights, and/or removed off-site as directed by the Engineer.

The Contractor shall be responsible for the protection of all public and private property. Any direct or indirect damage done to public or private property for any reason due to the Contractor's operations shall be restored by the Contractor, at its own expense to a condition equal to or better than existed before the damage.

All open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights, flares and other means to prevent injuries to persons and damage to property. The Contractor shall, at its own expense, provide suitable and safe means for completely covering all open trench excavations (backfilling or covering with steel plates of adequate strength) and for accommodating travel when work is not in progress. Bridges provided for access to private property during construction shall be removed when no longer required.

Test pits for the purpose of locating underground pipe lines, structures, or to determine the sub-surface conditions prior to or during construction shall be excavated and backfilled by the Contractor at his own expense regardless of whether the test pits are dug at the direction of the Engineer or for the convenience of the Contractor. Test pits shall be backfilled immediately and the surfaces restored and maintained in a manner satisfactory to the Engineer.

All precautions shall be taken to prevent freezing or damage to any of the exposed or partially uncovered utility lines. All trenches shall be backfilled as soon as possible and immediately followed by an installation of temporary bituminous surface. The roadway shall be free of construction debris and excavated material and shall be relatively smooth to provide safe passage.

Necessary access for fire apparatus and other emergency vehicles must be maintained at all times. Fire hydrants and water holes for fire protection on or adjacent to the project site shall be kept accessible to the fire apparatus at all times, and no obstructions shall be placed within 10 feet of any such facility.

When work at the site necessitates the temporary placement of vehicles, equipment, materials or

workers in public streets, sidewalks or walkways, the Contractor shall provide and use all necessary warning devices, barricades, signs, special apparel, etc., in the performance of the work, as set forth in Section 250 of the Standard Specifications.

No pavement work shall be done between December 15<sup>th</sup> and March 31<sup>st</sup> unless specifically permitted by the Engineer. Therefore, the Contractor shall not begin and construction which cannot be satisfactorily completed before December 15<sup>th</sup>. The Contractor shall not have any claim for extension of time for completion of the Work under this contract as a result of this restriction.

#### **INTERFERENCE WITH EXISTING WORKS**

The Contractor shall at all times conduct its operations so as not to interfere with the existing works. The Contractor shall develop a program, with the approval of the Engineer and interested officials, to provide for construction and putting into service of the new works in an orderly manner.

All work connected with cutting into and reconstruction of existing pipes or structures shall be planned to interfere with the operation of the existing facilities for the shortest possible time when the demands on the facilities best permit such interference.

The Contractor shall have no claim for additional compensation by reason of delay or inconvenience in adapting its operations to meet the above requirement.

Pipe lines will be located substantially as indicated on the drawings, but the City reserves the right to make modifications in alignment, sizes, fittings and appurtenances to suit field or the existing system operation/design conditions. This type of modification shall not relieve the Contractor from his contractual obligations in laying, jointing, and installing difference additional items, as required.

Where dimensions and location of existing structures are of importance in the installation or connection of any part of the work, the Contractor shall verify such dimensions and locations in the field at its own expense, before fabricating or ordering any material or equipment.

#### **INTERFERENCE WITH STREETS/SIDEWALKS**

The Contractor shall not close or obstruct any portion of a street, road, or private way without obtaining Apermits to perform work within limits of public ways from the Department of Public Works (DPW).

Streets, roads, private ways and walks under construction shall be maintained so as not to endanger the public/private properties and safety of the traveling public and residents at all times. The Contractor shall be fully responsible for all damages arising out of its operations and for the adequacy of safety measures provided at each site.

If the closure of a street of road is necessary, the Contractor shall notify the Police, Fire, Traffic and Public Works Departments and shall cooperate with the Traffic Department in the establishment of

alternate routes. The Contractor shall provide and install the required number of detour signs (plainly marked and well-lighted) and take all other safety measures necessary to minimize confusion.

Along the location of work, all fences, stone walls, curbs, drives and walks, bushes, trees, shrubbery and other physical features which are within the limits of the streets or are associated with private property shall be protected to the satisfaction of the Engineer and to the satisfaction of the property owner(s).

Fences and other features removed by the Contractor for site access are to be restored in the location indicated by the Engineer as soon as conditions permit. All damages to existing physical feature shall be repaired to the satisfaction of the Engineer and the satisfaction of the affected property owner(s). All protection, repair, restoration and/or replacement work required shall be at the Contractor's expense.

### **PROTECTION/RELOCATION OF EXISTING STRUCTURES/UTILITIES**

The Contractor shall assume full responsibility for the protection of all buildings, structures/utilities, public or private, including poles, signs, services to buildings, utilities in the street, (gas, water, sewer, drains, the electric and telephone, cable and the associated appurtenances) whether or not these are shown on the drawings. Any damage resulting from the construction operations shall be repaired at the Contractor's expense.

The City will provide the Contractor with all existing information to determine the location of existing lines and appurtenances for sewer, water and drainage systems. The Contractor, however, shall bear full responsibility for ascertaining the correct locations of all utility lines and associated structures and appurtenances before starting construction work.

The identification, relocation and/or resetting of hand-holes, manholes, vaults, valves, and other distribution control devices for the electric, gas, and telephone cable systems, shall be the responsibility of the respective utility companies. However, the Contractor shall obtain a comprehensive list of all such appurtenances from the utility companies, verify their physical location and shall be fully responsible for their protection during the construction operations.

All costs charges or damages resulting from lack of comprehensive pre-construction investigations related to the above items shall be borne by the Contractor.

Protection and temporary removal and replacement of existing utilities and structures as described in this section shall be considered as a part of the work under the Contract and all costs in connection therewith shall be borne by the Contractor.

In all public streets or private ways, except for City-owned utilities (water mains, sewers and drains), all relocation of utilities required for construction of the contract work shall be performed by the appropriate utility organization unless agreed otherwise by the utility company. The Contractor shall bear all expenses incurred because of utilities damaged due to its operations.

The operation of existing utilities shall not be interrupted except with written permission of the City and the operator of such utilities. The Contractor shall allow ample time and resources to implement all measures required for the continuation of existing utility operations. The Contractor shall request and coordinate all utility relocations, subject to permission of the Engineer. The Contractor shall comply with all regulations, standards, methods and procedures particular to the utility organizations involved.

Utility relocation for the sole purpose of making excavation easier for the Contractor shall not be allowed. Should the Contractor desire to relocate publicly-owned utilities such as water mains, sewers and drains for the sole purpose of making excavation easier, they shall be relocated at the Contractor's expense.

### **PROTECTION OF TREES AND SHRUBS**

The Contractor shall avoid all damage to trees along and adjacent to the work area. No tree or shrub shall be removed without the approval of the Engineer.

If during the progress of the work, the Contractor encounters any upland state-listed species on the construction site, the matter shall be immediately reported to the Engineer, the Quincy Conservation Commission, and further reported to the appropriate state agencies having jurisdiction over these matters.

All measure required for the protection of trees, shrubs and other resource areas shall be considered to be part of the work to be done under these specifications at no additional cost to the City.

### **PROTECTION AGAINST EROSION**

The Contractor shall take precautions during construction to minimize erosion and run-off of polluting substances such as silt, clay, fuels, oils, bitumen's, and calcium chloride into the water resource areas.

Disposal of drainage shall be in an area approved by the City. Drainage water shall not be disposed of until silt and other sedimentary materials have been removed.

Stacked bales of hay shall be provided at points where drainage from the work site leaves the site to reduce the sediment content of the water. Sufficient bales of hay shall be provided such that all flow will filter through the hay. Other methods that reduce the sediment content to an equal or greater degree may be used as approved by the Engineer.

Drainage leaving the site shall flow to watercourses in such a manner to prevent erosion.

Erosion control measures must be adequate to ensure that turbidity in the receiving water will not be increased more than 10 standard turbidity units (s.t.u.), or as otherwise required by the state or other controlling body, in waters used for public water supply or fish unless limits have been

established for the particular water. In surface waters used for other purposes, the turbidity must not exceed 25 s.t.u., unless otherwise permitted.

The Contractor shall receive not direct payment for any costs incurred instituting erosion control measures, as stipulated herein or whatever is necessary to provide the necessary protection against erosion.

#### **SITE CLEAN-UP AND DISPOSAL OF SURPLUS WASTE MATERIAL**

The Contractor shall remove and dispose of all surplus and/or waste materials including surplus excavation, broken pavement, lumber, metal pipe and appurtenances, old equipment, temporary structures, and any other refuse from the construction operations.

Stone base and/or gravel base materials, manhole/catch basin castings, valves, gates, etc., if not used in the project, will remain the property of the City of Quincy unless specifically directed by the Engineer to dispose of the materials off-site. If the City decides to keep the materials, the Contractor will be required to load and haul the materials to the DPW yard at 55 Sea Street, Quincy, at no additional cost.

In order to prevent environmental pollution arising from the construction activities, the Contractor and sub-contractors shall comply with all applicable federal, state and local laws and regulations concerning waste material disposal, as well as the specific requirements stated in this section and elsewhere in the specifications specified herein.

The disposal of excess excavated materials in wetlands, stream corridors, and plains is strictly prohibited even if the permission of the property owner is obtained. Any violation of this restriction by the Contractor or its employees will be brought to the immediate attention of the responsible regulatory agency, with a request that appropriate action be taken against the offending parties.

All new and existing interfacing pipe lines, appurtenant structures within the project limits and the adjacent effected section shall be left in a clean and operable condition at the completion of the work. It shall be the responsibility of the Contractor to make certain that the new systems carrying run-off, sewage and water (as applicable) within the limits of this project operate efficiently to their points of discharge into the existing system. The Contractor without additional compensation shall remove all debris in pipes and structures as a result of the Contractor's operations.

## **TEMPORARY CONSTRUCTION FACILITIES**

### **DESCRIPTION**

The Contractor shall provide all temporary construction support facilities and controls, such as staging area, project signs, temporary access road, temporary stockpile areas, pre-construction surveys and bench mark and base lines to control and to layout the works as necessary and as specified or as directed by the Engineer. The contractor shall also provide all utility services and miscellaneous supplies required for satisfactory control of the works.

### **CONTRACTOR'S STAGING AREA**

The Contractor's attention is directed to the fact that the City will not provide a staging area for the storage of construction plant equipment, material or supplies. All permits required for selection of staging area and the Contractor must obtain its proposed use from the local or State agencies having jurisdiction over the area. The cost of obtaining a staging area and the associated permits shall be considered to be included in the bid prices for the various items of work as listed in the Bid Form.

At no time shall any material, equipment, construction plant be stored on the beaches, public streets, private ways, sidewalks and other public areas.

The Contractor shall not enter or occupy private land outside of easements, except by permission of the landowner and the approving public agencies.

Only the equipment and materials ready for incorporation into the work shall be delivered and temporarily stacked on site. All materials and equipment thus delivered shall be placed so as not to injure any part of the work or the existing facilities and such that free access can be had at all times to all parts of the work.

All unrelated or idle construction plant waste and/or excess materials shall be removed from the site immediately.

### **TEMPORARY ACCESS ROADS**

The Contractor shall construct temporary access/haul roads and temporary equipment and material storage area where needed or as directed by the Engineer to move men, equipment and materials to otherwise inaccessible or hard to reach areas. Such facilities where located in environmentally sensitive areas shall be as permitted by the Quincy Conservation Commission and subject to its regular monitoring, completion inspection and restoration to original conditions.



## **PROJECT SIGN**

The Contractor shall furnish and install signs at the project site and at other locations as directed by the Engineer. The sign shall be made of 3/4-inch thick exterior grade high-density overlay plywood, and shall be mounted on 4-in. x 4-in. wooden posts. The sign shall be 4-ft. x 8-ft. in size and shall have a blue background and white letters. The text and its layout shall be provided to the Contractor before the start of Work.

Letter size shall be in proportion to layout and text and shall be of professional quality. The Contractor shall maintain the sign (including repainting), in a satisfactory condition for the life of this Contract.

Upon completion of the project and when directed, the sign shall become the property of the Contractor and shall be satisfactorily removed and disposed of by the Contractor off the site. The costs of furnishing, erecting, and maintaining the project sign shall be considered to be included in the bid prices for the various items of work listed in the Bid Form. For layout of project sign, please refer to Appendices.

## **REMOVAL OF TEMPORARY BUILDINGS AND EQUIPMENT**

On or before the completion of the work, the Contractor shall, unless otherwise especially directed or permitted in writing, tear down and remove all temporary buildings and structures. The Contractor shall remove all temporary roads, staging areas, including tools and construction equipment from the site. The Contractor shall remove/cover all organic matter and waste materials in, under and around privies, houses, and other buildings. The Contractor shall remove all rubbish and waste materials from the site and leave the area and adjacent properties in a neat and satisfactory condition.

## MEASUREMENT AND PAYMENT

This section supplements, as applicable, the measurements and payment provisions for each of the pay items under Part 4: Compensation under Division II: Technical Specifications. The provisions of this section shall apply to all work items under this contract.

The following activities, whether or not explicitly stated elsewhere in these documents, shall be understood to be included under the relevant Pay Items in the Bid Form to which the activity is directly or indirectly incidental to or necessary for a satisfactory completion of the item.

- The Contractor shall acquaint itself with all work associated with each Pay Item and shall not claim based on unfamiliarity with the detailed scope of work, complexity of operations or other site-specific conditions.
- Each lump sum or unit price stated in the Bid Form shall constitute full compensation for the item and shall include all work required for or incidental to or mandated by the applicable codes, permits, regulations and laws to complete the work items satisfactorily in accordance with the drawings, specifications and/or the current industry standards of performance and workmanship.
- Such activities, whether or not expressly stated in the contract documents, shall not be paid for separately unless specified otherwise.
- All public/private agency permits not included herein but necessary to carry out the work under this contract shall be obtained by the Contractor at its own expense.
- All excavation, backfilling, compaction of excavated and borrow materials required for the installation of all pipes and appurtenant structures (sewer, water and drain lines, catch basins, manholes, handholes, conduit, ducts, test pits, planting pits, signage and fence posts, fire alarm, etc.) shall be considered included in the contract unit prices/lump sums stated in the Bid Form.
- All excavations and backfilling required to remove unsuitable materials below grade shown on the drawings shall be considered included in the lump sum price. However, the City shall make available to the Contractor all crushed rock/gravel required to backfill this extra excavation.
- All existing improvements (loamed and grassed areas, bushes, landscapes, roadways or other surfaces), facilities/amenities damaged due to the Contractor's operations shall be restored at the Contractor's expense regardless of whether the damage is accidental, deliberate and/or due to construction work.
- Testing requirements for all materials, equipment and new work (quality and workmanship) under this contract shall be as specified herein, or as per the applicable codes, standards and regulations, as related to each item. All such testing, when ordered by the Engineer, shall be at the Contractor's expense.

- The services of manufacturers representatives and supervisory personnel required to insure correct equipment/instrument/appurtenance installation, testing and operations including training of the City Personnel and preparation of Operations/Maintenance Manuals shall not be paid for separately. All costs associated with these activities shall be considered included in the lump sum price.
- All work associated with the clean up of site and new construction/ maintenance of roads and utility services during construction shall be at the Contractors expense.
- All waste and unsuitable materials resulting from any item of work within the contract scope or from any other action related to the Contractors operations shall be disposed of by the Contractor at no cost to the City.

All useable materials, when declared surplus by the Engineer, shall either be disposed of off-site or transported and stockpiled at the DPW Yard or in another suitable area as directed by the Engineer at no additional cost to the City.

During construction all costs associated with temporary sheeting, bracing, shoring, underpinning, decking, cofferdamming, drainage and disposal of water from pumping/dewatering operations in excavations, and foundations, site clean-up and removal of waste/surplus materials, temporary and final settings of all castings (utility manholes, catch basins, hand holes, gate boxes, etc.) shall be considered included in the contract lump sum price.

#### **BASIS OF MEASUREMENT**

Before the contract award, the Contractor shall submit (for lump sum contract/items only) to the Engineer, in triplicate, an itemized cost breakdown on all (significant contracts) work items. The cost breakdown for each item shall be reviewed and approved by the Engineer. When approved, the itemized breakdown shall become the basis for determining the progress payments and for negotiating change orders, if necessary.

Measurement for work under this contract shall be done either in units as specified for each pay item in the Bid Form on the basis of percentage of the total works. The measurements/percentages shall be calculated by the Contractor and verified and agreed to by the Engineer.

Said verification may be through mathematical calculations, payment vouchers, delivery receipts, field notes and/or actual inspection reports. The Contractor shall supply this information, as required, to determine the quantities/percentages for payment.

All extra work shall be authorized in writing before the work is performed. All such work shall be paid for on the basis of the contract lump sum price breakdown/the contract unit prices as set forth in the Bid Form.

No allowance shall be made for shrinkage, swelling, or voids for borrow materials, such as ordinary borrow, gravel, crushed stone, coarse aggregates, loam and other similar materials.

For purposes of conversion, the average unit weight for such materials shall be at 130 lbs. /cu.ft. The average unit weight for rock materials (i.e. stones, stone chips, boulders and rocks) shall be at 170 lbs./cu.ft.

### **BASIS OF PAYMENT**

Payments shall be made for the actual work performed, in place and accepted by the Engineer. The payment shall be in accordance with the unit prices or lump sums as stated in the Bid Form. Payment for lump sum items shall be on the basis of a percentage of pay items completed, which shall be determined on the basis of the itemized cost breakdown agreed to above. No allowance or payment shall be made for any materials or equipment delivered and stored on site or for any materials, equipment or item of work, including labor and services, which are not incorporated in the work, unless specifically agreed to and approved by the Engineer.

### **PARTIAL PAYMENTS**

Upon presentation by the Contractor of certified copies of paid invoices, the Contractor may include in his Application for Payment to the City, advance payments for acceptable reinforcing steel, structural steel, stone, piles, culvert pipe or other non-perishable materials purchased expressly for the work and delivered on the work or in approved storage place at the site, but which materials are not considered as erected or complete in place under the items of the Contract, and for which partial payment would not be made until such materials and items were erected or complete in place.

If it is impossible due to lack of area on the site or other valid reason, the Contractor may request in writing, permission from the Engineer to store materials off the site and still have the materials paid as material on hand and the engineer may approve payment. This request will state the reason for the request, location of proposed storage site, methods that will be employed to insure that material is properly protected and the materials will be used on the particular project and any other information as may be deemed necessary in order to evaluate the request. No advance payment for material stored off site will be made until written approval of the Engineer has been obtained. The amount to be included in the Application for Payment will be determined by the Engineer up to a maximum of 100% of the value of the materials as shown by the certified copies of the paid invoices. Payments will not be approved when the invoice value of such material as determined by the Engineer, amounts to less than \$1,000.

### **INCREASED OR DECREASED CONTRACT QUANTITIES**

The City reserves the right to increase or decrease the quantity of any particular Item of Work.

