

COMMONWEALTH OF MASSACHUSETTS



CONTRACT DOCUMENTS AND SPECIAL PROVISIONS

PROPOSAL NO.	613216-130745
P.V. =	\$1,999,000.00
PLANS	NO

FOR

Bridge Preservation, M-06-010, Elm Street over I-495**in the City of****MARLBOROUGH**

In accordance with the STANDARD SPECIFICATIONS
for HIGHWAYS and BRIDGES dated 2025

This Proposal to be opened and read:

TUESDAY, JULY 29, 2025, at 2:00 P.M.

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DOCUMENT 00010

TABLE OF CONTENTS

DOCUMENT 00010	
TABLE OF CONTENTS	00010-1 through 2
DOCUMENT 00102	
NOTICE TO CONTRACTORS.....	00102- 1 through 2
DOCUMENT 00210	
REQUIREMENTS OF MASSACHUSETTS GENERAL LAWS CHAPTER 30 SECTION 39R; CHAPTER 30, SECTION 39O	00210-1 through 4
DOCUMENT 00331	
LOCUS MAP	00331-1 through 2
DOCUMENT 00439	
CONTRACTOR PROJECT EVALUATION FORM	00439-1 through 2
DOCUMENT 00440	
SUBCONTRACTOR PROJECT EVALUATION FORM	00440-1 through 2
DOCUMENT 00710	
GENERAL CONTRACT PROVISIONS.....	00710-1 through 2
DOCUMENT 00715	
SUPPLEMENTAL SPECIFICATIONS	00715-1 through 4
DOCUMENT 00761	
SPECIAL PROVISIONS FOR CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION.....	00761-1 through 4
DOCUMENT 00811	
MONTHLY PRICE ADJUSTMENT FOR HOT MIX ASPHALT (HMA) MIXTURES.....	00811-1 through 2
DOCUMENT 00812	
MONTHLY PRICE ADJUSTMENT FOR DIESEL FUEL AND GASOLINE	00812-1 through 2
DOCUMENT 00813	
PRICE ADJUSTMENT FOR STRUCTURAL STEEL AND REINFORCING STEEL	00813-1 through 4
DOCUMENT 00814	
PRICE ADJUSTMENT FOR PORTLAND CEMENT CONCRETE MIXES	00814-1 through 2
DOCUMENT 00820	
THE COMMONWEALTH OF MASSACHUSETTS SUPPLEMENTAL EQUAL EMPLOYMENT OPPORTUNITY, NON-DISCRIMINATION AND AFFIRMATIVE ACTION PROGRAM	00820-1 through 6
DOCUMENT 00821	
ELECTRONIC REPORTING REQUIREMENTS CIVIL RIGHTS PROGRAM AND CERTIFIED PAYROLL	00821-1 through 2
DOCUMENT 00859	
CONTRACTOR/SUBCONTRACTOR CERTIFICATION FORM.....	00859-1 through 2

TABLE OF CONTENTS (Continued)

DOCUMENT 00860

COMMONWEALTH OF MASSACHUSETTS PUBLIC EMPLOYMENT LAWS 00860-1 through 2

DOCUMENT 00861

STATE PREVAILING WAGE RATES 00861-1 through 34

DOCUMENT A00801

SPECIAL PROVISIONS A00801-1 through 94

DOCUMENT A00803

DRAWINGS AND SKETCHES..... A00803-1 through 28

DOCUMENT A00820

REQUEST FOR RELEASE OF MASSDOT AUTOCAD FILES FORM..... A00820-1 through 2

DOCUMENT A00844

U.S. FISH AND WILDLIFE SERVICE

NLAA CONCURRENCE VERIFICATION LETTER..... A00844-1 through 14

DOCUMENT A00845

BAT INSPECTION REPORT..... A00845-1 through 8

DOCUMENT A00875

POLICY DIRECTIVE P-22-001 AND POLICY DIRECTIVE P-22-002 A00875-1 through 8

DOCUMENT B00420

PROPOSAL.....B00420-1 through 10

*** END OF DOCUMENT ***

DOCUMENT 00102

**NOTICE TO CONTRACTORS**

Electronic proposals for the following project will be received through the internet using www.bidx.com until the date and time stated below and will be posted on www.bidx.com forthwith after the bid submission deadline. No paper copies of bids will be accepted. All Bidders must have a valid vendor code issued by MassDOT in order to bid on projects. Bidders need to apply for a Digital ID at least 14 days prior to a scheduled bid opening date with www.bidx.com.

TUESDAY, JULY 29, 2025 at 2:00 P.M. **

MARLBOROUGH

Bridge Preservation, M-06-010, Elm Street over I-495

****Date Subject to Change**

PROJECT VALUE = \$1,999,000.00

Bidders must be pre-qualified by the Department in the BRIDGE - CONSTRUCTION category to bid on the above project. An award will not be made to a Contractor who is not pre-qualified by the Department prior to the opening of Proposals.

All prospective Bidders who intend to bid on this project must obtain "Request Proposal Form (R109)". The blank "Request Proposal Form (R109)" can be obtained at:
<https://www.mass.gov/prequalification-of-horizontal-construction-firms>.

All prospective Bidders must complete and e-mail an electronic copy of "Request Proposal Form (R109)" to the MassDOT Director of Prequalification for approval:
prequal.r109@dot.state.ma.us.

Proposal documents for official bidders are posted on www.bidx.com. Other interested parties may receive informational Contract Documents containing the Plans and Special Provisions, free of charge.

Bids will be considered, and the contract awarded in accordance with statutes governing such contracts in accordance with Massachusetts General Laws Chapter 30 § 39M.

The Project Bids File Attachments folder for proposals at www.bidx.com shall be used for submitting at the time of bid required information such as the Bid Bond required document, and other documents that may be requested in the proposal.

NOTICE TO CONTRACTORS (Continued)

All parties who wish to have access to information plans and specification must send a “Request for Informational Documents” to MassDOTBidDocuments@dot.state.ma.us.

A Proposal Guaranty in the amount of 5% of the value of the bid is required.

This project is subject to the schedule of prevailing wage rates as determined by the Commissioner of the Massachusetts Department of Labor and Workforce Development, and the Division of Occupational Safety.

PRICE ADJUSTMENTS

This Contract contains price adjustments for hot mix asphalt and Portland cement mixtures, diesel fuel, and gasoline. For reference the base prices are as follows: liquid asphalt \$635.00 per ton, Portland cement \$425.53 per ton, diesel fuel \$2.569 per gallon, and gasoline \$2.450 per gallon, and Steel Base Price Index 340.6. MassDOT posts the **Price Adjustments** on their Highway Division’s website at

<https://www.mass.gov/massdot-contract-price-adjustments>

This Contract contains Price Adjustments for steel. See Document 00813 - PRICE ADJUSTMENT FOR STRUCTURAL STEEL AND REINFORCING STEEL for their application and base prices.

MassDOT projects are subject to the rules and regulations of the Architectural Access Board (521 CMR 1.00 et seq.)

Prospective bidders and interested parties can access this information and more via the internet at WWW.COMMBUYS.COM.

BY: Monica G. Tibbits-Nutt, Secretary and CEO, MassDOT
Jonathan L. Gulliver, Administrator, MassDOT Highway Division
SATURDAY, JUNE 21, 2025

DOCUMENT 00210

REQUIREMENTS OF MASSACHUSETTS GENERAL LAWS
CHAPTER 30, SECTION 39R;
CHAPTER 30, SECTION 39O

July 1, 1981, updated October 2016

M.G.L. c. 30, § 39R. Award of Contracts; Accounting Statements; Annual Financial Statements; Definitions.