Where the quantity of a Unit Price pay item in this Contract is an estimated quantity and where the actual quantity of such pay item varies more than twenty-five (25%) percent above or below the estimated quantity stated in this Contract, an equitable adjustment in the Contract Price for that pay item shall be negotiated upon demand of either party. The equitable adjustment shall be strictly based upon any increase or decrease due solely to the variation above one hundred twenty-five

(125%) percent or below seventy-five (75%) percent of the estimated quantity. In this regard, no allowances will be made for loss of anticipated profits suffered or claimed by the Contractor resulting directly or indirectly from such increased or decreased quantities or from unbalanced allocation among the contract items from any other cause.

#### **APPLICATION FOR PAYMENT**

After the percentages of the total work to be invoiced have been verified and accepted by the Engineer, the application for payment shall be submitted in writing to the Engineer for final review and processing. Except for special permission, all applications for payment shall be on a "once a month" basis.

The Engineer shall have ten (10) working days to review the application for correctness of quantities figures, completeness of supporting documentation and recommending the application for payment or returning application to the Contractor for additional information, revisions, and/or substantiation of amounts/quantities being invoiced.

It must be clearly understood that once a payment application is recommended for payment, it may take from 30-60 days (depending on the source of project funds) before the Contractor receives the actual payment. The Contractor shall not be eligible for any interest payments on amounts due during these periods.

Each payment application must be accompanied by the following documentation. No application for payment shall be processed unless it is prepared in accordance with the City format, is complete in all respects and is properly signed by the Contractor and the Resident Engineer.

- Monthly progress report highlighting the major activities, problems (if any) and percentage of project complete to date and the forecast completion date.
- Documentation supporting the quantities being invoiced (calculations, material/delivery slips, etc.)
- Itemized statement on cost/quantity overruns, along with justification and proof of Engineer's authorization.
- Certified payrolls for period being invoiced.
- Statements and reports on the status of minority work force, Quincy residents employed, and MBE/WBE participation and performance.

#### **RETAINAGE**

The City shall withhold, as retainage, an amount equal to five percent (5%) of each progress/partial payment amount. The total amount retained or its percentage in relation to the total contract amount may not be reduced to assure quality of work, timely project completion and to cover any project deficiencies (materials, equipment and workmanship), restoration/replacement of improvements,

facilities and amenities damaged due to Contractors operations.

The percentage and/or amount of monies retained cannot be reduced or released until the following conditions are met:

- The project is complete in all respects and all contractual obligations under Division 1, Section 01300: Submittal Requirements. A certification to this affect shall be required from both the Contractor and the Engineer before either the retainage amounts are returned or the contract closeout.
- Before the final payment, all deliverables due the City must be received and acknowledged as satisfactory by the Engineer.
- The project performance and payment bonds currently in force and shall remain in full effect from the date of project completion, as defined above, to the end of the Warranty Period, as specified or as applicable.

#### **REIMBURSEMENT FOR CITY SERVICES**

Unless a specific work or an operation is requested or authorized to be performed by the City, beyond the agreed project construction work hours (normal), the Contractor will be required to reimburse the City for the cost of services rendered by a Resident Engineer or other City Engineering/Maintenance personnel beyond the normal project work hours.

The City personnel operate on a five day work schedule, excluding Saturdays, Sundays and Legal Holidays. The telephone number for Engineering/Construction personnel is (617) 376-1950. The telephone number for the Maintenance personnel is (617) 376-1925.

The Contractor shall be required to reimburse the City for the services of traffic police where it is beyond agreed hours, necessitated for the convenience of the Contractor, or because the Contractor is behind schedule and is on make-up schedule, or site management/control by the Contractor is causing hardship and safety concerns for an orderly conduct of business activities and public safety.

## **SPECIAL PROVISIONS**

### **GENERAL OBLIGATIONS OF THE CONTRACTOR**

The Contractor shall submit to the City, within ten (10) days after the execution of the Contract, written proof that the specified materials and equipment required for this project have been ordered and shall be delivered to the site on a specified date.

No increase in unit bid prices will be allowed, should the Contractor be delayed in commencing project construction due to the unavailability of specified materials or equipment.

### **LIQUIDATED DAMAGES**

In case the Contractor fails to complete the work satisfactorily on or before the stipulated completion date, the Contractor agrees that the City will deduct from payments due the Contractor each month an amount equal to \$1,000.00 for each calendar day in which the Work, as described herein, is not completed after the stipulated time. If payments due the Contractor, and in case such damages exceed the amount of all monies due or to become due the Contractor, the Contractor or its Surety shall pay the balance to the City.

### **CHANGE IN THE AMOUNT OF WORK**

The City reserves the right to delete all or a portion of the Work or to increase or decrease the scope of any item of work to be done under this contract either prior to executing the Contractor or at any item during the life of the Contract. Exercise by the City of the above rights shall not constitute any grounds or basis for claims for damages or for loss of anticipated profits.

Also, an increase or a decrease of quantity for any bid item, regardless of its magnitude, shall not be regarded as a grounds for an increase or decrease in the contract unit prices, nor on the time allowed for the completion of the Work except as provided for in the Contract.

Where a change in design is required by improper construction or is requested by the Contract, the Contractor shall reimburse the City for the costs of such redesign or for the review of the Contractors proposed redesign.

### **SEQUENCE OF CONSTRUCTION**

All work on Saturdays, Sundays and legal holidays and beyond the agreed work hours shall require approval by the Engineer prior to the start of the Work. Work on Saturdays, Sundays and/or legal holidays may be authorized or required by the City or if it is needed to correct an emergency or a dangerous condition.

The Contractor shall not be allowed uncontrolled use of public rights of way and amenities. All construction activities within the project area shall be confined to specific sections agreed

beforehand in meetings with the Engineer and/or other entities such as area business associations, community groups or other interested agencies. The Engineer has the right to reschedule the work in a different area as warranted in the best interests of the City, local residents and the general public.

#### **SITE INVESTIGATIONS**

The Contractor shall satisfy itself as to the conditions existing within the project area, the type of equipment required to perform the work, the character, quality and quantity of the surface and sub-surface materials to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, as well as from information presented by the drawings, specifications, and other record information.

The information presented in the specifications and on the drawings pertaining to the surface and sub-soil conditions, topography or other matters is given to assist the Contractor in properly evaluating the amount, complexity, and character of the work required hereunder. The City assumes no responsibility for the accuracy thereof. Such data is represented as being the best information available.

It is understood and agreed that the Contractor, by careful examination, has satisfied itself as to the nature and location of the work, has examined the information (surface and sub-surface) as may be available, understands the character of equipment and facilities needed prior to and during the prosecution of the work, and the general and local conditions that affect the work under this Contract.

The City assumes no responsibility for any conclusions or interpretations made by the Contractor on the basis of the information made available by the City. No extra compensation shall be authorized for extra work caused due to the Contractor's unfamiliarity with the site and/or the drawings, specifications or the conditions peculiar to the site.

#### **CONFORMANCE WITH PLANS, SPECIFICATIONS, LINES & GRADES**

The Contractor shall employ a competent engineer, registered within the state as a Professional Engineer or Land Surveyor. The Contractor shall be responsible for setting all control/base lines, grades, elevations, referenced marks, batter boards, etc. needed by the Contractor during construction. The Contractor shall set or reset, if necessary, at its own expense, such batter boards, additional grade stakes, pins, forms, materials, and labor as may be required.

The Contractor shall furnish to the Engineer such assistance as may be needed for checking lines and grades and making other measurements in connection with the Work and/or payments for such work.

The Contractor shall be responsible to make all field measurements and check all dimensions necessary for the proper fit and construction of the work called for in the drawings and specifications.



The dimensions shown on the drawings, specifically with regard to valve parts and their installation details, are only approximate. The Contractor shall field verify all dimensions and clearances before ordering and/or fabrication of the equipment.

For the purposes of observing work that affects their respective properties and/or interests, the City staff and other public agencies shall be permitted access to the work at all times, but all official orders and directives to the Contractor shall be issued by the Engineer.

### **PERMITS**

The Contractor shall obtain all necessary agency permits, not included herein, but required for the execution of certain phases of the project. The Contractor shall fill out all forms and furnish all drawings required to obtain such permits. A copy of the approved permit shall be submitted to the Engineer. All fees associated with these permits shall be considered included in the scope of work.

### **PROJECT COMPLETION**

In order to minimize the disruption of normal activities in the area, all construction within the project limits must be completed in all respects by the completion date stipulated in the Contract. No time extension shall be allowed beyond the completion date specified herein or agreed to subsequently in the pre-construction or other contract meetings. The provisions of this paragraph also apply to all milestone dates for various activities and items of work within the overall project completion schedule.

The Contractor must note that failure to complete the work within the period specified may result in a loss to the City, and in this case, the City shall enforce all applicable provisions in the Contract to recover such loss and safeguard its interests.

Permitting the Contractor to continue with the work after the time stipulated for its completion has expired, or after the time to which such completion may have been extended has expired, or the making of any payment of the Contractor after such time, shall in no way operate as a waiver on part of the City of any of its rights under this Contract.

### **CONTRACTORS RECORDS**

The Contractor shall comply with Massachusetts General Law, Chapter 30, Section 39R, as explained below:

The Contractor shall retain its project records for at least six (6) years after final payment. During this period, the City, the Office of the Inspector General, and the Office of the Attorney General, Division of Labor and Workforce Development shall have the right to inspect these records. The Contractor shall notify the awarding authority of any changes in its bookkeeping and related matters along with a letter from a Certified Public Accountants (CPA). Prior to the execution of the Contract, the Contractor shall file a statement of management and internal accounting controls, which shall be maintained on file together with an annual audited financial statement.

## **MANUFACTURER EXPERIENCE**

For all equipment supplied under this Contract, a manufacturer must have a minimum of five (5) years experience with the product. Equipment not meeting the specified experience/performance history can be considered only if the material supplier/manufacturer is willing to provide an express warranty covering all labor, parts and/or a complete assembly replacement for a period of five (5) years. This warranty shall cover repairs/replacement of defective parts or complete assemblies due to defective workmanship, failure, malfunction and/or substandard performance.

It is the Contractors responsibility to make the manufacturer and/or the vendor award of these regulations.

## **EQUIPMENT WARRANTIES**

The Contractor shall be responsible for obtaining the manufacturers warranty certifying that the equipment as supplied meets the specifications, is of quality construction, and is free from defects in material and workmanship.

The equipment, apparatus and parts furnished shall be warranted for a period of 5 years, excepting only those items that are normally consumed in service, such as oil, grease, packing, gaskets, O-rings, etc. The equipment manufacturer shall be solely responsible for the warranty of all system components.

Components failing to perform as specified, or as represented by the manufacturer, or are proven defective in service during the warranty period, shall be replaced or repaired by the manufacturer at no cost to the City.

All equipment delivered to the job is subject to Engineers inspection. Any changes necessary because equipment delivered to this job is not in accordance with approved drawings, shall be removed from the site at the Contractors expense.

## **MANUFACTURER=S QUALIFICATIONS**

In addition to requirements for providing services of AManufacturers Representative, the manufacturer shall provide trained supervisors to assist in installation of equipment supplied and related appurtenances, to provide initial start-up and to instruct the City personnel in the operation and maintenance of the equipment.

Field acceptance tests shall be performed as specified in each section of these specifications.

All equipment supplied shall be a manufacturers standard product with a proven satisfactory operations history and presently in commercial production. All equipment specified with a particular category shall be furnished by a single supplier and shall be products of manufacturers regularly engage in the production of such equipment.

Any reference to a specific manufacturer or model number is for the purpose of establishing a quality and performance parameters only and is not to be considered proprietary. Any source or device that has the quality and performance criteria as specified may be acceptable.

All equipment, parts, assemblies, and/or appurtenances shall conform to specifications and/or performance requirements in relation to workmanship, materials, installation and equipment. All equipment must meet all local, state, underwriters laboratories, local utility company standards, and other applicable codes, whether or not called for on the drawings or in these specifications.

Wherever the materials to be used are not shown or specified, the use of unspecified materials shall be based on their continuous and successful use and satisfactory performance at the proposed location and similar operating conditions.

All materials used within the entire pumping installation shall be compatible (no dissimilar metals), corrosion and abrasion resistant and long lasting for seawater installations, subject to continuous wetting and drying.

#### **SUBMITTALS AND OPERATIONS/MAINTENANCE MANUALS**

Whether specifically called for or not, the Contractor shall submit Operation/Maintenance Manuals and technical submittals/shop drawings for all significant items/pieces of equipment to the Engineer, as stipulated under Section 01300, Submittals Requirements.

#### **PIPE SEPARATION REQUIREMENTS**

Water main relocation is not required if a water main has a minimum horizontal separation from a new sewer of at least 10-ft. or is above a new sewer with a vertical clearance greater than or equal to 18-inch. Where the vertical clearance is less than 18-inch and an existing water main crosses over or through the proposed new sewer, the water main shall be relocated as shown in the Contract Drawing details. If the sewer crosses over the water main, regardless of the vertical separation, both pipes shall be concrete encased for a distance of 10 ft. either side of the respective centerline. The use of restrained joints on ductile iron water pipe will be acceptable in lieu of concrete encasement.

#### **LAWS AND REGULATIONS**

It is imperative that the Contractor is aware of and enforces all applicable federal, state, local and municipal laws, ordinances and regulations in relation to its employees, the materials used in the work, or the product/equipment performance.

If any discrepancy or inconsistency is discovered in the plans, drawings, specifications, or contract documents for the work in relation to any such laws, ordinances, regulations, orders or decrees, the Contractor shall immediately notify Engineer of the conflict and seek its expeditious resolution. The Contractor shall, however, comply with all laws, ordinances, regulations, orders and decrees at all times. The Contractor shall also protect and indemnify the City and its officers, agents, and servants

against any claim or liability arising from or based on the violation of any such laws, ordinances, regulations, orders, or decrees, whether by itself or its subcontractors or employees.

Each and every provision of law referred to in this section shall be read and enforced as though it were included herein, and if through mistake or otherwise, any such provision is not inserted or if not correctly inserted, then upon the application of either party, the Contract shall forthwith be physically amended to make such insertion.

The provision of Chapter 30, Section 39M of the Massachusetts General Laws, as last revised, shall be understood to be a part of this contract.

The Contractor shall comply with the requirements of Massachusetts General Law Chapter 353 and the Acts of 1983 as related to Excavations in Public Ways.

The Contractor shall enforce all the required safety measures as per AASHTO Guide on Occupational Safety on Highway Construction Projects, sub-part N.1926.550, relating to construction equipment clearances at overhead electric lines, which state in part, A... the minimum clearance between the lines and any part of the crane or load must be at least 10 feet from line rates of 50KV or below, or greater resistances for higher voltage.

Equipment utilized by the Contractor shall conform to the General Services Administration Construction Noise Specifications as effective on January 1, 1975, for stationary equipment. Equipment must not exceed 75 decibels (A) when measured at a distance of 50 feet from the noise source. The Contractor shall have construction sound enclosures or utilize other noise reduction techniques if the equipment does not meet the noise level requirements. No separate payment shall be made for this item.

The Contractor is subject to the requirements of the Clean Air Act, as amended, 42 U.S.C. 1857 et.seg; the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et.seg; and the regulations of the Environmental Protection Agency with respect thereto, as CFR Part 15, as amended from time to time.

The Contractor agrees that any facility to be utilized in the performance of any non-exempt contract or sub-contract shall not be listed on the List of Violating Facilities issued by the Environmental Protection Agency (EPA) pursuant to 40CFR 15.20.

The Contractor agrees to comply with all the requirements of Section 114 of the Clean Air Act, as amended (42 U.S.C. 1857c8) and Section 308 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1318), relating to inspection, monitoring, entry, reports and information, as well as all regulations and guidelines issued thereunder.

In accordance with applicable laws, the Contractor shall furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work and that he/she will comply fully with all laws and regulations applicable to awards made subject to M.G.L., Chapter 149, Section 44A. Without limiting the generality of the foregoing, A Labor Harmony shall include the provision

of labor that will not cause, cause to be threatened or give rise to either directly or indirectly, any work disruption, slow-downs or stoppages by employees of other Contractors, while performing any work or activities incidental thereto.

The Contractor must comply with all requirements of Massachusetts Prevailing Wage Laws, M.G.L. c149, §§26 and 27; and the Equal Employment Opportunity and Anti-Discrimination Policies (EOEA) of the Commonwealth of Massachusetts 301. CMR 50.00.

#### **CITY OF QUINCY ORDINANCES AND POLICIES**

The City of Quincy Blasting Ordinance, wherever applicable, shall be enforced on all projects located within the City limits. (Reference City Council Order No. 236 of 1988)

The Contractor must comply with the City's policies regarding MBE/WBE participation and Minority Workforce Participation, which are included elsewhere as part of this contract.

## SUBMITTAL REQUIREMENTS

### DESCRIPTION OF REQUIREMENTS

This Section specifies the general requirements for technical and other submittals as related to materials, methods, equipment/appurtenances, special procedures and contract administrative matters. Typical submittals include shop drawings; product data; procedures for various treatments/workmanship and temporary work and facilities; contract schedules, reports, correspondence and similar activities. Additional submittal requirements are listed under the General Conditions.

### CONSTRUCTION SCHEDULES

The Contractor shall, within ten (10) days after the effective date of the Agreement, submit to the Engineer for approval, a detailed manpower, equipment and construction activity schedule to complete the work within the time allowed. The Contractor shall update the schedule every two weeks and resubmit the same duplicate until the project is completed. The Contractors progress schedule shall show the actual project progress as percentage of the total project vs. Contract completion time.

The Contractor shall also be required to submit, each month, a written project progress report, details of cost/quantity overruns where applicable, certified payrolls and the MBE/WBE minority work force and Quincy residents employee and Contractors apprenticeship training program information with each pay estimate.

### SHOP DRAWINGS

Shop drawings, as defined in the General Conditions, and as specified herein include, but are not necessarily limited to: custom-prepared data such as equipment design basis, manufacturer data sheets, wiring and logic diagrams, equipment characteristics/performance data, fabrication and erection/installation drawings, dimensions, equipment setting diagrams, manufacturer instructions, custom templates, name plates, terminal block arrangements, instrumentation and controls, foundation details, vibro isolators, coordination drawings, system/equipment inspection and test reports, including required certifications, as applicable.

Typical items requiring shop drawings are pumps, motors, tide gates, generators, transfer switches, control/instrumentation panels, power and lighting systems, valves, gates, alarm, relays and control systems.

Other items requiring shop drawings may include installation details as related to pipelines, fittings, appurtenances, electrical duct/conduit, wiring and cables and structural details (rebar, bending schedules, street slopes, sections and concrete mixes, etc.).

## **PRODUCT DATA**

Product data as defined herein include, but are not necessarily limited to: manufacturer standard product samples and product data, such as assembly instructions, materials, printed performance curves and operational-range diagrams based on actual shop tests (head capacity, efficiency, NPSH and horsepower, etc.), production/ quality control, inspection/test reports, certifications, mill reports, operation and maintenance instructions, recommended spare-part list, and printed product warranties, as applicable.