(a) The words defined herein shall have the meaning stated below whenever they appear in this section:

- (1) "Contractor" means any person, corporation, partnership, joint venture, sole proprietorship, or other entity awarded a contract pursuant to sections thirty-eight A1/2 to thirty-eight O, inclusive, of chapter seven and any contract awarded or executed pursuant to section eleven C of chapter twenty-five A, section thirty-nine M of chapter thirty, or sections forty-four A to forty-four H, inclusive, of chapter one hundred and forty-nine, which is for an amount or estimated amount greater than one hundred thousand dollars.
- (2) "Contract" means any contract awarded or executed pursuant to sections thirty-eight A1/2 to thirty-eight O, inclusive, of chapter seven and any contract awarded or executed pursuant to section eleven C of chapter twenty-five A, section thirty-nine M of chapter thirty, or sections forty-four A through forty-four H, inclusive, of chapter one hundred and forty-nine, which is for amount or estimated amount greater than one hundred thousand dollars.
- (3) "Records" means books of original entry, accounts, checks, bank statements and all other banking documents, correspondence, memoranda, invoices, computer printouts, tapes, discs, papers and other documents or transcribed information of any type, whether expressed in ordinary or machine language.
- (4) "Independent Certified Public Accountant" means a person duly registered in good standing and entitled to practice as a certified public accountant under the laws of the place of his residence or principal office and who is in fact independent. In determining whether an accountant is independent with respect to a particular person, appropriate consideration should be given to all relationships between the accountant and that person or any affiliate thereof. Determination of an accountant's independence shall not be confined to the relationships existing in connection with the filing of reports with the awarding authority.
- (5) "Audit", when used in regard to financial statements, means an examination of records by an independent certified public accountant in accordance with generally accepted accounting principles and auditing standards for the purpose of expressing a certified opinion thereon, or, in the alternative, a qualified opinion or a declination to express an opinion for stated reasons.
- (6) "Accountant's Report", when used in regard to financial statements, means a document in which an independent certified public accountant indicates the scope of the audit which he has made and sets forth his opinion regarding the financial statements taken as a whole with a listing of noted exceptions and qualifications, or an assertion to the effect that an overall opinion cannot be expressed. When an overall opinion cannot be expressed the reason therefor shall be stated. An accountant's report shall include as a part thereof a signed statement by the responsible corporate officer attesting that management has fully disclosed all material facts to the independent certified public accountant, and that the audited financial statement is a true and complete statement of the financial condition of the contractor.
- (7) "Management", when used herein, means the chief executive officers, partners, principals or other person or persons primarily responsible for the financial and operational policies and practices of the contractor.
- (8) Accounting terms, unless otherwise defined herein, shall have a meaning in accordance with generally accepted accounting principles and auditing standards.

(b) Subsection (a)(2) hereof notwithstanding, every agreement or contract awarded or executed pursuant to sections thirty-eight A 1/2 to thirty-eight O, inclusive, of chapter seven, or eleven C of chapter twenty-five A, and pursuant to section thirty-nine M of chapter thirty or to section forty-four A through H, inclusive, of chapter one hundred and forty-nine, shall provide that:

- (1) The contractor shall make, and keep for at least six years after final payment, books, records, and accounts which in reasonable detail accurately and fairly reflect the transactions and dispositions of the contractor, and
- (2) Until the expiration of six years after final payment, the office of inspector general, and the commissioner of capital asset management and maintenance shall have the right to examine any books, documents, papers or records of the contractor or of his subcontractors that directly pertain to, and involve transactions relating to, the contractor or his subcontractors, and
- (3) If the agreement is a contract as defined herein, the contractor shall describe any change in the method of maintaining records or recording transactions which materially affect any statements filed with the awarding authority, including in his description the date of the change and reasons therefor, and shall accompany said description with a letter from the contractor's independent certified public accountant approving or otherwise commenting on the changes, and
- (4) If the agreement is a contract as defined herein, the contractor has filed a statement of management on internal accounting controls as set forth in paragraph (c) below prior to the execution of the contract, and
- (5) If the agreement is a contract as defined herein, the contractor has filed prior to the execution of the contracts and will continue to file annually, an audited financial statement for the most recent completed fiscal year as set forth in paragraph (d) below.