Also included is the total weight of equipment including the weight of the largest components and total bill of materials for all equipment.

## **SPECIAL PROCEDURES**

Special procedures as defined herein include, but are not necessarily limited to certain non-standard and site specific construction methods, that may, for example, be required in certain situations for deep excavations/embankments, piling, dewatering, shoring, sheeting, detours, traffic management and other temporary works and facilities.

## **CONTRACT ADMINISTRATION**

Contract administration activities as defined herein include, but are not necessarily limited to all contract correspondence, invoices, reports on labor, equipment, schedules, estimates, forecast cash flows, claims and change orders, etc.

## **CONTRACTOR'S RESPONSIBILITIES**

The Contractor shall review all shop drawings, product data/ samples prior to submission and verify that:

- 1.) Actual field measurements and dimensions are compatible.
- 2.) Service/design conditions are met.
- 3.) Deviations from specifications, if any, are clearly stated.
- 4.) The item/equipment/material conforms to the specifications.

Each shop drawings, product sample and catalog data submitted by the Contractor shall be signed certifying that:

AI hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements."

Shop drawings not complying with the above shall be returned. The Engineer review shall be only for general conformance with the specification and design concept. This review does not constitute a rigorous design check.

The review and approval of shop drawings, samples or catalog data by the Engineer shall not relieve the Contractor from its responsibility from providing materials, equipment and level of workmanship, as specified.

No portion of the work requiring a shop drawings, sample, or catalog data shall be started nor shall any materials be fabricated or installed prior to approval by the Engineer. All fabrication, materials, or on-site construction not conforming to approve shop drawings and data shall be corrected at the Contractor's expense.

In the case of a pump station project, the Contractor shall provide the following additional information for review and approval by the Engineer:

- Construction procedures for foundations and piling installation, where applicable.
- Concrete test cylinder reports certifying that concrete used in the structure conforms to the strength requirements specified.
- Complete wiring diagrams and schematics for all power and control systems, controllers, control panels, and control devices.
- Details on all items to be supplied and installed as part of the pumping station/tide gate systems as specified.
- Complete description of all non-conforming components of the proposed system and their overall impact on the system operation, performance and efficiency.

#### **SYSTEM TESTING, OPERATIONS & MAINTENANCE**

The Contractor shall be responsible for conducting all start-up and operation tests as specified or as directed. All tests shall comply with the following:

- All laboratory test of material, finished items, or equipment shall be made by bureaus, laboratories, or agencies approved by the City and copies of all test reports shall be submitted in duplicate by the laboratory to the City. The Contractor shall pay the cost of such tests.
- Any additional test required beyond those required under these specifications may be ordered by the Engineer to settle disagreements with the Contractor. If the work/equipment/material is defective, the Contractor shall pay all costs of the extra tests and shall correct the work. If the work is satisfactory, the City will pay for the additional tests.
- All start-up and commissioning tests shall be conducted as specified for each individual component separately and then for the total system as a whole. All start-up and commissioning tests shall be conducted under factory-trained supervision and certified as in compliance with the specifications and requirements.

#### **OPERATION AND MAINTENANCE INSTRUCTIONS**

The Contractor shall be responsible for supplying six (6) copies of written operations and maintenance manuals. The manuals shall be comprehensive enough to operate and maintain the pumps, tide gates, and control systems (electrical, electronic, and other systems and the associated equipment).



The instructions shall be prepared as a systems manual applicable solely to a particular system and all equipment related to it. The manual shall include, as a minimum:

- General systems descriptions along with operating instructions for each major system component, as applicable or as determined by the Engineer.
- Instructions for all adjustments, calibrations and/or testing which must be performed at initial system start-up, along with adjustments to be made after the replacement of key components and adjustments which must be made in the course of preventive maintenance, as specified by the manufacturer.
- Service instructions for major components not manufactured by the main equipment manufacturer.
- Electrical schematic diagrams as supplied, prepared in accordance with NMTBA and JIC Standards. Schematics shall show, to the extent of authorized repair, pump motor branch, control and alarm system circuits and interconnections among these circuits. Wire numbers shall be shown on the schematic.

Schematic diagrams for electronic equipment, the detail parts of which are normally repairable by the station operator, need to be included and shall not be substituted for an overall schematic diagram.

- Complete equipment characteristics and performance data on pumps, motors, generators, gas/diesel engines and other parts/equipment shall be included in the operations/maintenance manual.
- Facility layout drawings should show locations of all equipment such as pumps, motors, valves, piping, bar racks and other items.
- List of spare and consumable parts, with part numbers, along with addresses of local suppliers.

#### **SPECIAL TOOLS AND LUBRICANTS**

During testing and prior to acceptance, the Contractor shall furnish all lubricants necessary for the proper lubrication of all equipment. For each type of equipment furnished, the Contractor shall provide a complete set of all special tools (including grease guns or other lubricating devices), necessary for the adjustment, operation, maintenance and disassembly of such equipment.

The Contractor shall furnish and install one or more steel wall cases with flat key locks and clips/hooks to hold each tool in a convenient arrangement.

#### **REQUIREMENTS FOR SUBMITTALS**

The Contractor shall make submittals, in triplicate, in accordance with approved schedule, and in a sequence that would not cause any delays. The submittals shall contain: the date of submission along with the dates of any previous submission(s); the project title; and the submittal identification number

and title.

The submittals shall also include: the names of the Contractor, supplier, and the manufacturer, along with identifying the product, with the specification section number, significant dimensions, standards, (ASTM or Federal Specification Number), and a listing of all deviations from Contract Specifications.

### **SUBMITTAL PROCESSING**

The Contractor shall make any corrections or changes in the submittals required by the Engineer and resubmit until approved. The reproductions of approved submittals shall be distributed per the project procedures.

### **CONTRACT CLOSE-OUT**

The Contractor shall provide to the Engineer the following before the close of the contract and before submitting the final application for payment.

- Correspondence and back up for change orders and field changes.
- Complete file of approved shop/erection drawings and wiring diagrams.
- Log of all material and equipment delivered, including certificates and test results, as applicable.
- Copies of all requisitions for payment, along with detailed substantiation of all quantity and cost overruns.
- All labor and wage notices required by law.
- All initial, interim and final reports on Minority Workers (MBE's, WBE's, and the percentage of City of Quincy residents employed under the contract).
- All operation and maintenance manuals for all equipment supplied, including a list of spare parts with part numbers and supplier's address.
- Two sets of reproducible as-built drawings, and copies of all materials/equipment, work quality and other tests/systems.
- All additional permits not included in these specifications, including the Street Opening Permit.
- Description of location and ties to survey markers and monuments installed under the contract.
- Final reports on the corrective work based on the deficiencies noted during the initial and final acceptance, walk-through, inspections and tests.
- Delivery of spare parts, as specified.

## USE AND CONTROL OF MATERIALS

### DESCRIPTION

The work under this Item shall conform to the relevant provisions of Sections 6.00, 500.64, 630.63, 665.62, and 815.65 of the Standard Specifications, requirements of this section and the work as shown or as directed.

### MATERIALS - APPROVALS - INSPECTIONS

Unless otherwise expressly specified, only new materials and equipment shall be incorporated in the works. All materials and equipment to be incorporated in the work shall be subject to inspections and tests by the Engineer. No material shall be installed, fabricated or delivered to the work site without prior concurrence of the Engineer.

As soon as possible after execution of the Agreement, the Contractor shall submit to the Engineer the names and addresses of the manufacturers/suppliers of all materials and equipment to be incorporated into the work. The Contractor shall submit prior to the placement of orders, data in sufficient detail to enable the Engineer to determine whether the manufacturer and/or the supplier have the ability to furnish a product meeting the Specifications.

The Contractor shall also submit data relating to the materials and equipment, including the optional items in sufficient detail to enable the Engineer to evaluate the particular product and to determine whether it conforms to the Contract requirements.

The Contractor shall furnish promptly all labor, materials, laboratory and other facilities to perform all inspections and tests to determine the acceptability of equipment and materials.

When directed by the Engineer, the Contractor shall submit samples of materials, equipment for quality workmanship, and other special test results as the Engineer deems necessary to assure conformance with the specifications. All samples shall be furnished, taken, stored, packed, and shipped by the Contractor as directed. The Contractor shall furnish the required laboratory services to test the samples at no additional cost to the City.

All samples shall be labeled to indicate the materials, the name of the building or work and location from where the sample was taken, and the name of the Contractor submitting the sample.

The Contractor shall submit data and samples, or place orders, sufficiently early to permit inspection and testing before the materials and equipment are needed for incorporation in the work. The consequences of failure to do so shall be the Contractor's sole responsibility.

When required, the Contractor shall furnish to the Engineer in triplicate, certified copies of manufacturer's shop, mill tests, reports from independent testing laboratories and other relevant data for materials and equipment furnished under the contract.

#### **HAULING, HANDLING, STORAGE AND DISTRIBUTION OF MATERIALS**

The Contractor shall handle and haul all materials furnished and remove all surplus materials at the completion of the work. The Contractor shall provide suitable and adequate storage for all equipment and materials and shall be responsible for any loss of or damage to any equipment or materials. The Contractor shall be responsible for all damages to the work under construction during its progress and until completion and acceptance even though partial payments have been made under the contract.

All suitable excavated materials not reused as backfill shall remain the property of the entire City and shall be stockpiled at a site provided by the City. The Engineer will determine material suitability.

Cement, lime, salts and other such materials shall be stored above the ground, properly covered, and kept completely dry at all times. All structural, miscellaneous, reinforcing steel shall be stored above the ground to prevent accumulations of dirt or grease, and in a position to prevent accumulations of standing water and to minimize rusting. Beams shall be stored in a manner to prevent accumulations of dirt, standing water, staining, chipping or cracking. Bricks, block and similar masonry products shall be handled and stored to prevent breakage, chipping, cracking and spalling.

All mechanical equipment subject to corrosive damage, if stored outdoors (even though covered by canvas), shall be stored in a building to prevent injury. The building may be a temporary structure on the site or elsewhere but it must be satisfactory to the Engineer.

All materials which have become so damaged as to be unfit for the use intended as specified shall be promptly removed from the site of the work, and the Contractor shall receive no compensation for the damaged material or its removal.

Storage and demurrage charges by transportation companies and vendors shall be borne by the Contractor.

#### **MATERIALS AND EQUIPMENT REMOVED AND STORED**

All electrical cable, traffic control devices, controllers, material, and equipment removed from the existing signal installation and not required for the completion of this contract, and all other materials directed to be removed and stacked shall be carefully dismantled and stacked at designated locations, and hauled to the City maintenance yard as directed by the Engineer.

An inventory of materials to be delivered shall be made out by the Contractor, countersigned by the Engineer, and submitted to the person and/or persons receiving the materials at the DPW Yard. If the Engineer determines that any part of the stacked materials are unsuitable for re-use, or if the City decides to abandon part or all of such materials, said materials shall become the property of the

Contractor and these materials/equipment shall be disposed of at no additional cost to the City.

**REJECTED MATERIALS AND DEFECTIVE WORK**

Materials furnished by the contractor and condemned by the Engineer as unsuitable or not in conformance with the specifications shall forthwith be removed from the site and shall not be used elsewhere on the project.

Any errors, defects or omissions in the execution of the work or in the materials furnished by the Contractor, even though they may have been approved, overlooked, discovered after installation, or already paid for, shall be forthwith rectified satisfactorily at the Contractor's expense.

## **ENVIRONMENTAL PROTECTION**

### **DESCRIPTION**

The Work under this section shall consist of all environmental mitigation measures designed to minimize various types of pollution and resource area contamination, including airborne dust, equipment noise, drainage and soil erosion, alteration/damaging or dumping hazardous waste or rubbish in resource areas. The Contractor shall furnish all labor, materials, tools and equipment and perform all work required for the prevention of environmental pollution resulting from its construction operations.

The requirements set forth in this section are intended to minimize the adverse impacts on populated and cross-country areas, stream crossings, coastal areas, beaches, flood plains, marshes, wetlands, wild life and marine life due to construction activities in and adjacent to all resource areas.

All work shall be in accordance with the applicable Local, State and Federal laws and regulations and the Quincy Conservation Commission's Order of Conditions.

### **NOTIFICATION**

The Engineer will notify the Contractor in writing of any non-compliance with the foregoing provisions. The Contractor shall, after receipt of such notice, immediately take corrective action. In case of non-compliance, the Engineer will order stoppage of all or part of the work until satisfactorily corrective action has been taken. No claim for an extension of time or for extra costs or loss incurred by the Contractor as a result of time lost due to any stop orders shall be made unless it was later determined that the Contractor was in compliance.

Prior to commencement of the Work, the Contractor shall meet with the Engineer to develop mutual understandings relative to compliance of the environmental protection program.

### **CONSTRUCTION ACTIVITY**

Insofar as possible, the Contractor shall confine all activities, including clearing, grubbing, excavation and construction of works, to those areas defined by the plans and specifications. All land resources within the project boundaries and outside the limits of permanent work performed under this contract shall be preserved in their present condition or if damaged, shall be restored to their original condition after completion of construction.

### **PROTECTION OF WATER RESOURCES**

The Contractor shall not pollute streams, lakes or reservoirs, wetlands and beaches with fuels, oils, bitumens, calcium chloride, acids or harmful materials. It is the Contractor's responsibility to comply with all applicable Federal, State, County and Municipal laws regarding pollution of rivers/streams. Special measures should be taken to insure against spillage of any pollutants into public waters.

## **PROTECTION OF WETLANDS**

The Contractor shall make every effort to minimize disturbances within the areas designated as wetlands. Easement widths shall be limited to the widths shown on the drawings. The Contractor shall make sure that wetlands are restored to the conditions existing prior to construction.

The Contractor shall carefully remove and stockpile the top 24-inches of soil. This topsoil material shall be used as backfill for the trench excavation top layer. The elevation of the trench is to be restored to the pre-construction elevations wherever disturbed by the Contractor.

A trench box and/or sheeting or bracing shall be used to support the excavation in wetlands.

Excavated materials shall not be permanently or temporarily stored in wetlands. Temporary storage areas for excavated materials shall be as directed by the Engineer.

The Contractor shall be required to utilize timber or rubber matting to support equipment in wetlands. The timber or rubber matting shall be constructed in such a way so that it is capable of supporting all equipment loads necessary to complete the construction work. The timber or rubber matting shall be constructed of materials and placed so that, once removed, the material below the matting is not unduly disturbed, mixed or compacted in such a way that would adversely effect the recovery of the existing plant life.

## **PROTECTION OF EXPOSED AREAS**

The Contractor shall limit the area of land that is exposed and free from vegetation during construction. In areas where the period of exposure will be greater than two (2) months, temporary vegetation, mulching or other protective measures shall be provided as specified.

Where temporary cover crop will be used, the Contractor shall insure that materials used for temporary vegetation are adaptive to the sediment control. Materials to be used for temporary vegetation shall be approved by the Engineer.

Loaming and seeding or mulching of cross-country areas shall take place as soon after completion of work in that area as practicable. This shall be considered part of the clean-up work, and full payment for the work will not be made until it has been completed.

## **LOCATION OF STORAGE AREAS**

No excavated materials or materials to be used in backfill operations shall be stored within a minimum distance of fifty (50) feet of any watercourse or any drainage facility.

**No storage of equipment or materials shall be permitted in wetlands.**

In cross-country areas when excavating in wetland or flood plain, where no temporary diversion structure is required, the excavated material shall be placed on the uphill side of the trench so that the trench serves as a barrier between the excavated material and the wetland or flood plain.

## HAY BALES AND SILT FENCES

Adequate measures for erosion and sediment control such as the placement of baled hay or straw around the downstream perimeter of stockpiles shall be employed to protect downstream areas. The bales of densely packed hay with tightly bound biodegradable ties shall be installed as shown on the drawings. The bales shall be staked to prevent overturning, floatation, or displacement. All sediment deposited behind the bales of hay and silt fences shall be removed periodically.

Where shown on the drawings or as directed by the Engineer, the Contractor shall erect and maintain a temporary silt fence. In wetlands and other resource areas, the Contractor shall line the limits of the construction easement with silt fences. The silt fence shall be used specifically to contain sediment from runoff water and to minimize environmental damage caused by construction.

The silt fence shall consist of a 3-foot wide continuous length sediment control fabric, attached to a 25-foot long continuous support netting, and stapled to pre-weathered oak posts installed as shown on the drawings. The oak posts shall be 2-inches by 2-inches by 5-feet and shall be tapered. The support netting shall be industrial strength polypropylene.

The sediment control fabric should conform to the following properties:

1. Minimum Weight of 2.5 oz/sy (ASTM D-3776-79).
2. Minimum Thickness of 17 mils. (ASTM D-1777-79).
3. Minimum tear strength of 65 lbs. (ASTM D-1117-80).
4. Minimum burst strength of 210 psi (ASTM D-3786-80).
5. Minimum coefficient of permeability of 0.0009 cm/sec.
6. Equivalent opening size (EOS) 20, (U.S. Standard Sieve)
7. Water flow rate of 40 gal/min/sf. (QUITG-15)

## SOIL EROSION AND SEDIMENTATION CONTROLS

The Contractor shall take effective measures during construction to minimize soil erosion and silting/sedimentation in the vicinity of construction areas.

The Contractor shall not cause direct or indirect discharge of pollutants such as silt, clay, fuel oils, lubricants, cleaning agents, bitumen's, calcium chloride or any other material that may be hazardous or detrimental to watersheds, lakes, wetlands, beaches, marshes, streams, and public water, sewer and drain systems.

Site generated drainage runoff whether due to storm run-off or the Contractor's dewatering and other operations shall not be allowed to shed on to the abutting properties.

To reduce uncontrolled soil erosion, the site drainage runoff shall be conveyed through conduits, swales, gravel drains, etc., and disposed of in areas approved by the City.

Site runoffs shall not be disposed of until silt, sediment and other deleterious materials have been removed through the use of hay bales, silt fences and other methods acceptable to the Engineer.

During the course of construction, the Contractor shall, when directed, dispose, remove, relocate, or



replace the hay bales and silt fences as directed by the Engineer. The Contractor shall also be fully responsible for removal and disposal of the collected sediment and debris behind the hay bales and silt fences as directed by the Engineer. The hay bales and silt fences shall remain in place until directed by the Engineer.

Erosion control measures used for public water supply or fish culture must be adequate to ensure that turbidity in the receiving water will not be increased more than 10 standard turbidity units (s.t.u.) or as otherwise required by the State or other controlling body. In surface water used for other purposes, the turbidity must not exceed 25 s.t.u., unless permitted otherwise.

### **WATER HANDLING**

All water discharges from the Contractor's dewatering and/or water handling operations shall be filtered prior to being discharged into a receiving water.