(c) Every contractor awarded a contract shall file with the awarding authority a statement of management as to whether the system of internal accounting controls of the contractor and its subsidiaries reasonably assures that:

- (1) transactions are executed in accordance with management's general and specific authorization;
- (2) transactions are recorded as necessary
 - i. to permit preparation of financial statements in conformity with generally accepted accounting principles, and
 - ii. to maintain accountability for assets;
- (3) access to assets is permitted only in accordance with management's general or specific authorization; and
- (4) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action was taken with respect to any difference.

Every contractor awarded a contract shall also file with the awarding authority a statement prepared and signed by an independent certified public accountant, stating that he has examined the statement of management on internal accounting controls, and expressing an opinion as to:

- (1) whether the representations of management in response to this paragraph and paragraph (b) above are consistent with the result of management's evaluation of the system of internal accounting controls; and
- (2) whether such representations of management are, in addition, reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the applicant's financial statements.

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DOCUMENT 00331

LOCUS MAP

MARLBOROUGH

Bridge Preservation, M-06-010, Elm Street over I-495



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Final Report ☐Interim Report ☐**CONTRACTOR PROJECT EVALUATION FORM***For instructions on using this form, see Engineering Directive E-10-002, Dated 4/20/2010*

Date: _____

City/Town: _____

Contractor: _____

Project: _____

Address: _____

F.A. No. _____

Contract Number: _____

Bid Price: _____

Notice to Proceed: _____

Funds: State: _____ Fed Aid: _____

Current Contract Completion Date: _____

Date Work Started: _____

Date Work Completed*: _____

Contractor's Superintendent: _____

Division: (indicates class of work) Highway: _____ Bridge: _____ Maintenance: _____

*If work was NOT completed within specified time (including extensions) give reasons on following page.

	Excellent 10	Very Good 9	Average 8	7	Fair 6	5	Poor 4	% Rating
1. Workmanship								x 2=
2. Safety								x 2=
3. Schedule								x 1.5=
4. Home Office Support								x 1=
5. Subcontractors Performance								x 1=
6. Field Supervision/ Superintendent								x 1=
7. Contract Compliance								x 0.5=
8. Equipment								x 0.5=
9. Payment of Accounts								x 0.5=
(use back for additional comments)								
							Overall Rating:	

*(Give explanation of items 1 through 9 on the following page in numerical order if overall rating is below 80%. Use additional sheets if necessary.)*_____
District Construction Engineer's Signature/Date_____
Resident Engineer's Signature/Date_____
Contractor's Signature Acknowledging Report/DateContractor Requests Meeting with the District: No ☐Yes ☐

Date Meeting Held: _____

Contractor's Comments/Meeting Notes (extra sheets may be added to this form and noted here if needed): __________

CONTRACTOR PROJECT EVALUATION FORM (Continued)

Date: _____ Contract Number: _____

INFORMATION FOR DISTRICT HIGHWAY DIRECTORS RELATING TO PREQUALIFICATION

A deduction shall be recommended for unsatisfactory performance if computed overall rating is under 80%.

A deduction may be recommended for this project being completed late due to the Contractor's fault.

RECOMMENDATIONS FOR DEDUCTIONS FROM CONTRACTORS' ASSIGNED FACTOR

(Write Yes or No in space provided)

I recommend a deduction for Contractor's unsatisfactory performance: _____

I recommend a deduction for project completed late: _____

Signed: _____

District Highway Director

EXPLANATION OF RATINGS 1 – 9: _____

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

WORK NOT COMPLETED WITHIN SPECIFIED TIME:

Revised: 04/28/17

*** END OF DOCUMENT ***



DOCUMENT 00440

Final Report ☐Interim Report ☐**SUBCONTRACTOR PROJECT EVALUATION FORM***For instructions on using this form, see Engineering Directive E-10-002, Dated 4/20/2010*

Date: _____

City/Town: _____

Subcontractor: _____

Project: _____

Address: _____

F.A. No.: _____

Contract Number: _____

Prime Contractor _____

Current Contract Completion Date: _____

Date Work Started: _____

Date Work Completed*: _____

Subcontractor's Superintendent: _____

Type of Work Performed by Subcontractor: _____

*If work was NOT completed within specified time (including extensions) give reasons on following page.