The water may be filtered through hay bales, a vegetative filter strip, or a vegetative channel. Discharge flow rate through these media shall not exceed one (1'/sec) foot per second. The sediment shall be cleared from the channel periodically.

If water from dewatering operations is discharged over non-vegetated land, impermeable plastic sheeting must be laid over non-vegetated areas and sediment traps constructed at strategic locations to catch sediment.

Any water discharged from the Contractor's operations must be at least equal in quality to the receiving water. If the quality of the water being discharged is unacceptable, the Contractor shall employ whatever measures necessary to provide an acceptable water quality.

All existing drainage facilities including, but not limited to, brooks, streams, canals, channels, ditches, culverts, catch basins, and drainage piping shall be adequately safeguarded so as not to impede drainage or to cause siltation of downstream areas. If the Contractor damages or impairs any of the aforesaid drainage facilities, these shall be repaired immediately.

All drainage appurtenances shall be designed to remove suspended solids, oils and other such material. Baled hay or straw must also be used to trap sediment and prevent clogging of drainage systems.

If interruption of existing drainage flows is necessary, the Contractor shall provide, maintain, and operate all temporary facilities such as dams, pumping equipment and conduits etc. required to bypass flows past the construction area.

### **DUST CONTROL**

During the progress of the work, the Contractor shall conduct operations to maintain a dust free environment. Measures to control dust may include sweeping and applying water to streets, as necessary, to minimize the air borne dust.

At no time shall calcium chloride or other chemicals be used for dust control.

## **NOISE LEVEL REQUIREMENTS**

Equipment utilized by the Contractor shall conform to the General Services Administration Construction Noise Specifications, effective as of January 1, 1975, for stationary equipment. Equipment must not exceed 75 Db (A) when measured at a distance of 50 feet from the noise source.

The Contractor shall construct sound enclosures or utilize other noise reduction techniques if the equipment does not meet the noise level requirements.

## **CLEAN AIR AND WATER POLLUTION CONTROL ACTS**

The Contractor is subject to the requirements of the Clean Air Act, as amended, 42 U.S.C. 1857 et. seq; the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et. seq; and the regulations of the Environmental Protection Agency with respect thereto, at CFR Part 15, as amended from time to time.

1. The Contractor agrees that any facility to be utilized in the performance of any non-exempt contract or sub-contract shall not be listed on the List of Violating Facilities issued by the Environmental Protection Agency (EPA) pursuant to 40CFR 15.20.
2. The Contractor agrees to comply with all the requirements of Section 114 of the Clean Air Act, as amended (42 U.S.C. 1857 c8) and Section 308 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1318), relating to inspection, monitoring, entry, reports, and information, as well as all regulation and guidelines issued thereunder.

## **TREE STUMP REMOVED TREE ROOT SYSTEM REMOVED**

The work to be done under this item shall conform to the relevant provisions of Sections 100 of the Standard Specifications, all the requirements of this section and the work as shown on the drawings.

The Contractor shall furnish all labor, materials, tools and equipment necessary to expose by excavation, remove and/or cut, as required, the tree stumps and root systems to prepare the site for construction work as shown on the drawings and as directed. The work shall also include removal and disposal of stumps, roots, organic matter and the other unsuitable materials resulting from the operation.

The Contractor shall comply with the provisions of Division's One and Two of this specifications as related to protection, relocation, replacement and restoration of property, and existing utilities and appurtenances.

All work in the proximity of the existing structures, appurtenances, pipes, stairs, and other physical features shall be accomplished without damaging the integrity of remaining structures, appurtenances and equipment.

Such items that are damaged shall be either repaired or replaced at the Contractor's expense to a condition at least equal to that which existed prior to the start of his work.

All workmanship and materials for new construction and alterations shall be as specified. Materials used for repair and/or restoration work shall match the existing adjacent surfaces in finish and texture as closely as practical, and joints between new and existing work shall be made inconspicuous.

Unless directed otherwise by the Engineer, excavation required to expose the tree stump and root system shall comply with the following:

- Excavation around the tree not to exceed the width of the sidewalk.
- The depth of excavation for stump removal not to exceed 5 feet.
- The depth of excavation for removal of a tree root system not exceed 2 feet.

All root system encountered within the limits of sidewalk width as determined by the Engineer, shall be cut clean and removed. The cut surfaces of the remaining detached roots shall be painted with stump rot. The tree roots which are still attached to the trunk shall be cleaned and painted with two coats of an approved chemical root guard to protect the tree from later damage.

All waste or surplus materials resulting from the tree stump, tree root system removal and the associated operations shall be disposed of in a satisfactory manner at the Contractor's expense. The disposal of all such materials shall be carried out immediately after removal of the material and shall not be left until the final period of clean up.

Payment for work under **Item 102.09: Tree Stump Removal and Item 102.19: Tree Root System Removal** shall be at the contract unit price, per each tree location, where work is satisfactorily completed and accepted by the Engineer, which price shall be full compensation for all labor, materials and equipment required to complete all work items including excavations, removal of stumps or root systems, replacement/restoration of damaged areas and disposal of waste/surplus materials as specified in this section and all else incidental thereto.

All cost related to back fill materials and reconstruction of sidewalk and the associated work shall be paid for separately under their respective pay items.

## **TREE REMOVED**

The work to be done under this Item shall conform to the relevant provisions of Section 101 of the Standard Specifications and the following:

The work shall consist of the removal and legal immediate disposal of trees and stumps designated by the Engineer or Tree Warden to be removed, complete with the stump and major root system.

### **CONSTRUCTION METHOD**

The trees, together with stump and major roots, shall be disposed of outside the project limits. Stumps and major root systems shall be removed by method of excavation, grinding will not be acceptable. The method of disposal of all materials shall become the responsibility of the Contractor and shall be approved by the Engineer. All methods of disposal shall be accomplished in accordance with all applicable Federal, State and local ordinances. The burning of trees, brush, stumps, etc., will not be permitted.

### **MEASUREMENT AND PAYMENT**

Payment for work under **Item 103.100 Tree Removed** shall be at the Contract Unit Price bid per Each and shall include all trees (all diameters) including those with a diameter less than 9 inches **and stumps (with major roots)**, removal, legal immediate disposal, backfill, cleanup of the site and for all other incidentals required to finish the work to the satisfaction of the Engineer. The hole left by the stump shall be backfilled with suitable material and compacted in accordance with the Standard Specifications and shall be considered incidental to this item. No trees shall be cut without the approval of the Engineer or Tree Warden and all applicable Federal, State and local regulations and laws for the posting and removal of trees shall be followed.

Item 102.090 Stump Removed shall only apply to existing stumps where the tree has been cut and removed "by others". Stump removal associated with removal of existing trees shall be paid for under Item 103.01.

## UNCLASSIFIED EXCAVATION

The work to be done under this Item shall conform to the relevant provisions of Section 120 of the Standard Specifications and the following:

The work shall consist of the excavation and satisfactory disposal of all materials encountered within the limits of the contract except for those materials specifically classified and paid for under other items of this contract.

The work includes the excavation of existing bituminous concrete pavements, bituminous or cement concrete curbs, bituminous or cement concrete sidewalks, grassed areas, stumps, Class A Rock and trench excavation.

The edges of all excavations to be made in existing pavements and sidewalks shall be saw-cut neatly along either a straight line or design curved line as shown in the drawings. Ragged, uneven edges are not acceptable.

The Contractor shall perform all excavations in such a manner as to maintain slopes longitudinally and laterally and to ensure proper and continuous drainage at all times.

The excavation for sidewalks and other paved surfaces must be carried out in such a manner so as to maintain slopes longitudinally and laterally and to ensure proper and continuous drainage at all times. The excavation must also avoid damage to adjacent areas, facilities and appurtenances.

If during the course of the excavation, the Contractor encounters cobblestones, the excavated cobblestone shall remain the property of the City of Quincy. The entire excavated cobblestone shall be carefully stacked at the DPW Yard at no additional cost to the City. All other waste or unsuitable materials (bituminous/cement concrete, debris, rails and ties, etc) resulting from the contractor's excavation (common excavation, cold planning, reclamation, etc.) and/or the excavated materials declared surplus by the Engineer shall be disposed of by the Contractor at no additional cost to the City.

Also included under this item is the removal of any utility poles, fences, bushes, shrubs and vegetation. This work shall be considered incidental to Item 120.1 with no additional compensation. The relocation of overhead utilities from the poles to be removed shall be the responsibility of the respective utility company, unless noted otherwise on the plans.

Payment for **Item 120.1: Unclassified Excavation** shall be at the contract unit price, per Cubic Yard. This price shall be full compensation for all labor, materials, tools, equipment and incidentals including excavation to lines and grades, all construction and public safety measures and dewatering operations where required or necessary to complete the work as specified or as shown on the drawings.

The measurement and payment provisions listed under Division One, Section 01150 shall supplement the above payment provisions, as applicable.

## BITUMINOUS CONCRETE EXCAVATION BY COLD PLANING

The work to be done under this **Item 129: Bituminous Concrete Excavation by Cold Planing** shall conform to the relevant provisions of Section 120 of the Standard Specifications and the following:

The work under this item shall consist of cold planing and scarifying of bituminous concrete surfaces to depths and limits indicated on the drawings or as directed by the Engineer. The Contractor shall be responsible for the satisfactory disposal of all waste/surplus materials resulting from the above operations to an approved site at no additional cost.

The approximate depths of bituminous materials to be removed by cold planing would generally vary from 1-1/2 to 4 inches. However, depths of cuts in certain sections could be 5-inches or more. The minimum cold planing cut depth shall be 1-1/2 inches below the proposed finish grades. The Contractor shall comply with the following criteria for cold planing depth and the subsequent placement of bituminous concrete pavement courses.

All cuts must be compatible and consistent with the existing road longitudinal profile, cross sections and the existing drainage patterns. Unless indicated on the drawings, all actual depths of cut along the various roadway sections shall be agreed with the Engineer before cold planing operations are started.

Roadway gutter grades at driveways and side street intersections are to be field adjusted to be consistent with the existing roadway drainage pattern and shall provide for an appropriate transition between the new and existing (side streets and driveways) pavement surfaces at the intersections.

The City's intent is to improve the existing road pavement and at the same time, obtain a nominal curb reveal of seven (7") inches. In the roadway sections where curb reveal is deficient, either one or a combination of the following methods shall be used, as applicable.

- a. Maintain the minimum specified (1-1/2 inches) depth of bituminous concrete top course in the central portion of the roadway and then gradually reduce the depth to a minimum 1-inch at the curb line on either side.
- b. Increase the cold planing depths of cuts towards the road gutters, to obtain additional curb reveal wherever necessary.
- c. Reset the curb stones, if settled or dislocated. Reset curb stones shall also be compatible with sidewalk drainage and storefront entrances and driveways.

The Engineer shall be immediately notified of any deviations from the above criteria.

Payment for work under **Item 129.: Bituminous Concrete Excavation By Cold Planing** shall be at the contract unit price, per Square Yard, as accepted by the Engineer. This price shall be full compensation for all labor, materials, tools, equipment including removal of the bituminous concrete pavements with occasional portions of cement concrete by cold planing to lines and grades, installation and enforcement of all public safety measures, disposal of all waste, unsuitable and/or surplus materials and all incidental work necessary to complete the work as specified or as directed.

The measurement and payment provisions listed under Division 1, Section 01 150 shall supplement the above payment provisions as applicable.

## GRAVEL BORROW FOR SIDEWALKS

The work under this Item **151.22: Gravel Borrow for Sidewalks** shall conform to the relevant provisions of Section 150 of the Standard Specifications and the following:

This work shall consist of furnishing and placing ordinary borrow in accordance with the details shown on the contract drawings, as specified in these specifications, and as directed by the Engineer. Gravel borrow shall consist of hard durable stone and coarse sand free from loam and clay, well graded and containing no stone having any dimensions greater than two (2) inches (Type C), as per Section M1.03.0. The gravel borrow shall conform to the following requirements:

Sieve	% Passing
1/2"	50-85
#4	40-75
#50	8-28
#200	0- 8

The gravel borrow shall be placed in six (6") inch maximum layers and then compacted to not less than 95% of maximum optimum density as determined by AASHTO Test Designations: T99-57, Method C.

Measurement of gravel borrow shall be the number of cubic yards furnished and placed in accordance with these Specifications and as directed by the Engineer. The number of cubic yards in place and accepted shall be measured by or calculated by the Engineer. Twenty-five (25%) percent will be added to the figure for compacting. Only gravel borrow placed within the established pay limits necessary to complete the work as established by the Engineer shall be considered for payment. If, in the opinion of the Engineer, the Contractor has excavated areas to an excessive width or depth, either through error or for his own convenience, the gravel borrow used to refill the trenches beyond the reasonable depth or width, as established by the Engineer, shall be paid for by the Contractor. Failure to allow ample time for the Engineer to make the required measurements will forfeit the Contractor's right-of-claim to any gravel borrow other than that allowed by the Engineer.

Payment for gravel borrow shall be made for the number of cubic yards as determined above at the contract unit price, per Cubic Yard, for Item **151.22: Gravel Borrow for Sidewalks**, as set forth in the proposal, which price shall be full compensation for all materials, equipment, tools, labor, backfilling, leveling and initial compaction, etc., and all else incidental thereto. Fine grading and compaction, wherever required, shall be paid for under the applicable item.

The measurement and payment provisions listed under Division 1, Section 01150 shall supplement the above payment provisions, as applicable.



**FINE GRADING & COMPACTION  
OF  
SUB-GRADE/SUB-BASE AREAS**

The Work under this Item shall conform to the relevant provisions of Section 170 of the Standard Specifications and the following:

The Work shall consist of the removal of temporary pavement and the underlying material over trenches and other areas including pavement saw cutting for specified cutbacks, excavation to sub-grade, fine grading and compaction, as required or as directed by the Engineer. The sub-grade areas shall be formed to the proposed cross-sections and compacted to the required dimensions, or as directed, in accordance with the provisions of sub-section 150.60 and 150.62.

Measurement of fine grading and compaction of the sub-grade areas (Item 170) shall be the number of square yards of area graded, shaped and compacted, as specified and as directed by the Engineer.

The additional gravel required to fill the depression or to replace the unsuitable materials removed shall be paid separately under Item 151.22.

Payment for this **Item 170: Fine Grading & Compaction of Sub-Base/Sub-Grade Areas** shall be the number of square yards, as determined above at the contract unit price, for the item as set forth in the proposal, which price shall be full compensation for all materials, equipment, tools, labor, additional excavation, if any, materials, etc. and all else incidental thereto.

The measurement and payments provisions listed under Division 1, Section 01150, shall supplement the above provisions, as applicable.

## **DRAINAGE STRUCTURE REMODELED SANITARY STRUCTURE REMODELED**

The work under these **Items 220.5 and 220.8** shall conform to the relevant provisions of Section 220 and the following;

The work shall consist of remodeling the cone of the structure where the line or grade requires a change greater than six (6") inches at existing sanitary and drainage structures, or where noted on the plans. For structures in the roadway itself, the excavated area will be refilled with gravel with the casting set into a concrete collar, overlain with 3-in. thick bituminous concrete top course. The Engineer shall determine the new elevation of the structure and all necessary work shall be done under his direction.

The City will assist the Contractor with the available information on the existing utility appurtenances/structures (sewer and drain manholes, catch basins, water valves, clean-outs, monitoring wells, etc.) located along the streets and sidewalks. Similar information on other utility appurtenances/structures (gas, electric, telephone, etc.) shall be obtained by the Contractor from the respective utility companies operating in the area.

The Contractor shall be fully responsible for the physical location of each of these utility appurtenances/structures already paved over or discovered during the Contractor's construction operations.

The Contractor shall not pave over any of the utility appurtenances/structures unless specifically directed otherwise, in writing, by the Engineer. Any paving over of the utility appurtenances/structures, whether willful or inadvertent, shall be subject to a fine or two hundred (\$200.00) dollars for each appurtenance/structure thus buried.

If during the course of the work a defective casting is encountered, the Contractor shall remove it as directed by the Engineer. The Contractor shall install a new casting. This shall not include any damage by the Contractor, which shall be repaired or replaced by the Contractor at his expense. Existing frames and grates belonging to the City of Quincy, in good condition and not needed on the project shall be transported and carefully stacked at the DPW Yard or otherwise disposed of by the Contractor at no additional cost to the City.

Replacement castings shall not be included under this Item but shall be paid for under a separate item or provided to the Contractor from the City of Quincy stockpile. The Contractor will be required to pick up the castings at the DPW Yard.

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Any remodeled drainage or sanitary structure, regardless of existing material, shall be paid for under **Item 220.5: Drainage Structure Remodeled; or Item 220.8: Sanitary Structure Remodeled** with no additional compensation.

Payment for work under these Items shall be at the contract unit price, per Each, for the respective Items, which prices shall be full compensation for all labor, materials, and equipment necessary to complete the work, including restoration in kind of all disturbed surfaces.

Payment for temporary setting of frames and castings, as required, during the pavement construction operations, shall also be included in the unit prices, per Each, as set forth in the Bid Form.

The measurement and payment provisions listed under Division 1, Section 01150 shall supplement the above payment provisions, as applicable.

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## **DRAINAGE STRUCTURE ADJUSTED SANITARY STRUCTURE ADJUSTED**

The work to be done under these **Items 220. and 220.7** shall conform to the relevant provisions of Section 220 of the Standard Specifications and the following:

This work shall consist of adjustments to all existing sanitary and drainage structures within the project limits, unless noted or directed otherwise. For structures in the roadway itself, the excavated area will be refilled with gravel with the casting set into a concrete collar. The new elevation of the structure shall be determined by the Engineer and all necessary work shall be done under this direction.

The City will assist the Contractor with the available information on the existing utility appurtenances/structures (sewer and drain manholes, catch basins, water valves, clean-outs, monitoring wells, etc.) located along the streets and sidewalks. Similar information on other utility appurtenances/structures (gas, electric, telephone, etc.) shall be obtained by the Contractor from the respective utility companies operating in the area.

The Contractor shall be fully responsible for the physical location of each of these utility appurtenances. This includes exposing the appurtenances/structures already paved over or discovered during the Contractor's construction operations.

The Contractor shall not pave over any of the utility appurtenances/structures unless specifically directed otherwise, in writing, by the Engineer. Any paving over of the utility appurtenances/structures, whether willful or inadvertent, shall be subject to a fine of two hundred dollars (\$200.00) for each appurtenance/structure thus buried.

If during the course of the work, a defective casting is encountered, the Contractor shall remove it as directed by the Engineer. A new casting shall be installed by the Contractor. This shall not include the castings damaged by the Contractor, which shall be repaired or replaced by the Contractor at his expense.

Existing frames and grates belonging to the City, in good condition and not needed on the project, shall be transported and carefully stacked at the DPW Yard, or otherwise disposed of by the Contractor at no additional cost to the City.

Replacement castings shall not be included under these items but shall be paid for under a separate item or provided to the Contractor from the City of Quincy stockpile. The Contractor will be required to pick up the castings at the City Yard.