	Excellent 10	Very Good 9	Average 8	7	Fair 6	5	Poor 4	% Rating
1. Workmanship								x 2=
2. Safety								x 2=
3. Schedule								x 1.5=
4. Home Office Support								x 1.5=
5. Field Supervision/ Superintendent								x 1=
6. Contract Compliance								x 1=
7. Equipment								x 0.5=
8. Payment of Accounts								x 0.5=
(use back for additional comments)							Overall Rating:	

(Give explanation of items 1 through 8 on the following page in numerical order if overall rating is below 80%. Use additional sheets if necessary.)

District Construction Engineer's Signature/Date _____

Resident Engineer's Signature/Date _____

Contractor Signature Acknowledging Report/Date _____

Subcontractor Signature Acknowledging Report/Date _____

Subcontractor Requests Meeting with the District: No ☐ Yes ☐ Date Meeting Held: _____

Subcontractor's Comments / Meeting Notes (extra sheets may be added to this form and noted here if needed): _____

Contractor's Comments: _____

DOCUMENT 00710
GENERAL CONTRACT PROVISIONS
Revised: 04-16-25

NOTICE OF AVAILABILITY

The STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES dated 2025, the SUPPLEMENTAL SPECIFICATIONS, the 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS; the 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING and the CONSTRUCTION STANDARD DETAILS are available online at <https://www.mass.gov/massdot-highway-division-manuals-and-publications>

SPECIAL PROVISIONS FOR RIGHT-TO-KNOW ACT REQUIREMENTS

The Contractor's attention is directed to Massachusetts General Laws, Chapter 111F, commonly known as the Right-To-Know Act, and to the regulations promulgated pursuant thereto. Among the provisions of the Right-To-Know Act is a requirement that employers make available to employees Materials Safety Data Sheets (MSDS) for any substance on the Massachusetts Substance List (MSL) to which employees are, have been, or may be exposed.

To ensure prompt compliance with these regulations and legislation, the Contractor shall:

1. Deliver to the Department, prior to the start of any work under this contract, copies of MSDS for all MSL substances to be used, stored, processed or manufactured at the worksite by the Contractor.
2. Train employees of the Department, who may be exposed to MSL substances as a result of the Contractor's work under this contract, with regard to those specific substances in accordance with requirements of the Right-To-Know Act.
3. Observe all safety precautions recommended on the MSDS for any MSL substance to be used, stored, processed, or manufactured at the worksite by the Contractor.
4. Inform the Department in writing regarding specific protective equipment recommended in the MSDS for MSL substances to which employees of the Department may be exposed as a result of the Contractor's work under this contract.

The Department shall not be liable for any delay or suspension of work caused by the refusal of its employees to perform any work due to the Contractor's failure to comply with the Right-To-Know Act. The Contractor agrees to hold the Department or the Commissioner of the Department harmless and fully indemnified for any and all claims, demands, fines, actions, complaints, and causes of action resulting from or arising out of the Contractor's failure to comply with the requirements of the Right-To-Know Act.

ALTERNATIVE DISPUTE RESOLUTION

Forum, Choice of Law and Mediations:

Any actions arising out of a contract shall be governed by the laws of Massachusetts and shall be brought and maintained in a State or federal court in Massachusetts which shall have exclusive jurisdiction thereof. MassDOT and the Contractor may both agree to mediation of any claim and will share the costs of such mediation pro rata based on the number of parties involved.