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Payment for work under **Item 220: Drainage Structure Adjusted and Item 220.7: Sanitary Structure Adjusted** shall be at the contract unit price, per Each, for the respective Items, which price shall be full compensation for all labor, materials, and equipment necessary to complete the work, including restoration in kind of all disturbed surfaces.

Payment for temporary settings of frames and castings, as required, during the pavement construction operations shall also be included in the unit price, per Each, as set forth in the Bid Form.

The measurement and payment provisions listed under Division 1, Section 01 150 shall supplement the above provisions, as applicable.

## REPLACEMENT FRAME WITH GRATE OR COVER

The work under this **Item 222** shall consist of furnishing new castings and shall conform to the relevant provisions of Section 201 and Section 220 and the following:

Payment under this Item shall including furnishing new castings for the existing sanitary/drainage structures regardless of type or size or for existing structures that are to be adjusted or changed in type or remodeled and where existing castings need to be replaced.

New castings will be paid under **Item 222: Replacement Frame with Grate or Cover**, at the contract unit price, per Each, furnished and installed in place to the satisfaction of the Engineer. This price shall be full compensation for all labor, materials, equipment and tools necessary to complete the work including restoration in kind of all disturbed/damaged areas and facilities.

Unless directed otherwise, the Massachusetts Highway Department 1977 Standard Frame and Cover will be placed on all manholes. Square Frame type Catch Basin Frame and Cover with square hole grate shall be placed on all catch basins and gutter inlets and shall conform to the details as shown on the drawings. The cost of new castings for new structures shall be paid for under their respective items.

The measurement and payment provisions listed under Division 1, Section 01150 shall supplement the above payment provisions, as applicable.

## **GATE BOX ADJUSTED**

The work under this **Item 358**, shall conform to the relevant provisions of Section 300 of the Standard Specifications and the following:

This work shall consist of adjustments to existing curb stops, water gate and water service gate boxes to newly proposed grade changes. Gravel base around gate boxes shall be compacted. for gate boxes in the roadway itself, the excavated area will be refilled with gravel and the tops of the gate boxes shall be set in concrete collars. The new elevation of the structure shall be determined by the Engineer, and all necessary work shall be done under his direction.

The City will assist the Contractor with the available information on the existing utility appurtenances/structures (sewer and drain manholes, catch basins, water valves, clean-outs, monitoring wells, etc.) located along the streets and sidewalks. Similar information on other utility appurtenances/structures (gas, electric, telephone, etc.) shall be obtained by the Contractor from the respective utility companies operating in the area.

The Contractor shall be fully responsible for the physical location of each of these utility appurtenances. This includes exposing the appurtenances/structures already paved over or discovered during the Contractor's construction operations.

The Contractor shall not pave over any of the utility appurtenances/structures unless specifically directed otherwise, in writing, by the Engineer. Any paving over of the utility appurtenances/structures, whether willful or inadvertently, shall be subject to a fine of two hundred dollars (\$200.00) for each appurtenance/structure thus buried.

If during the course of the work, a defective curb stop or gate box is encountered, the Contractor shall remove it as directed by the Engineer. A new curb stop or gate box, and/or sleeve shall be installed by the Contractor. This shall not include any gate boxes and/or sleeves damaged by the Contractor which shall be repaired or replaced at the Contractor's expense.

Payment shall be made based on the number of completed units as determined from actual count by the Engineer. Payment shall be made as determined above at the contract unit price for **Item 358: Gate Box Adjusted** as set forth in the Bid Form, which price and payment shall be full compensation for all materials, labor, and equipment necessary to complete the work as specified including restoration in kind of all disturbed areas and all else incidental thereto.

New curb stops or gate boxes shall not be included for payment under this item, but shall be paid for under a separate item or provided to the Contractor from the City stockpile. The Contractor will be required to pick up the new units at the DPW Yard.

Payment for temporary setting of gate boxes, as required, during the pavement construction operations shall also be included in the unit price, per Each, as set forth in the Bid Form. The measurement and payment provisions listed under Division 1, Section 01150 shall supplement the above payment provisions, as applicable.

## SERVICE BOX

The work under this **Item 381** shall conform to the relevant provisions of Section 300 of the Standard Specifications and the following:

This work shall consist of replacement of water service gate boxes to newly proposed grade changes. Gravel base around gate boxes shall be compacted. The Engineer shall determine the new elevation of the structure, and all necessary work shall be done under his direction.

The City will assist the Contractor with the available information on the existing utility appurtenances/structures (sewer and drain manholes, catch basins, water valves, clean-outs, monitoring wells, etc.) located along the streets and sidewalks. The Contractor shall obtain similar information on other utility appurtenances/structures (gas, electric, telephone, etc.) from the respective utility companies operating in the area.

The Contractor shall be fully responsible for the physical location of each of these utility appurtenances. This includes exposing the appurtenances/structures already paved over or discovered during the Contractor's construction operations.

The Contractor shall not pave over any of the utility appurtenances/structures unless specifically directed otherwise, in writing, by the Engineer. Any paving over of the utility appurtenances/structures, whether willful or inadvertently, shall be subject to a fine of two hundred dollars (\$200.00) for each appurtenance/structure thus buried.

If during the course of the work, a defective curb stop or service box is encountered, the Contractor shall remove it as directed by the Engineer. A new service box, and/or sleeve shall be installed by the Contractor. This shall not include any service boxes and/or sleeves damaged by the Contractor which shall be repaired or replaced at the Contractor's expense.

Payment shall be made based on the number of completed units as determined from actual count by the Engineer. Payment shall be made as determined above at the contract unit price for **Item 381: Service Box** as set forth in the Bid Form, which price and payment shall be full compensation for all materials, labor, and equipment necessary to complete the work as specified including restoration in kind of all disturbed areas and all else incidental thereto.



## RECLAIMED BASE COURSE

The work to be done under this Item shall conform to the relevant provisions of Section 403 of the Standard Specifications and the following:

The work shall include scarifying and pulverizing the in place asphalt pavement and underlying materials, mixing and/or blending the material and spreading and compacting the resultant mixture to the lines and grades shown on the drawings.

The bituminous pavement and underlying materials shall be scarified to depths as shown on the drawings or as directed by the Engineer. The scarified material shall be pulverized and mixed to produce a consistent homogeneous material, which shall pass a 3-inch sieve test. If directed by the Engineer, Gravel Borrow (Type C) shall be blended with the pulverized materials to produce a uniform blend suitable for use as a base course.

The mixed base course materials shall be spread and compacted in accordance with the requirements of Section 402.61 of the Standard Specifications to widths, depths and crowns shown on the drawings.

Payment for work under **Item 403: Reclaimed Base Course** shall be at the contract unit price, per square yard in place and accepted by the Engineer. This price shall be full compensation for all labor, tools and equipment including scarifying, pulverizing, blending the existing pavement materials with new gravel borrow, spreading and compacting the blended materials, removal and off site disposal of all waste, unsuitable and/or materials declared surplus by the Engineer. Also included under the unit price shall be the raising, dropping, adjustment and protection of all utility structures required for reclamation.

Gravel borrow for blending with the pulverized materials shall be paid for under Item 405: Gravel for Base Course.

Grading and compaction shall be paid for under Item 170: Fine Grading & Compaction.

The measurement and payment provisions listed under Division 1, Section 01150 shall supplement the above payment provisions, where applicable.

## GRAVEL FOR BASE COURSE

The work under this **Item 405**, shall conform to the relevant provisions of Section 400 of the Standard Specifications and the following:

This work shall consist of furnishing, placing and compacting the gravel for base course in accordance with the details shown, as specified, or as directed by the Engineer.

The gravel shall consist of hard, durable stone material free from loam and clay, well-graded, as per Section M1.03.0 (Type B).

The gravel borrow shall be placed in three inch (3") maximum layers and then compacted to not less than ninety-five percent (95%) of maximum optimum density, as determined by AASHTO Test Designations: T99-57, Method C.

Measurement of gravel shall be the number of cubic yards furnished and placed in accordance with these Specifications and as directed by the Engineer. The number of cubic yards, in place and accepted shall be measured by or calculated by the Engineer. Only gravel placed within the established pay limits necessary to complete the work as established by the Engineer shall be considered for payment. If, in the opinion of the Engineer, the Contractor has excavated areas to an excessive width or depth, either through error or for his own convenience, the gravel used to refill the trenches beyond the reasonable depth or width, as established by the Engineer, shall be paid for by the Contractor.

Failure to allow ample time for the Engineer to make the required measurements will forfeit the Contractor's right-of-claim to any gravel other than that allowed by the Engineer.

Payment for gravel shall be made for the number of Cubic Yards, as determined above, at the contract unit price for **Item 405: Gravel for Base Course**, as set forth in the Bid Form, which price shall be full compensation for all labor, materials, equipment, tools, additional excavation, if any, backfilling, placement of materials, compaction, grading, etc., and all else incidental thereto.

The measurement and payment provisions listed under Division 1, Section 01150 shall supplement the above payment provisions, as applicable.

## **CLASS I BITUMINOUS CONCRETE TYPE I-1 (Base Course)**

The work to be done under this **Item 420**, shall conform to the relevant provisions of Section 420 of the Standard Specifications, the work as described on the plans, and the following;

The work shall include all permanent and temporary bituminous concrete surfaces installed on the roadways, sidewalks and other areas to maintain traffic access/egress to all properties abutting any work and for the safe passage of pedestrian and vehicular traffic.

The bitumen for tack coat shall be applied over the existing cold planned or the prepared sub-base/sub-grade, or the newly installed base, or leveling courses, immediately prior to the installation of top course, as denoted on the plans or as directed by the Engineer. The surface shall be cleaned of all sand and foreign matter and dry before applying the prime coat.

Payment for the work under this item shall be at the contract unit price, per Ton, for **Item 420: Class I Bituminous Concrete Type I-1 (Base Course)**, which price shall be full compensation for all labor, materials, equipment and tools necessary for furnishing, placement, leveling, rolling and compaction of materials for the satisfactory completion of the work.

The payment for bitumen tack coat application shall be made separately under Item 463.

The measurement and payment provisions listed under Division 1, Section 1150 shall supplement the above payment provisions, where applicable.

**CLASS I BITUMINOUS CONCRETE PAVEMENT  
TYPE I-1 (LEVELING COURSE)**

**CLASS I BITUMINOUS CONCRETE PAVEMENT  
TYPE I-1 (TOP COURSE)**

**BITUMEN FOR TACK/PRIME COAT**

The work to be done under these **Items 460., 460.5, and 463.** shall conform to the relevant provisions of Section 460 of the Standard Specifications, the work as described on the plans and the following:

The work shall include all permanent and temporary bituminous concrete surfaces installed on the roadway, sidewalks and other areas, to maintain traffic access/egress to all properties abutting any work and for the safe passage of pedestrian and vehicular traffic.

*The bitumen for prime/tack coat shall be applied at the rate of 1/10 to 1/20 gallons per square yard over the existing cold planned surface, where denoted on the plans or as directed by the Engineer. The surface shall be cleaned of all sand and foreign matter and dry before applying prime/tack coat.*

**Hot poured rubberized asphalt sealant shall also be applied to longitudinal and transverse joint as per the MHWY standard specification, section 460. The sealant shall be considered incidental to all class I bituminous concrete pavement of said section.**

Payment for the work under these Items shall be at the contract unit price, per Ton, for **Item 460: Class I Bituminous Concrete Pavement, Type I-1, for Top Course; Item 460.5: Class I Bituminous Concrete Pavement, Type I-1 for Leveling Course;** and per Gallon for **Item 463: Bitumen for Tack/Prime Coat,** which price shall be full compensation for all labor, materials, equipment, and tools necessary for furnishing, placement, leveling, rolling and compaction of materials and spraying of bituminous emulsions and all other work incidental thereto for the satisfactory completion of the work.

The measurement and payment provisions listed under Division 1, Section 01150 shall supplement the above payment provisions, as applicable.

**SECTION 02460**

**BITUMINOUS CONCRETE PAVEMENT (SUPPLEMENT)**

**PART 1 – GENERAL**

**1.01 SUMMARY**

A. Section Includes

1. Furnish and install tack prime coat, hot mix asphalt pavement base and surface courses, saw cutting, pavement reclamation, structure protection and adjustments, sidewalks, driveways, bituminous concrete berm and curb, and miscellaneous patching in accordance with this Section and applicable reference standards.
2. Remove and dispose of existing pavements (bituminous, concrete, cobblestones, etc.) and pavement sub-bases (rails, rail ties, macadam, etc.)
3. Limit area of pavement removed to those shown on Drawings. Pavement removed for Contractor's convenience shall not be considered for payment.

B. Related Requirements

1. Section 02400 – Reclaimed Base Course
2. Section 02410 – Gravel for Base Course

**1.02 PRICE AND PAYMENT PROCEDURES**

- A. Measurement and payment requirements: per Division 01 General Requirements.

**1.03 REFERENCES**

A. Reference Standards

1. MassDOT Standard Specifications and Supplements, except for Compensation sections
2. MassDOT Construction Details
3. Applicable portions of City of Quincy Code of Ordinances and Zoning Ordinances
4. American Association of State Highway and Transportation Officials (AASHTO)

- a. AASHTO M320 Standard Specifications for Performance-Graded Asphalt Binder
- b. AASHTO T166 Standard Method of Test for Bulk Specific Gravity (Gmb) of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface-Dry Specimens
- c. AASHTO T209 Standard Method of Test for Theoretical Maximum Specific Gravity (Gmm) and Density of Hot Mix Asphalt (HMA)
- d. AASHTO TP 68 Standard Method of Test for Density of In-Place Hot-Mix Asphalt (HMA) Pavement by Electronic Surface Contact Devices

#### **1.04 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination, sequencing, and scheduling: per Division 01 General Requirements.

#### **1.05 SUBMITTALS**

- A. Submit in accordance with Division 01 General Requirements.
- B. Certificates: manufacturer's certificate verifying conformance.
- C. Mix design: for each grade of pavement used, at least 3 days prior to start of paving.
- D. Source and field quality control submittals
  1. Certified weigh slips for each truck load of bituminous material if required by Owner.
- E. Closeout and maintenance material submittals: per Division 01 General Requirements.

#### **1.06 QUALITY ASSURANCE**

- A. Provide in accordance with Division 01 General Requirements.
- B. Comply with road opening permits.
- C. Establish and control pavement (aggregate or asphalt base course and asphalt surface course) alignments, grades, elevations, and cross sections as shown on Drawings.



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**1.07 DELIVERY, STORAGE, AND HANDLING**

- A. Provide in accordance with Division 01 General Requirements.

**1.08 SITE CONDITIONS**

- A. Existing Conditions: per Division 01 General Requirements.

**PART 2 – PRODUCTS**

**2.01 BITUMEN FOR TACK/PRIME COAT**

- A. Provide in accordance with MassDOT Standard Specifications and Supplements Section 460, M3.11.06 and MassDOT Construction Details.

**2.02 HOT POURED RUBBERIZED ASPHALT SEALANT**

- A. Provide in accordance with MassDOT Standard Specifications and Supplements Section 460 and MassDOT Construction Details.

**2.03 HOT MIX ASPHALT SURFACE COURSE - STANDARD TOP**

- A. Provide in accordance with MassDOT Standard Specifications and Supplements Section 460, M3.11.03 and MassDOT Construction Details.

**2.04 HOT MIX ASPHALT BASE COURSE - BINDER**

- A. Provide in accordance with MassDOT Standard Specifications and Supplements Section 460, M3.11.03 and MassDOT Construction Details.

**2.05 BITUMINOUS CONCRETE BERM**

- A. Provide in accordance with MassDOT Standard Specifications and Supplements Section 460 and MassDOT Construction Details.
- B. Provide in accordance with MassDOT Standard Specifications and Supplements Section 501, M3.12.0 and MassDOT Construction Details.
- C. Type: As depicted on the Drawings.

**2.06 HOT MIX ASPHALT FOR MISCELLANEOUS WORK**

- A. Provide in accordance with MassDOT Standard Specifications and Supplements Section 472 and MassDOT Construction Details.

**2.07 SOURCE QUALITY CONTROL**

- A. Provide in accordance with Division 01 General Requirements.

## PART 3 – EXECUTION

### 3.01 GENERAL

- A. Minimize area of pavement removed to suitable width for installation of Work. Legally dispose of existing pavements.
- B. Hot Mix Asphalt shall not be placed after November 15 or before April 1 without written permission from the Owner.
- C. Do not place hot mix asphalt mixture unless breakdown and intermediate rolling can be completed by time material has cooled to 175 degrees F, and provided density of completed pavement attains at least 92.5 percent of maximum theoretical density as determined by AASHTO T209.
- D. Do not place mix on wet or damp surfaces, or when ambient temperature is 40 degrees F and falling, unless otherwise specified by Owner.
- E. When the air temperature falls below 50 degrees F, extra precaution shall be taken in drying the aggregates, controlling the temperatures of the materials, placing, and compacting the mixtures.
- F. The Contractor shall supply an approved dial type thermometer with a temperature range of 50 degrees F to 500 degrees F and infrared piston thermometer for each paving machine in operation on the Project. The Infrared pistol thermometer shall be Fahrenheit or Celsius selectable and conform to the following requirements:
  - 1. Fahrenheit or Celsius selectable
  - 2. Portable and battery operated.
  - 3. Repeatability of +/- 5 degrees F.
  - 4. LCD display to nearest 1 degrees.
  - 5. Accuracy of +/- 2%.
  - 6. Emissivity present at 0.95.
  - 7. Temperature operation range of 0 degrees F to 750 degrees F.
  - 8. The thermometer will remain the property of the Contractor upon completion of the Project.
- G. Contractor and its Subcontractor(s) shall comply with all requirements stipulated within all permits that apply to this Project.

### 3.02 INSTALLATION

- A. Place hot mix asphalt base and surface courses on roadways, sidewalks and other areas to maintain traffic access and egress to properties abutting Work, and for safe passage of pedestrian and vehicular traffic in accordance with MassDOT Section 460 and Construction Standard Details.
1. Provide minimum compacted thickness depth of hot mix asphalt base course indicated on Drawings or as directed by Engineer to achieve necessary base course grade in support of finish grade pavement elevations.
  2. Apply bitumen for prime and tack coat at a rate of 0.07 gallons per square yard over milled areas immediately prior to installation of surface course, as shown on Drawings or directed by Engineer. Clean surface of sand and foreign matter, and dry before applying prime coat.
  3. Apply bitumen for prime and tack coat at a rate of 0.05 gallons per square yard over hot mix asphalt base course immediately prior to installation of surface course, as shown on Drawings or directed by Engineer. Clean surface of sand and foreign matter, and dry before applying prime coat.
  4. Provide minimum compacted thickness depth of hot mix asphalt surface course indicated on Drawings or as directed by Engineer to achieve finish grades.
  5. Apply hot poured rubberized asphalt sealant to longitudinal and transverse joints.
  6. Remove and replace defective mix not conforming to specified mix formula within stipulated tolerances on basis of testing. Samples of mixture in use will be taken as many times daily as necessary, and mixtures maintained uniform as specified. Owner may suspend further approval of plant mixtures in related Work if mixtures are not uniformly furnished as specified, until necessary changes have been made so mixtures conform to specified requirements.
  7. Irregularities which may develop before completion of rolling, and while material is still workable, may be remedied by loosening surface mixture and removing or adding material as necessary. If irregularities or surface defects remain after final compaction, defective Work will be corrected by minor surface projections, joints, and minor honeycombed surfaces ironed out smoothly to grade, and as directed.
  8. If any soft, imperfect places or spots develop on surface before final acceptance of Work, remove and replace with new materials and compact until edges of new Work seamlessly connect with old Work.

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- B. Install hot poured rubberized asphalt sealer on roadway cracks less than or equal to 1-inch width. Clean and dry crack to minimum depth of twice the crack width with a high-pressure air blast prior to placing sealer. Apply sealer according to manufacturer's recommendations.
- C. Install hot mix asphalt for miscellaneous Work and handwork on roadway surfaces that cannot be installed mechanically, or as directed by Engineer, in accordance with MassDOT Section 472 and Construction Standard Details.
- D. Set manhole covers, water gate boxes, etc. flush with finish grade of surface course.
- E. Vehicular traffic or loads are not permitted on newly completed pavement until adequate stability has been attained and material has cooled sufficiently to prevent distortion or loss of fines. If climatic or other conditions warrant it, time-period for opening to traffic may be extended at discretion of Owner.
- F. Placement shall be established by the Owner within the limits of work.

### **3.03 EXCAVATION BY COLD PLANER WITH PAVING**

- A. The words Milling, Cold Planing and Grinding shall be considered interchangeable.
- B. Milling and Overlay of paving includes removing the top layer of in-place bituminous pavement to the depth specified, by means of a cold planer, followed by placing standard top surface course in depths specified on Drawings.
- C. Cold planing (milling) will be performed within plus or minus 1/4" of the specified thickness.
  - 1. Areas over milled that exceed the depths specified will be leveled to the predetermined thickness at the contractor's expense and at no cost to the owner.
  - 2. Areas that are under planed that do not meet the depths specified will be re-milled to the predetermined thickness at the contractor's expense and at no cost to the owner.
- D. The cold planer shall be capable of planing both bituminous pavements and cement concrete patches, if the latter should be encountered in bituminous pavements.
  - 1. 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 proper safety precautions.

2. The cold planer shall be equipped with automation (non-contact grade sensors).
- E. Excavated material shall be loaded directly into trucks for removal, and not stockpiled onsite, unless approved for reuse as subbase material elsewhere within the project limits by the Engineer.
- F. The surface shall not be torn, gouged, shoved, broken or excessively grooved. It shall be free of imperfections in workmanship that prevent resurfacing after this operation.
- G. Variable lacing patterns shall be provided to permit a rough grooved or smooth surface as directed. Surface texture shall be as specified by the Engineer and excess material shall be removed so that the surface is acceptable to traffic if required.

### **3.04 RECLAMATION OF ROADWAY WITH PAVING**

- A. The Contractor shall locate and protect existing drainage and utility structures, underground pipes, culverts, conduits and other appurtenances prior to scarifying and pulverizing existing pavement. If upper sections of utilities are removed, immediately cover remaining part of structure with steel plate capable of withstanding 36.5-ton truckload with impact. Protect, remove or replace existing utility structures and boxes as part of Work, as shown on the Plans or directed by the Engineer.
- B. Reclamation of paving includes scarifying and pulverizing in-place bituminous pavement and underlying material, mixing or blending material in depths specified on Drawings, followed by placing base binder course in depths specified on Drawings and standard top surface course in depths specified on Drawings.
- C. Remove unsuitable material in sub-grade to lines and depths established by Owner and dispose of legally. Replace with gravel borrow in accordance with MassDOT M1.03.0, Type B.
- D. Placement: within limits of Work shown on Drawings.

### **3.05 BITUMINOUS CONCRETE BERM**

- A. Provide foundation for bituminous concrete berms as shown on Drawings or as directed by Engineer, conforming to requirements for type of berm.
- B. Place mixture and compact with machine approved by Owner for type of berm required.

### **3.06 FIELD QUALITY CONTROL**

- A. Provide in accordance with Division 01 General Requirements.

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- B. Perform in-place density testing of applicable hot mix asphalt pavement courses using 6-inch diameter cores in accordance with AASHTO T166 or AASHTO TP 68. Do not obtain cores from bridge protective course or bridge surface course. Determine degree of compaction from each core by comparing bulk density of core pavement layer to average maximum theoretical density of same day's production.
- C. Test plane of base and binder course finished surfaces, and surface course of compacted mixtures with a 16-foot straightedge. Use of a 10-foot straight edge is allowed on vertical curves. Apply straightedge immediately after first compaction by rolling, and as necessary until and after final compaction of material in place. Hold straightedge in successive positions parallel to road centerline in contact with road surface, and check entire area from 1 side of pavement to the other. Correct irregularities which vary 1/4-inch from true surface in base or binder course.
- D. Adequate and approved straightedges shall be furnished and used by the Contractor with supervision and inspection by the Owner. The Contractor shall provide or designate a competent employee whose duty shall be to carefully use the straightedge to check the compacted surfaces.

### **3.07 CLOSEOUT ACTIVITIES**

- A. Provide in accordance with Division 01 General Requirements.

**END OF SECTION**

## CLASS I BITUMINOUS CONCRETE BERM

The work under this Item shall conform to the relevant provisions of Sections 460 and 470, and the following:

The work shall consist of furnishing, placing and compacting the bituminous concrete mix on a prepared foundation in accordance with the lines, grades and berm configurations shown on the plans or as directed by the Engineer.

The material and composition of this mix shall conform to the relevant requirements of Sections M3.11.00 for dense mix.

The quantity of **Item 470.: Class I Bituminous Concrete Berm Type A or Similar** shall be at the contract unit price, per linear foot, complete in place and accepted by the Engineer. This price shall be full compensation for all labor, materials, equipment, tools and other incidentals necessary for the satisfactory completion of the work.



## HOT MIX ASPHALT FOR MISC. USE

The work to be done under the **Items 472.00** when directed by the engineer shall consist of placement of bituminous concrete for patching and handwork performed on roadway surfaces that cannot be installed mechanically. This work shall conform to the relevant provisions of Section 460 on the Standard Specifications, the work as described on the plans and the following:

The work shall include all permanent and temporary bituminous concrete surfaces installed on the roadway, and other areas, to maintain traffic access/egress to all properties abutting any work and for the safe passage of pedestrian and vehicular traffic.

Payment for the work under these Items shall be at the contract unit price per ton, for which price shall be full compensation for all labor, materials, equipment, and tools necessary for furnishing, placement, leveling, rolling and compaction of materials and spraying of bituminous emulsions and all other work incidental thereto for the satisfactory completion of the work.

The measurement and payment provisions listed under Division 1, Section 01150 shall supplement the above payment provisions, as applicable.

**GRANITE CURB - TYPE VA-3 - STRAIGHT  
GRANITE CURB - TYPE VA-3 - CURVED**

The work to be done under these Items shall conform to the relevant provisions of Section 500 of the Standard Specifications, supplemented by the following:

The ends of all curbs shall be vertical and such that a flush joint is formed when two curb stones are placed adjacent to each other. Maximum joint space not to exceed 3/4 inches. The top 7-inches (exposed portion) of curb stone shall be uniform thickness and surface finish. The radii of the curved curb stone shall be as shown on drawings.

Payment for **Item 503: Granite Curb - Type VA-3 - Straight; and Item 503.1: Granite Curb - Type VA-3 - Curved** shall be at the contract unit price, per Linear Foot, complete in place and accepted by the Engineer (including the transition section), which price shall be full compensation for furnishing and installation of curbing including excavation, backfilling, saw cutting, cutting of curb pieces, curb setting, placement of dense graded crushed stone concrete bedding and pavement materials and all else incidental thereto and necessary to complete the work.

The measurement and payment provisions listed under Division 1, Section 1150 shall supplement the above payment provisions, as applicable.

## GRANITE CURB CORNER

The work to be done under this Item shall conform to the relevant provisions of Section 501 of the Standard Specifications, supplemented by the following:

Payment for this **Item 517: Granite Curb Corner** shall be at the contract unit price, per Each, complete in place and accepted by the Engineer which price shall be full compensation for all labor, materials, and equipment, including excavation, backfilling, saw cutting, preparation of inlet foundation, placement of concrete bedding, and dense graded crushed stone and other materials and all else incidental thereto for the satisfactory completion of the work.

The measurement and payment provisions listed under Division 1, Section 01150 shall supplement the above payment provisions as applicable.

**CURB REMOVED AND RESET  
CURB INLET REMOVED AND RESET  
CURB CORNER REMOVED AND RESET**

The work under these Items shall conform to the relevant provisions of Section 580 of the Standard Specifications and the following:

Resetting of curbs, curb inlets and curb corners may be required at any location within the project limit. All the existing curbs, curb inlets and curb corners shall be incorporated into the work before the installation of new curb stones. The use and payment for new curb pieces will not be accepted unless agreed to in writing by the Engineer.

Payment for **Item 580: Curb Removed and Reset; Item 581: Curb Inlet Removed and Reset; and Item 583: Curb Corner Removed and Reset** shall be at the contract unit price, per Linear Foot, per Each, per Each, and per Linear Foot respectively, complete in place and accepted by the Engineer. The contract unit prices will include all labor, equipment and materials including saw cutting of the existing pavement where indicated or directed, the removal of the existing pavement, excavation, removal and resetting, all handling, cutting ends square, trimming exposed and hidden faces, cleaning all sections to be reset, gravel borrow, including grading and compacting and/or placement of concrete base, pavement materials between the reset curb and the existing or proposed pavement, and all else incidental thereto for the satisfactory completion of the work.

The measurement and payment provisions listed under Division 1, Section 01150 shall supplement the above payment provisions as applicable.

**CEMENT CONCRETE SIDEWALK  
CEMENT CONCRETE WHEELCHAIR RAMP  
CEMENT CONCRETE AT DRIVEWAY**

The work to be done under these Items shall conform to the relevant provisions of Section 700 of the Standard Specifications and the following:

Included in the work are cement concrete sidewalks, and other paved surfaces as called for in the plans, or as directed. Bounds and utility appurtenances, castings in sidewalks shall not be covered over. Sidewalk surfaces are to be graded flush with the bounds and castings. All cement concrete surfaces shall be broom finished.

The location of expansion, contraction and construction joints in the cement concrete sidewalk shall be determined by the Engineer in the field. However, such joints in straight sidewalk sections shall not exceed 25 feet. Expansion/contraction joints shall be filled with elastic filler material, as approved by the Engineer.

Wheelchair ramps are to be constructed at locations as shown or as designated by the Engineer in accordance with the latest details as per the American Disabilities Act and the Massachusetts Highway Department Standards.

The commercial driveways and all wheelchair ramps shall be reinforced with 6-in X 6-in No. 2 Reinforced Steel Bar Mesh. Approximately 3 feet length of the sidewalk on either side of the driveway shall also be reinforced with steel reinforcement bars and described above. The cost of the reinforcement shall be included under Cement Concrete Wheelchair Ramps and Driveways.

Brick feature strip shall be installed as shown on the drawings. The bricks shall be standard size, K & W Red Chamfered Repressed Pavers, or an approved equal. The bricks shall match the existing feature strip bricks in color and texture.

**When forming for new or existing tree pits the ideal dimension shall be a 4' by 8' opening understanding that a minimum of 39" shall be maintained for the walking path of the sidewalk. The length of a tree pit shall not be less than 6'. Changes to tree pit opening dimensions must be approved by the Engineer.**

Payment for **Item 701: Concrete Sidewalk - 1 Course; Item 701.1: Cement Concrete Sidewalk at Driveway; and Item 701.31: Cement Concrete Wheelchair Ramps**, shall be at the contract unit prices, per square yard for each of these items, completed as specified and accepted by the Engineer. These prices shall be full compensation for all labor, materials, equipment, and tools, including preparation of sub-base, grading, leveling, compaction, placement of reinforcement steel, cement concrete, joint fillers, sealants and woven wire mesh, as required, and all else incidental to the satisfactory completion of the work.

The measurement and payment provisions listed under Division 1, Section 01150 shall supplement the above payment provisions.

**BITUMINOUS CONCRETE SIDEWALKS  
BITUMINOUS CONCRETE WHEELCHAIR RAMPS  
BITUMINOUS CONCRETE DRIVEWAYS**

The work under these Items shall conform to the relevant provisions of Section 700 of the Standard Specifications and the following:

Included in the work are all residential and commercial bituminous concrete sidewalks, driveways, wheelchair ramps and other paved surfaces, as called for in the plans, or as directed by the Engineer. Bounds in sidewalks should not be covered over. Sidewalk surfaces are to be graded flush with the bounds.

Wheelchair ramps are to be constructed at locations as designated by the Engineer and in accordance with the latest Massachusetts Highway Department Standards, or as shown in the contract plans.

**When forming for new or existing tree pits the ideal dimension shall be a 4' by 8' opening understanding that a minimum of 39" shall be maintained for the walking path of the sidewalk. The length of a tree pit shall not be less than 6'. Changes to tree pit opening dimensions must be approved by the Engineer.**

Payment for work under each of these Items shall be at the contract unit price, per Ton, for **Item 702.1: Bituminous Concrete Sidewalks; Item 702.2: Bituminous Concrete Wheelchair Ramps; and Item 702.3: Bituminous Concrete Driveways.** This price shall be full compensation for all labor, materials, equipment and tools, including preparation of sub-base, grading, leveling, compaction, installation of the bituminous concrete base and top courses, installation of 1" overlay of bituminous concrete, and all else incidental thereto and necessary for the satisfactory completion of the work.

The gravel sub-base which is to be provided as a foundation for the above items shall be paid for under Item 151.22.

The measurement and payment provisions listed under Divisions 1, Section 01150 shall supplement the above payment provisions, as applicable.

## MOBILIZATION/DEMobilIZATION

The work to be done under this Item shall conform to the relevant provision of Section 748 of the Standard Specifications and the following:

The work under this item shall include all mobilization of men, materials, equipment and related support facilities to satisfactorily perform the job as required to meet the project construction schedules. Also included under this item shall be the demobilization of all men, materials, equipment and the related support facilities and the final site clean-up on project completion and its acceptance by the City.

Payment for **Item 748: Mobilization/Demobilization** shall be on a lump sum basis with the item amount as set forth in the Bid Form to be divided equally for mobilization (50%) and demobilization (50%). These payments shall be full compensation for all preparation work and operations, movement of men, equipment, supplies and incidentals to the project site for the establishment of full office and facilities necessary for work on this project and all other work and operations which must be performed from the time prior to the start of the work to the final acceptance of the work by the City.

The amount allocated to demobilization activities shall not be paid until the job, including restoration work, is completed, accepted and the project area is cleaned to the satisfaction of the Engineer.

Lump sum prices for all work, operations and expenses in connection with mobilization and demobilization shall not exceed five percent (5%) of the total bid amount for the entire project.

The measurement and payment provisions listed under Divisions 1, Section 01150 shall supplement the above payment provisions, as applicable.



## LOAM BORROW

The work to be done under this Item shall conform to the relevant provisions of Section 751 of the Standard Specifications and the following:

The work shall consist of furnishing and placing loam borrow at designated locations where plant material (grasses, bushes and trees, etc.) are to be installed. All work shall be performed in close conformity with the lines, grades and locations shown on the plans or established by the Engineer in the field.

Loam Borrow shall conform to Section M1.05.0.

Payment for **Item 751.: Loam Borrow** shall be at the contract unit price, per Cubic Yard, in place and accepted by the Engineer. This price shall be full compensation for all labor, materials, and equipment including placement/spreading and rolling/tamping of the materials, excavation and preparation of areas and locations for installation of plant materials and all other work incidental to the satisfactory completion of the work.

The above payment shall also include excavation of test pits as required, along the sidewalks or near the designated locations to insure non-interference with underground utilities.

Note: It must be noted that all seeding, loaming and landscaping of areas, not originally included in the scope of work but subsequently necessitated due to the Contractor's operations shall be considered as a part of restoration work and shall not be paid for under this item. All costs associated with the restoration work shall be included under the item of work which necessitated the restoration work.

The measurement and payment provisions listed under Division 1, Section 01150 shall supplement the above payment provisions as applicable.

## SEEDING

The work to be done under this item 765 shall conform to the relevant provisions of Section 765 of the Standard Specifications and the following:

The work shall consist of seeding the approved areas in close conformity with the lines and grades shown on the plans or established by the Engineer in the field.

The materials to be used in the work (limestone, fertilizers, plant materials, water for irrigation and soil conditioners) shall conform to Section 765.40 of the Standard Specifications.

The quantities of materials, rate of application of various items and the installation details shall be as described under Section 765, as shown on the plans or as recommended by the manufacturers and suppliers.

Payment for work under **Item 765: Seeding** shall be at the contract unit price, per Square Yard, in place and accepted by the Engineer. This price shall be full compensation for all labor, materials and equipment, including seed spraying, limestone, fertilizers, fine grading, rolling the seeded areas, watering, clearing the weed and all else incidental thereto and necessary for healthy grass areas without any bare spots or areas.

**SECTION 02765**

**SEEDING (SUPPLEMENT WITH PLANTING)**

**PART 1 – GENERAL**

**1.01 SUMMARY**

- A. Section Includes
  - 1. Provide loam borrow, topsoil, seeding, and supporting materials in accordance with this Section and applicable reference standards listed in Article 1.03.
- B. Related Requirements
  - 1. Section 02750 – Loam Borrow

**1.02 PRICE AND PAYMENT PROCEDURES**

- A. Measurement and payment requirements: per Division 01 General Requirements.

**1.03 REFERENCES**

- A. Reference Standards
  - 1. MassDOT Standard Specifications and Supplements, except for Compensation sections
  - 2. MassDOT Construction Details
  - 3. ANSI Z60.1 Standard Nursery Stock
  - 4. American Association of Nurserymen (A.A.N.)
  - 5. A.O.A.C.: Association of Official Agricultural Chemists.
  - 6. United States Department of Agriculture (USDA)

**1.04 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination, Sequencing, and Scheduling: per Division 01 General Requirements.