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DOCUMENT 00715



SUPPLEMENTAL SPECIFICATIONS

MARCH 31, 2025

The 2025 *Standard Specifications for Highways and Bridges* are amended by the following modifications, additions and deletions. These Supplemental Specifications prevail over those published in the Standard Specifications.

The Specifications Committee has issued these Supplemental Specifications for inclusion into each proposal until such time as they are updated or incorporated into the next Standard Specifications.

Contractors are cautioned that these Supplemental Specifications are dated and will change as they are updated.

DIVISION I

GENERAL REQUIREMENTS AND COVENANTS

SECTION 2.00: PROPOSAL REQUIREMENTS AND CONDITIONS

Subsection 2.09: Rejection of Proposals

Replace bullet (i) in the third paragraph with the following:

- (i.) award of the contract would result in the Bidder exceeding the Aggregate Bonding Capacity or the Single Bonding Capacity established by its Surety Company, or the Bidder's Proposal exceeds its Single Contract Limit, or the Bidder was not prequalified in the specified class of work on or before the time of bid opening; or

SECTION 7.00: LEGAL RELATIONS AND RESPONSIBILITY TO PPUBLIC

Subsection 7.05: Insurance Requirements

Change the title of paragraph A to Workers' Compensation Insurance

Subsection 7.22: Labor, Lodging, Board, Maximum Hours of Employment, Weekly Payment, Keeping of Payroll Records.

In the second paragraph replace the word "workman" to "worker" and the word "workmen" to "workers".

Replace the third paragraph with the following:

Attention of Bidders is called to MGL Chapter 149, Section 148 requiring the weekly payment of employee wages.

SECTION 9.00: MEASUREMENT AND PAYMENT

Subsection 9.03: Payment for Extra Work

Replace paragraph B, first paragraph, numbers (2) and (3) with the following.

- (2) Plus 13 percent of direct labor, for the estimated costs of Federal Insurance Contribution Act (FICA) including Medicare; Federal Unemployment Tax Act (FUTA); State Unemployment Tax Act (SUTA), which includes Unemployment Insurance, the Workforce Training Fund Program, Employer Medical Assistance Contribution, and COVID-19 Recovery Assessment; Earned Sick Time (EST) Law (940 CMR 33.00); and Paid Family and Medical Leave (PFML) Act (458 CMR 2.00);

or, as an alternative to the above 13 percent, the Contractor may elect to use actual rates for FICA, FUTA, SUTA, EST and PFML provided the actual rates are supported with verifiable documentation and shall be subject to review by MassDOT Audit Operations.

- (3) Plus the estimated cost of Workers' Compensation and Liability Insurance, Health, Welfare and Pension benefits, and such additional fringe benefits which the Contractor is required to pay as a result of Union Labor Agreements and/or is required by authorized governmental agencies;

In paragraph B., second paragraph, number (3), replace the word "Workmen's" with "Workers".

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DOCUMENT 00761

**SPECIAL PROVISIONS FOR CERTIFICATION REGARDING DEBARMENT,
SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

Revised: 02/09/16

I. Instructions for Certification - Primary Covered Transactions:

By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

1. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the MassDOT's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
2. The certification in this clause is a material representation of fact upon which reliance was placed when the MassDOT determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available, the MassDOT may terminate this transaction for cause of default.
3. The prospective primary participant shall provide immediate written notice to the MassDOT if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the MassDOT for assistance in obtaining a copy of those regulations.
5. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the MassDOT.
6. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the MassDOT, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration and the Debarment Lists compiled by both the Massachusetts Office of the Attorney General and the Department of Capital Asset Management and Maintenance (DCAMM) and published separately in the Central Register.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available, the MassDOT may terminate this transaction for cause or default.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion -- Primary Covered Transactions

The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal, State or local department or agency;
2. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 2 of this certification; and
4. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

II. Instructions for Certification - Lower Tier Covered Transactions:

By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

1. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available the MassDOT may pursue available remedies, including suspension and/or debarment.
2. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.
3. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the MassDOT for assistance in obtaining a copy of those regulations.
4. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the MassDOT.
5. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
6. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List and the Debarment Lists.

7. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
8. Except for transactions authorized under paragraph 4 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, the MassDOT may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions

The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal, State or local department or agency.

Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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DOCUMENT 00811

SPECIAL PROVISIONS
MONTHLY PRICE ADJUSTMENT FOR HOT MIX ASPHALT (HMA) MIXTURES
Revised: 02/03/2023

This provision applies to all projects using greater than 100 tons of hot mix asphalt (HMA) mixtures containing liquid asphalt cement as stipulated in the Notice to Contractors section of the bid documents.

Price Adjustments will be based on the variance in price, for the liquid asphalt component only, between the Base Price and the Period Price. They shall not include transportation or other charges. Price Adjustments will occur on a monthly basis.

Base Price

The Base Price of liquid asphalt on a project as listed in the Notice to Contractors section of the bid documents is a fixed price determined by the Department at the time of the bid using the same method as the determination of the Period Price detailed below. The Base Price shall be used in all bids.

Period Price

The Period Price is the price of liquid asphalt for each monthly period as determined by the Department using the average selling price per standard ton of PG64-28 paving grade (primary binder classification) asphalt, FOB manufacturer's terminal, as listed under the "East Coast Market - New England, Boston, Massachusetts area" section of the Poten & Partners, Inc. "Asphalt Weekly Monitor". This average selling price is listed in the issue having a publication date of the second Friday of the month and will be posted as the Period Price for that month. The Department will post this Period Price on its website at <https://www.mass.gov/service-details/massdot-current-contract-price-adjustments> following its receipt of the relevant issue of the "Asphalt Weekly Monitor". Poten and Partners has granted the Department the right to publish this specific asphalt price information sourced from the Asphalt Weekly Monitor.

Price Adjustment Determination, Calculation and Payment

The Contract Price of the HMA mixture will be paid under the respective item in the Contract. Price Adjustments, as herein provided, either upwards or downwards, will be made after the work has been performed using the monthly period price for the month during which the work was performed.

Price Adjustments will be paid only if the variance from the Base Price is 5% or more for a monthly period. The complete adjustment will be paid in all cases with no deduction of the 5% from either upward or downward adjustments.

The Price Adjustment applies only to the actual virgin liquid asphalt content in the mixture placed on the job in accordance with the approved Job Mix Formula.

Price Adjustments will be separate payment items. The pay item numbers are 999.401 for a positive price adjustment (a payment) and 999.402 for a negative price adjustment (a deduction). Price Adjustments will be calculated using the following equation:

Price Adjustment = Tons of HMA Placed X Liquid Asphalt Content % X RAP Factor X (Period Price - Base Price)

No Price Adjustment will be allowed beyond the Completion Date of this Contract, unless there is a Department-approved extension of time.

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DOCUMENT 00812

SPECIAL PROVISIONS
MONTHLY PRICE ADJUSTMENT FOR DIESEL FUEL AND GASOLINE –
ENGLISH UNITS
Revised: 02/01/2021

This monthly fuel price adjustment is inserted in this contract because the national and worldwide energy situation has made the future cost of fuel unpredictable. This adjustment will provide for either additional compensation to the Contractor or repayment to the Commonwealth, depending on an increase or decrease in the average price of diesel fuel or gasoline.

This adjustment will be based on fuel usage factors for various items of work developed by the Highway Research Board in Circular 158, dated July 1974. These factors will be multiplied by the quantities of work done in each item during each monthly period and further multiplied by the variance in price from the Base Price to the Period Price.

The Base Price of Diesel Fuel and Gasoline will be the price as indicated in the Department's web site <https://www.mass.gov/service-details/massdot-current-contract-price-adjustments> for the month in which the contract was bid, which includes State Tax.

The Period Price will be the average of prices charged to the State, including State Tax for the bulk purchases made during each month.