**1.05 SUBMITTALS**

- A. Submit in accordance with the Division 01 General Requirements.
  - 1. Product Data

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2. Manufacturer Instructions
- B. The work of this Section consists of providing all labor, equipment, materials, incidental work, and construction methods necessary to supply and place planting soils as indicated on the Contract Documents and as specified. Supplying and placement of planting soils shall include, but not be limited to:
1. Sampling and testing of loam borrow.
  2. Sampling and testing of existing on-site topsoil.
  3. Modifying, screening, placing, spreading and grading of loam borrow.
  4. Modifying, screening, placing, spreading and grading of existing, on-site topsoil.
  5. Providing all other sampling, testing, supplying, placing, spreading and grading of planting soils as required by this Section.
- C. Certificates
1. Submit manufacturers or vendors certified analysis for soil amendments and fertilizer materials. Submit other data substantiating that materials comply with specified requirements.
  2. Submit seed vendor's certified statement for each grass seed mixture required, stating botanical and common name, percentage by weight, and percentages of purity germination, and weed seed for each grass seed species.
- D. At least 30 days prior to ordering materials, the Contractor shall submit to the Owner's Representative representative samples, certifications, manufacturer's product data and certified test results for materials as specified below for approval in conformance with the requirements of the Division 01 General Requirements. No materials shall be ordered or delivered until the required submittals have been reviewed and approved by the Owner's Representative. Delivered materials shall closely match the approved samples. Approval shall not constitute final acceptance. The Owner's Representative reserves the right to reject, on or after delivery, any material that does not meet these Specifications.
1. Loam Borrow: The Contractor shall provide a one cubic foot representative sample per each 1,000 cubic yard of proposed stockpile of loam borrow for testing. All stockpile sampling shall be per ASTM D 75 and Appendixes for securing samples from stockpiles.
    - a. Additionally, the Contractor shall provide 25, one cubic foot representative samples selected from on-site stockpiles of loam borrow for testing or from loam after it has been spread and

amended. Samples from on-site stockpiles and from spread and amended loam borrow shall be taken from locations as directed by the Owner's Representative and packaged in the presence of the Owner's Representative.

- b. Testing will be at the Contractor's expense. Contractor shall deliver all samples to testing laboratories via overnight courier and shall have the testing report sent directly to the Owner's Representative. Perform all tests for gradation, organic content, soil chemistry and pH by UMASS Soil and Plant Tissue Laboratory, West Experiment Station, North Pleasant Street, University of Massachusetts, Amherst, MA 01003, (413) 545-2311. Testing reports shall include the following tests and recommendations. Contractor shall deliver samples to testing laboratories and shall have the testing report sent directly to the Owner's Representative from the Soil and plant Tissue Laboratory. Testing reports shall include the following tests and recommendations.
  - c. Mechanical gradation (sieve analysis) shall be performed and compared to the USDA Soil Classification System. Sieve analysis shall be by combined hydrometer and wet sieving using sodium hexametaphosphate as a dispersant in compliance with ASTM D 422 after destruction of organic matter by H<sub>2</sub>O<sub>2</sub>. To facilitate review and approval of sieve analysis, provide a computer generated gradation curve from UMASS Soil & Plant Tissue Laboratory.
  - d. Percent of organics shall be determined by the loss on ignition of oven-dried samples. Test samples minus #10 material shall be oven-dried to a constant weight at a temperature of 450 degrees Fahrenheit.
  - e. Chemical analysis shall be undertaken for Nitrate Nitrogen, Ammonium Nitrogen, Phosphorus, Potassium, Calcium, Magnesium, extractable Aluminum, Lead, Zinc, Cadmium, Copper, Soluble Salts, and pH and buffer pH. A Conductivity Meter shall be used to measure Soluble Salts in 1:2 soil/water (v/v). Except where otherwise noted, nutrient tests shall be for available nutrients.
  - f. Soil analysis tests shall show recommendations for soil additives to correct soils deficiencies as necessary, and for additives necessary to accomplish planting work as specified.
3. Peat Moss: Submit a one cubic foot sample and supplier's certification of contents.

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4. Limestone: Submit supplier's certification that the limestone being supplied conforms to these Specifications.
5. Acidulant: Submit supplier's certification that the acidulant being supplied conforms to these Specifications.
6. Fertilizer :
  - a. Submit product data of seeding and planting fertilizer and certificates showing composition and analysis. Submit fertilization rates for fertilizer product based upon soil testing, analysis, and recommendations.
  - b. Submit the purchasing receipt showing the total quantity purchased for the project prior to installation.
7. Gypsum: Submit manufacturer's product data and 2 pound sample.
8. All additives needed to amend a specific soil in order to meet these specifications.

#### **1.06 QUALITY ASSURANCE**

- A. Provide in accordance with Division 01 General Requirements.
- B. Analysis and Standards: Package standard products with manufacturers certified analysis. For other materials, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agriculture Chemists, wherever applicable.

#### **1.07 DELIVERY, STORAGE, AND HANDLING**

- A. Provide in accordance with Division 01 General Requirements.
- B. Packing, Shipping, Handling, and Unloading
  1. Do not order or deliver material until submittals are approved.
- C. Package products with manufacturers certified analysis.

#### **1.08 SITE CONDITIONS**

- A. Existing Conditions: per Division 01 General Requirements.
- B. Locate underground utilities. Perform Work in a manner that will avoid damage.
- C. Plant or install materials during normal planting seasons for each type of landscape work required.

## **PART 2 – PRODUCTS**

### **2.01 LOAM BORROW**

- A. Provide in accordance with MassDOT Standard Specifications and Supplements Section 751 and MassDOT Construction Details.
- B. Type: MassDOT Standard Specifications and Supplements Section M1.05.0.
- C. Furnish sufficient loam borrow to complete loaming operations required for Project and as directed by Engineer. Obtain loam borrow from the following sources and meet requirements specified after testing and addition of necessary soil additives.
  - 1. Naturally well-drained areas that have never been stripped before and have a history of satisfactory vegetative growth. Comply with bylaws and Regulations regarding removal of topsoil.
  - 2. Commercial processing facility specializing in manufacturing of loam.

### **2.02 TOPSOIL**

- A. Use topsoil stockpiled for re-use in landscape work, as specified in Site Clearing. Reused topsoil shall be machine screened to  $\frac{3}{4}$ -inch maximum particle size.
- B. Provide additional topsoil required to complete landscape work if quantity of stockpiled topsoil is insufficient. New topsoil shall be fertile, friable, natural loam surface soil found at a depth of not less than 4 inches from original ground surface, reasonably free of subsoil, clay lumps, brush, weeds and other litter, and free of roots, stumps, debris, and stones larger than  $\frac{3}{4}$ -inch in any dimension. The soil shall meet MassDOT Section M1.05.0 requirements and contain not less than 4% nor more than 20% organic matter.
- C. Obtain topsoil from local sources or from areas having similar soil characteristics as Site. Obtain topsoil only from naturally, well-drained Sites where topsoil occurs in a depth of not less than 4 inches. Do not obtain from bogs or marshes.

### **2.03 SEED AND SUPPORTING MATERIAL**

- A. Provide seed, limestone, fertilizers, plant materials, water for irrigation and soil conditioners in accordance with MassDOT Standard Specifications and Supplements Section 765.40 and MassDOT Construction Details, and ANSI Z60.1.

### **2.04 PLANTING TREES, SHRUBS AND GROUND COVER**

- A. Provide in accordance with MassDOT Standard Specifications and Supplements Section 771 and MassDOT Construction Details.



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- B. Type: per MassDOT Standard Specifications and Supplements Section M6.06.1

## 2.05 SEEDING

- A. Grass Seed: Provide fresh, clean, new-crop seed complying with tolerance for purity and germination established by Official Seed Analyst of North America. Do not use seed that has become wet, moldy, or damaged. All seed mixtures listed are proportions by weight.
  - 1. Germination: not less than 80 percent
  - 2. Purity: not less than 85 percent
  - 3. Weed content: not more than 1 percent
- B. Lawn Repair Mixture
  - 1. 60% Kentucky Bluegrass
  - 2. 20% Perennial Ryegrass
  - 3. 20% Chewings Fescue

## 2.06 FERTILIZER

- A. Bone meal: commercial, raw or steamed, finely ground; minimum of 4 percent nitrogen and 20 percent phosphoric acid.
- B. Superphosphate: commercial, phosphate mixture, soluble; minimum of 20 percent available phosphoric acid.
- C. Fertilizer: commercial grade complete fertilizer of neutral character, consisting of fast and slow release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition.
  - 1. Nitrogen, phosphorous and potassium in amounts recommended in topsoil analysis reports from a qualified soil testing agency.
  - 2. Minimum 1 pound per 1,000 square feet of actual nitrogen, 4 percent phosphorous and 2 percent potassium by weight.

## 2.07 SOURCE QUALITY CONTROL

- A. Provide in accordance with Division 01 General Requirements.

## **PART 3 – EXECUTION**

### **3.01 GENERAL**

- A. Avoid damage to utilities, buildings and private property.
- B. Do not disturb property markers.
- C. Immediately report damage to Engineer.
- D. Repair all grassed areas disturbed during performance of the Work. Where existing topsoil remains, provide seed to re-establish grass. Where necessary, provide additional topsoil.
- E. Complete landscape work immediately as portions of Site become available, working within seasonal limitations for each kind work. Notify Engineer before planting if conditions detrimental to plant growth are encountered.
- F. Plant or install materials during normal planting seasons for each type of landscape work required, and as specified.
- G. Use topsoil stockpiled for re-use as specified.

### **3.02 LOAM BORROW**

- A. Place loam borrow at designated locations where plant material is to be installed or re-installed in accordance with MassDOT Section 751 and MassDOT Construction Details and Drawings, or as directed by Engineer.
- B. Protect loam borrow delivered to Site from erosion and spread immediately. Cover material that sits on-Site for more than 24 hours with tarpaulin or other soil erosion system acceptable to Engineer, and surround with silt fence as shown on Drawings.
- C. Do not handle, plant or use loam borrow if wet or frozen. Use moist loam borrow.

### **3.03 PLANTING TREES, SHRUBS AND GROUND COVER**

- A. Provide in accordance with MassDOT Standard Specifications and Supplements Section 771 and MassDOT Construction Details.
- B. Type: per MassDOT Standard Specifications and Supplements Section M6.06.1.
- C. Prune injured roots or branches to make clean-cut ends prior to planting, utilizing clean, sharp tools, removing only injured or diseased branching.
- D. Remove planting containers, baskets, and non-biodegradable materials from root balls during planting. Cut natural fiber burlap from around trunk of trees and folded down against root ball prior to backfilling.

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- E. Position trees and shrubs at intended locations shown on Drawings and obtain Engineer's approval prior to excavating pits, making necessary adjustments as directed.
- F. Dig planting pits with level bottoms with width twice the diameter of root ball. Rest root ball on undisturbed grade. Backfill each plant pit in layers with thoroughly mixed, prepared soil; 1-part peat moss; 1-part composted cow manure by volume; 3 parts topsoil by volume.
  - 1. Provide 21-gram planting tablets, acceptable level of quality: equivalent to Agriform.
    - a. 2 tablets per 1-gallon plant
    - b. 3 tablets per 5-gallon plant
    - c. 4 tablets per 15-gallon plant
    - d. Larger plants: 2 tablets per 1/2-inch caliper of trunk
- G. Fill prepared soil around ball of plant halfway, and insert plant tablets. Complete backfill, and water thoroughly.

### 3.04 FINE GRADING

- A. Clean subgrade of stones greater than 2 inches and all debris immediately prior to dumping and spreading loam borrow, and remove from Site. Do not rake to edges and bury. Obtain Engineer's approval of subgrade conditions prior to spreading loam borrow.
- B. Spread and thoroughly incorporate soil additives into layer of loam borrow by harrowing or other approved methods. Incorporate the following soil additives.
  - 1. Ground limestone or acidulants: as required by soil analysis to achieve required pH specified. Spread limestone at rate required by soil analysis up to maximum limit of 200 pounds per 1,000 square feet. Make a surface application of limestone not in excess of 50 pounds per 1,000 square feet to established planting area during the season after Final Acceptance if recommendations of soil analysis require rates of application greater than 200 pounds per 1,000 square feet.
  - 2. Fertilize at rate and analysis recommended by soil analysis.
  - 3. Use biosolid compost, peat moss, sand or other soil amendments as required by soil analysis.
- C. Prepare loam borrow by scarifying, harrowing, or tilling loam to integrate soil additives into top 6 inches of loam after loam borrow and required additives have been spread. Remove large stiff clods, lumps, brush, roots, stumps, litter and other foreign matter. Remove all stones over 1-inch in diameter from top 6 inches of

- loam bed from unscreened soils. Remove smaller stones in excessive quantities as directed.
- D. Set sufficient grade stakes for checking finished grades. Set stakes in bottom of swales and at top of slopes. Do not deviate more than one-tenth of foot from indicated elevations. Connect contours and spot elevations with an even slope. Finish grades: smooth and continuous with no abrupt changes at top or bottom of slopes.
- E. Fill depressions caused by settlement or rolling during compaction process with additional loam borrow and regrade surface and roll until finish is smooth and even corresponding to required grades.
- F. Install loam borrow in successive horizontal lifts no thicker than 6 inches in turf areas and 12 inches in plant bed areas to desired compaction as indicated. Install soil at a higher level to anticipate any reduction of loam borrow volume due to compaction, settling, erosion, and decomposition during Warranty Period. Obtain full depths of loam borrow for plant beds by digging holes in loam borrow at same frequency as for compaction testing.
1. Compact loam to specified density.
  2. Maximum dry density for topsoil and loam: determined in accordance with ASTM D698. Achieve the following percentages of minimum to maximum dry densities for fill materials or prepared subgrades.
    - a. Fills within plant beds, tree pits and treeways: minimum 80 percent; maximum 85 percent for areas in top 18 inches of finished grade.
  3. Scarify surface area of each lift by raking prior to placing next lift.
- G. Compact each lift to reduce settling, but not enough to prevent movement of water and feeder roots through the soil in addition to range cited above. Loam borrow in each lift: firm underfoot and make only slight heel prints. Loam borrow at completion of installation: firm, even resistance when a soil sampling tube is inserted from lift to lift. Perform percolation tests after placement of each lift to determine if soil has been over compacted using the following percolation test procedure.
1. Dig a hole in installed soil minimum of 4 inches in diameter. Holes in 6-inch lift in turf areas: 4 inches deep. Holes in 12-inch lifts in plant beds: 8 inches deep. Do not penetrate through lift being tested.
  2. Fill hole with water and let it drain completely. Immediately refill hole with water and measure rate of fall in water level.
  3. Till soil to a depth required to break over compaction if water drains at a rate less than 1-inch per hour.

4. Perform a minimum of 1 soil percolation test per 10,000 square feet of turf area, and 2,500 square feet of tree and shrub planting area as directed.
- H. Select equipment and phase installation of loam borrow so wheeled equipment does not travel over subsoil, placed fills or ordinary borrow, or already installed soil. Movement of tracked equipment over these soils will be reviewed and considered by Engineer for approval. If Engineer determines that wheeled equipment must travel over already installed soil, provide a written description of sequencing of Work that ensures compacted soil is loosened and uncompacted as Work progresses, or place 1-inch thick steel plate ballast or approved equivalent over length and width of any travel way to cover loam borrow to protect it from compaction.
- I. Grade disturbed areas outside limit of Work, smooth and spread with minimum 4 inches of loam borrow to finished grade.
- J. Maintain stockpiles of existing on-Site topsoil until final placement of existing on-Site topsoil and loam borrow is approved. Provide survey data plotted on a 20-scale plan of the Site prepared by a registered surveyor or civil engineer, showing volume of stockpiles of existing on-Site topsoil. Remove excess, unused existing on-Site topsoil from Site and legally dispose of upon approval.

### **3.05 SEEDING AND HYDROSEEDING SCHEDULE**

- A. Seed and hydroseed must be placed between April 15th and May 31st or between September 1st and October 15th.

### **3.06 SEED AND SUPPORTING MATERIAL**

- A. Install and apply seed and supporting materials at the rates of application and in accordance with MassDOT Standard Specifications and Supplements Section 765.40 and the Drawings.

### **3.07 HYDROSEEDING NEW AREAS**

- A. Mix specified seed and pulverized mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogenous slurry suitable for hydraulic application.
- B. Apply slurry using an approved machine. Seed and suitable corn fiber mulch may be applied in one operation. Mix materials with water in machine and agitate to keep mixture uniformly suspended. Use spraying equipment that will distribute slurry uniformly at required rates.
- C. Immediately following hydroseeding, mulch areas by means of mulch blower at rate of 1,200 pounds per acre on level grades, 2,000 pounds on slopes if mulch is not part of slurry. Use mulch specified in 2.04.A.

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- D. Seed only areas that can be mulched on same day.

### **3.08 SEEDING NEW AREAS**

- A. Sow seed using a spreader or seeding machine. Do not seed when wind velocity exceeds 5 miles per hour. Distribute seed evenly over entire area by sowing equal quantity in 2 directions at right angles to each other.
- B. Do not sow immediately following rain or when ground is too dry.
- C. Seed application rate: 1 pound per 1,000 square feet.
- D. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.

### **3.09 PROTECTION OF SEEDED SLOPES**

- A. Protect seeded slopes against erosion with erosion netting or other acceptable methods.
- B. Spread specified mulch after completion of seeding operations to form a continuous blanket not less than 1-1/2 inches' loose measurement over seeded areas.
- C. Anchor mulch by spraying with asphalt emulsion at rate of 10 to 13 gallons per 1,000 square feet. Prevent damage or staining of construction or other plantings adjacent to mulched areas.
- D. Cover seeded slopes with jute matting where grade is 3:1 or greater. Roll matting down over slopes without stretching or pulling.
- E. Lay matting smoothly on soil surface, burying top end of each section in narrow 6-inch trench. Leave 12-inch overlap from top roll over bottom roll. Leave 4-inch overlap over adjacent section.
- F. Staple outside edges and overlaps at 36-inch intervals.
- G. Lightly dress slopes with topsoil to ensure close contact between matting and soil.
- H. Unroll matting in direction of flow in ditches. Overlap ends of strips 6 inches with upstream section on top.

### **3.10 FIELD QUALITY CONTROL**

- A. Provide in accordance with Division 01 General Requirements.
- B. Site/Field Tests and Inspections
  - 1. Landscape work to be inspected and approved prior to completion of the Work.

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2. Replace rejected Work, and continue specified maintenance until re-inspected by Engineer and accepted. Remove rejected plants and materials promptly from Site.

### 3.11 CLEANING

- A. Keep pavement, sidewalks, and walkways clean. Maintain protection during installation and maintenance periods.

### 3.12 MAINTENANCE

- A. Provide maintenance of grass seeded areas immediately after planting.
- B. Maintain grass by watering, fertilizing, weeding, mowing, trimming, and other operations such as rolling, re-grading, and replanting as required to establish smooth, acceptable lawn areas free of eroded or bare areas.
- C. Maintain grassed areas to establish acceptable lawn areas until final completion, or for a minimum of 180 days after substantial completion, whichever is longer.
- D. Maintain grass by watering, fertilizing, weeding, mowing, trimming, and other operations such as rolling, re-grading, and replanting as required to establish a smooth, acceptable lawn, free of eroded or bare areas.
- E. If seeded in the fall season and full 180 days of maintenance is not provided, or if not considered acceptable at that time, continue maintenance during the following spring season until acceptable lawn areas are established.
- F. Maintain trees and shrubs until in accordance with Item C of this section.

### 3.13 CLOSEOUT ACTIVITIES

- A. Provide in accordance with Division 01 General Requirements.

**END OF SECTION**



## **TRAFFIC WIRE LOOP DETECTORS**

Work under this Item 819.831 shall conform to the relevant provisions of Sections 815 and 850, supplemented with the following.

The work shall include installation of new traffic wire loop detectors to replace detectors, which must be disturbed or removed as a result of the Contractor's operations, or as directed by the Engineer.

The Contractor shall notify the City of Quincy Traffic Engineer at least 72 hours in advance of beginning any excavation near the traffic signal locations.

After the completion of paving, the Contractor shall install new wire loop detectors as directed by the Engineer. Existing wire loops, which have been disturbed by construction, shall be removed where possible or be abandoned.

### **MATERIALS**

**Loop Wire**—shall be composed of a #14 AWG, 19-strand conductor insulated by a polyvinyl chloride compound. The insulated conductor shall be completely enclosed in a nylon jacket. The wire shall be loosely encased in a tube of either polyvinyl chloride or polyethylene compound (IMSA SPEC. No. 51-5).

**Shielded Lead-In Cable**—shall be #14 AWG, Stranded copper twisted pair wire, 100% shield jacketed (MDPW—M8.16.11) or a manufacturers' recommended lead-in cable to allow two independent channel operations in a single cable.

**Splice and Connections**—shall be made with approved connectors or terminals applied with a crimping tool (MDPW) 813.60, 815.64).

**Soldering**—all wire loop sensor/shielded lead-in splices and connections shall be soldered using 60% tin / 40% lead rosin-core solder meeting the requirements of Federal Specification Q-571D (MDPW 813.64).

**Splicing Insulator**—shall be an approved re-enterable rigid body splice kit with a non-hardening sealing compound compatible with the wire loop insulation.

**Sawcut Sealant**—any approved thixotropic or two- (2) component polyester system applied by nozzle inserted directly into the saw-cut slot.

**PVC Schedule 80—liquid tight**—shall be accordance with M5.07.7

**SECTION 02860**

**PAVEMENT MARKINGS (EPOXY)**

**PART 1 – GENERAL**

**1.01 SUMMARY**

A. Section Includes

1. Provide pavement markings in accordance with this Section and applicable reference standards listed in Article 1.03.

**1.02 PRICE AND PAYMENT PROCEDURES**

- A. Measurement and payment requirements: per Division 01 General Requirements.

**1.03 REFERENCES**

A. Reference Standards

1. MassDOT Standard Specifications and Supplements, except for Compensation sections
2. MassDOT Construction Details
3. Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD)
4. Applicable portions of City of Quincy Code of Ordinances and Zoning Ordinances

**1.04 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination, Sequencing, and Scheduling: per Division 01 General Requirements.

**1.05 SUBMITTALS**

- A. Submit in accordance with the Division 01 General Requirements.

1. Product Data
2. Manufacturer Instructions

- B. Closeout and Maintenance Material Submittals: per Division 01 General Requirements.

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## 1.06 QUALITY ASSURANCE

- A. Provide in accordance with Division 01 General Requirements.

## 1.07 DELIVERY, STORAGE, AND HANDLING

- A. Provide in accordance with Division 01 General Requirements.

## 1.08 SITE CONDITIONS

- A. Existing Conditions: per Division 01 General Requirements.

## PART 2 – PRODUCTS

### 2.01 PAVEMENT MARKINGS

- A. General: The two-component, 100 percent solids paint shall be formulated and designed to provide a simple volumetric mixing ratio (e.g., 2-part component A to 1 part component B) specifically for service as a hot-spray applied binder for glass beads in such a manner as to produce maximum adhesion, refraction, and reflection. The material shall be composed of epoxy resins and pigments only and meet the following minimum requirements:

1. Color: White - the color (after drying at the specified thickness) shall be a flat white, free from tint, furnishing good opacity and visibility under both daylight and artificial light, and shall match Chip No. 17925 of Federal Standard 595. Yellow - the color (after drying at the specified thickness) shall match Chip No. 13538 of Federal Standard 595.

The paint shall be well mixed in the manufacturing process and shall be free from defects and imperfections that may adversely affect the serviceability of the finished product. The paint shall not liver, thicken, curdle, gel, settle excessively, or otherwise display any objectionable properties after storage. Individual components shall not require mixing prior to use when stored for a maximum of twelve months.

2. Composition: The overall paint composition shall be left to the discretion of the manufacturer, but shall meet the following requirements:

White: Titanium Dioxide Rutile  $20 \pm 2$  percent, by weight ASTM D476  
Type III Epoxy Resin  $80 \pm 2$  percent, by weight

Yellow: Titanium Dioxide Rutile  $14 \pm 3$ , Organic Yellow  $8 \pm 2$  percent, by weight ASTM D211 Type III Epoxy Resin  $75 \pm 2$  percent, by weight

3. Epoxy Content (Component A): The epoxy content of the epoxy resin will be tested in accordance with ASTM D1652 and calculated as the weight per epoxide equivalent (WPE) for both white and yellow.

The epoxy content will be determined by a pigment free basis. The WPE shall meet a target value provided by the manufacturer within a tolerance of  $\pm 50$ .

4. Amine Value (Component B): The amine value shall be tested in accordance with ASTM D2074 to determine its total amine value. The total amine value shall meet a target value provided by the manufacturer within a tolerance of  $\pm 50$ . The manufacturer may specify an alternate test method for determining the amine value subject to the approval of the Engineer.
5. Toxicity: Upon heating to application temperature, the material shall not exude fumes which are toxic or injurious to persons or property. A certification stating such is required to be submitted to the Engineer. M-96
6. Abrasion Resistance (ASTM D4060): When the abrasion resistance of the material is tested with a CS-17 wheel under a load of 1,000 grams for 1,000 cycles, the wear index shall be no greater than 82.
7. Hardness (ASTM D2240): The Type D durometer hardness of the material shall be not less than 75 nor more than 100 after the material has been conditioned for not less than 72 hours nor more than 96 hours at  $23^{\circ} \pm 2^{\circ}\text{C}$ .
8. Tensile Strength (ASTM D638): The tensile strength of the material shall not be less than 6,000 psi after 72 hours of conditioning at  $23^{\circ} \pm 2^{\circ}\text{C}$ .
9. Compressive Strength (ASTM D695): The compressive strength of the material shall not be less than 12,000 psi after 72 hours of conditioning at  $23^{\circ} \pm 2^{\circ}\text{C}$ .
10. Infrared Spectrophotometer Analysis (ASTM D2621): Samples of both Part A and Part B (and of that mixed to the proper ratio) shall be analyzed by infrared spectrography. The spectrum of each component and final product shall be a reasonable match to the spectrum of the original formulation submitted by the manufacturer.
11. Directional Reflectance (ASTM E1347): The daylight directional reflectance (without glass spheres) shall be not less than 84 percent for white and not less than 50 percent for yellow (relative to Magnesium Oxide).
12. Dry Time - Laboratory (ASTM D711): The epoxy resin compounds, when mixed in the proper ratio and applied to a uniform wet film thickness of 20 mils and immediately dressed with glass beads at the proper rate, shall exhibit a no-tracking drying condition in not more than 30 minutes at  $72^{\circ}\text{F}$ .

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13. Dry Time – Field: The no-tracking condition for the field shall be considered as the condition where no visual displacement of the epoxy resin striping material is observed when a passenger car has passed over the stripe or handwork when viewed at a distance of 50 feet and shall be a maximum of 30 minutes at 70°F. Source Quality Control: per Division 01 General Requirements..

## 2.02 SOURCE QUALITY CONTROL

- A. Provide in accordance with Division 01 General Requirements.

## PART 3 – EXECUTION

### 3.01 INSTALLATION

- A. Cleaning Pavement: All dirty pavements shall be swept or air blasted clean. The piles of dirt obtained by sweeping shall be picked up and disposed of by the Contractor. Oil, grease, and similar adherent matter shall be removed by washing with a suitable solvent. Excess solvent shall be wiped from the pavement and allowed to evaporate before applying pavement marking material. The Contractor shall be responsible for all pavement cleaning which may be required. Markings shall not be applied to any surface which has not been inspected and approved by the Engineer
- B. Apply and install pavement markings in accordance MassDOT Standard Specifications and Supplements Section 860, the MUTCD and Mass Amendments, and the Drawings.
  1. The pavement surface temperature and the ambient temperature shall be a minimum of 2 degrees Celsius at time of application.
  2. The individual epoxy components shall be heated to the temperatures recommended in the epoxy manufacturer's written instructions for use or as stated in the FHWA Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (note maximum temperature of 60 degrees Celsius).
  3. The ratio of the two components shall be monitored during the application, using the installed metering devices. Should the ratio fall outside the range of  $\pm 5$  percent of the manufacturer's specified mixing ratio for over 30 seconds or at any time fall outside the range of  $\pm 10$  percent, the application shall be stopped and the cause of the problem determined and corrected before proceeding.
  4. Epoxy pavement markings must be reflectorized for night visibility by adding reflective spheres before the paint dries or sets, by the double-drop method. The reflective spheres, Type I followed immediately by Type II, shall be evenly dispersed on a minimum wet film thickness of 20 mils on

existing and new pavements at a minimum rate of 12 pounds per gallon for each type of glass sphere.

5. The Contractor shall place necessary spotting at appropriate points to provide horizontal control for striping and to determine necessary starting and stopping points. Longitudinal joints, pavement edges and existing markings shall serve as horizontal control when approved by the Engineer.
  6. Epoxy reflectorized pavement markings shall be placed at the width, thickness, and pattern designated by the Contract Documents. Marking operations shall not begin until applicable surface preparation work is completed and approved by the Engineer, and the T-47 atmospheric conditions and pavement surface temperature are acceptable to the Engineer. The temperature of the mixed epoxy may be adjusted as required for prevailing conditions, including air temperature and pavement temperature to achieve the prescribed no-track time. The speed of the applicator truck shall not exceed the recommended rate for the combination of the truck rate, pressure in the lines, and the tip opening and height of the spray gun to insure the required thickness.
- C. Defective Work: Unsatisfactory markings, resulting from the presence of dirt, oil, grease, scale, moisture, or other foreign substances, and all other traffic markings rejected by the Engineer shall be obliterated by a method approved by the Engineer and replaced by the Contractor at its own expense

### **3.02 FIELD QUALITY CONTROL**

- A. Provide in accordance with Division 01 General Requirements.

### **3.03 CLOSEOUT ACTIVITIES**

- A. Provide in accordance with Division 01 General Requirements.

**END OF SECTION**

## CONCRETE

The work under this Item shall conform to the relevant provisions of Section 901 of the Standard Specifications and the following:

The work shall consist of furnishing and placement of structural cement concrete, and steel reinforcements, where required for use in the construction of collars, plugs, thrust blocks, concrete steps, curbs, gutters, paved areas, bridging for trenches, conduit encasement, footings, foundation pads, walls, walkways and other miscellaneous items as shown on the drawings or as directed by the Engineer.

The materials and composition of mix shall meet the requirement of 4,000 psi (28 days), 3/4-inch, 610 Cement Concrete and conforming to the relevant provisions of Section M4.02.00.

Cement concrete under this **Item 904: Concrete for Miscellaneous Uses and Item 904.1: Concrete for Retaining Wall** shall be measured in Cubic Yards, complete in place and accepted by the Engineer. This price shall be full compensation for all labor, materials, equipment, tools and all else incidental thereto. The unit price shall also include all cement concrete mix, steel reinforcements, wire, metal clips, metal chains, form work, fastenings, supporting devices, dowels, concrete curing compounds, joints, fillers and sealants where required and all else incidental thereto and necessary to complete the work in a satisfactory manner.

The measurement and payment provisions listed under Division 1, Section 01150 shall supplement the above payment provisions as applicable.



## TRAFFIC POLICE DETAILS

The work to be done under this section shall conform to the relevant provisions of section 7.00 of the Standard Specifications and supplemented by the following:

All uniformed traffic police personnel required for public safety and traffic control for construction projects located within the City shall be authorized by the Department of Public Work's Safety Officer and/or the Project Resident Engineer.

**No payment will be made for personnel other than uniformed traffic police, nor will payment be made for uniformed traffic police not approved by the Engineer.**

The project construction contractor shall submit a forecast weekly traffic police detail schedule, at least 72 hours days prior to the start of the work. The schedule shall describe the nature and location of the work, the number of police personnel and the estimated number of police hours required for each location. The Contractor must also include justification for each uniformed officer being requested. All payment to the police for work under this contract shall be in accordance with the Massachusetts General Laws, Chapter 149, Section 34B, which states that reserve police officers shall receive the same prevailing wage rate as paid to regular police officers.

While scheduling work in areas where uniformed traffic police is required, the Contractor must recognize that uniformed police are paid for a four-hour minimum. If uniformed police are arranged to work and weather or some other situation prohibits the work, the Police Department Detail Unit shall be notified at 479-1212 before **5:30 AM on the day of intended work** to cancel the work order. Unless the work order is canceled in time, the Contractor shall be charged at the rate of minimum four hours for each officer included in the detail. The Contractor shall be fully responsible for payment of all charges thus incurred.

The intent of posting police details is to insure public safety and protection of property through appropriate traffic control. Police personnel are not to be employed as watchmen to protect the Contractor's equipment and materials. Nothing contained herein shall be construed as relieving the Contractor of any of his responsibilities for protection of the public and property under the terms of the Contract.

Reimbursement to the Contractor for uniformed traffic police details shall be made from amounts allocated under **Pay Item 999.001: Traffic Police Details** in the schedule of quantities. Payment for uniformed traffic police officers will be paid for on the basis of the actual hours worked and verified by the Resident Engineer. The invoiced amounts paid by the Contractor may include standard administrative charges levied by the Police Department. The hourly rate stated in the schedule of quantities is for estimating purposes only and may not reflect the current hourly police rate.

## **ALLOWANCE FOR SURVEY SERVICES**

This item shall be used at the discretion of the Owner for survey services, including providing street line/ centerline for road layout, private property line, locating and resetting monuments to new grade during the course of reconstruction of roadways under this Contract and are not specified to be included or as incidental to other items in the Contract.

Payment for work under **Item 999.100: Allowance for Survey Services** shall be paid as a portion of contingency allowance authorized per Paragraph 13.02 of the General Conditions and Supplemental Conditions and shall not exceed the allowance amount. Schedule of payment shall be monthly based on progress.

The measurement and payment provisions listed under Division One, Section 01150 shall supplement the above payment provisions, as applicable.

## **ALLOWANCE FOR PRIVATE PROPERTY RESTORATION**

This item shall be used at the discretion of the Owner to resolve private property restoration and/or residential issuers that arise during the course of reconstruction of roadways under this Contract and are not specified to be included or as incidental to other items in the Contract.

Payment for work under **Item 999.200: Allowance for Private Property Restoration** shall be paid as a portion of contingency allowance authorized per Paragraph 13.02 of the General Conditions and Supplemental Conditions and shall not exceed the allowance amount. Schedule of payment shall be monthly based on progress.

The measurement and payment provisions listed under Division One, Section 01150 shall supplement the above payment provisions, as applicable.

**ATTACHMENT SEVEN**

**QNRD TREE PROTECTION SPECIFICATIONS**

## **QNRD Tree Protection Specifications**

During the entire construction period all reasonable efforts shall be made to protect from damage those trees and their root system designated to remain.

### **Tree Trunk Protection**

The Contractor shall provide bark protection with boards, banded continuously around each trunk to prevent scarring of. For multi-stem trees, saplings, and shrubs to be protected within the area of construction, temporary fencing may be used for trunk protection.

Bark shall remain intact and be free of any nicks, scrapes or gouges causing injury.

### **Storage**

Construction materials shall not be stored, equipment operated and/or temporary storage buildings or work trailers placed under the drip line of any trees to prevent damage or soil compaction.

### **Young Trees**

No excavation shall be allowed three feet from the trunk of the tree within the loam border of a tree under 4" in diameter measured 6" from the root flare.

### **Root Pruning**

Root pruning shall only be as deep as necessary to ensure the cutting of all roots which would be impacted by the disturbance.

**Critical Root Zone:** No root disturbance shall be made within 4-feet minimum from the edge of the tree trunk line, due to stability concerns. A distance of 3 times the diameter of the tree should be considered for trees larger than 16-inch diameter.

No root over two inches in diameter shall be cut outside the Critical Root Zone

An excavator shall never be used to remove live tree roots over three quarters of an inch in diameter.

An authorized root pruning tool should be used to cleanly cut all roots which are between 1-2" diameter, to the depth of the proposed disturbance.

Authorized tools for root pruning include sharp lopping shears, handsaws, a sharpened ax, a root pruner, a reciprocating saw and any other sharp tool which leaves a clean cut.

Root pruning shall be done with a sharp tool, in such a way that does not pull on the roots and leaves smooth cuts. This requires exposing the roots prior to root pruning. After pruning, fill the area with quality topsoil.

Once exposed, roots must be covered within 8 hours. If roots are to be left exposed for longer than 8 hours, with the approval of the QNRD, the roots must be kept moist.

Root pruning must meet or exceed ANSI A300 or approved Tree Care Industry Standards.

Additional factors should be considered when root pruning, such as:

- root size: larger roots may generate few new roots,
- number of cut roots: more roots cut means more tree stress,
- proximity of cuts to the trunk: the closer cuts are to the trunk the bigger the impact,
- species: some species tolerate pruning better than others,
- tree age: old trees are more likely to stress and die,
- tree condition: trees in poor health should not be root pruned,
- tree lean: leaning trees should not be root pruned, and
- soil type and
- site drainage: shallow soils mean staying farther from the trunk.

## **Reporting**

The Contractor shall promptly report any tree branches broken or hanging to the QNRD Parks and Forestry Division at (617) 376-1251, so that the tree can be properly assessed and pruned.

Any damage due to construction activities shall be reported to the City Arborist within six hours so that remedial action can be taken.

## **Tree Protection Violations Resulting from Public Shade Tree Damage**

Any damage to the root zone, as determined by the Certified Arborist, will be compensated by pruning an equivalent amount of the top vegetative growth of the material within 1 week following root damage, fertilization and supplemental watering.

The Contractor shall replace at its expense any, and all, damaged plant material determined by the QNRD Certified Arborist through Bartlett Consolidated Insurance.

Public trees are protected by Massachusetts state law, Chapter 87. Section 12 states that a fine of up to five hundred dollars (\$500.00) per incident of damage to public shade trees can be levied. Each branch broken or improperly pruned, each improper wounding of the trunks of the trees, and each root improperly pruned shall constitute an infraction. Section 12 further provides that anyone who negligently or willfully damages a tree will be liable to the city for all damages.