This adjustment will be effected only if the variance from the Base Price is 5% or more for a monthly period. The complete adjustment will be paid in all cases with no deduction of the 5% from either upward or downward adjustments.

No adjustment will be paid for work done beyond the extended completion date of any contract.

Any adjustment (increase or decrease) to estimated quantities made to each item at the time of final payment will have the fuel price adjustment figured at the average period price for the entire term of the project for the difference of quantity.

The fuel price adjustment will apply only to the following items of work at the fuel factors shown:

ITEMS COVERED	FUEL FACTORS	
	Diesel	Gasoline
Excavation: and Borrow Work: Items 120, 120.1, 121, 123, 124, 125, 127, 129.3, 140, 140.1, 141, 142, 143, 144, 150, 150.1, 151 and 151.1 (Both Factors used)	0.29 Gallons / CY.	0.15 Gallons / CY
Surfacing Work: All Items containing Hot Mix Asphalt	2.90 Gallons / Ton	Does Not Apply

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DOCUMENT 00813

SPECIAL PROVISIONS

PRICE ADJUSTMENTS FOR STRUCTURAL STEEL AND REINFORCING STEEL

June 18, 2025

This special provision applies to all projects containing the use of structural steel and/or reinforcing steel as specified elsewhere in the Contract work. It applies to all structural steel and all reinforcing steel, as defined below, on the project. Compliance with this provision is mandatory, i.e., there are no “opt-in” or “opt-out” clauses. Price adjustments will be handled as described below and shall only apply to unfabricated reinforcing steel bars and unfabricated structural steel material, consisting of rolled shapes, plate steel, sheet piling, pipe piles, steel castings and steel forgings.

Price adjustments will be variances between Base Prices and Period Prices. Base Prices and Period Prices are defined below.

Price adjustments will only be made if the variances between Base Prices and Period Prices are 5% or more. A variance can result in the Period Price being either higher or lower than the Base Price. Once the 5% threshold has been achieved, the adjustment will apply to the full variance between the Base Price and the Period Price.

Price adjustments will be calculated by multiplying the number of pounds of unfabricated structural steel material or unfabricated reinforcing steel bars on a project by the index factor calculated as shown below under Example of a Period Price Calculation.

Price adjustments will not include guardrail panels or the costs of shop drawing preparation, handling, fabrication, coatings, transportation, storage, installation, profit, overhead, fuel costs, fuel surcharges, or other such charges not related to the cost of the unfabricated structural steel and unfabricated reinforcing steel.

The weight of steel subject to a price adjustment shall not exceed the final shipping weight of the fabricated part by more than 10%.

Base Prices and Period Prices are defined as follows:

Base Prices of unfabricated structural steel and unfabricated reinforcing steel on a project are fixed prices determined by the Department and found in the table below. While it is the intention of the Department to make this table comprehensive, some of a project’s unfabricated structural steel and/or unfabricated reinforcing steel may be inadvertently omitted. Should this occur, the Contractor shall bring the omission to the Department’s attention so that a contract alteration may be processed that adds the missing steel to the table and its price adjustments to the Contract.

The Base Price Date is the month and year of the most recent finalized period price index at the time that MassDOT opened bids for the project. The Base Price Index for this contract is the Steel PPI listed in the Notice to Contractors.

Period Prices of unfabricated structural steel and unfabricated reinforcing steel on a project are variable prices that have been calculated using the Period Price Date and an index of steel prices to adjust the Base Price.

The Period Price Date is the date the steel was delivered to the fabricator as evidenced by an official bill of lading submitted to the Department containing a description of the shipped materials, weights of the shipped materials and the date of shipment. This date is used to select the Period Price Index.

The index used for the calculation of Period Prices is the U.S. Department of Labor Bureau of Labor Statistics Producer Price Index (PPI) Series ID WPU101702 (Not Seasonally Adjusted, Group: Metals and Metal Products, Item: Semi-finished Steel Mill Products.) As this index is subject to revision for a period of up to four (4) months after its original publication, no price adjustments will be made until the index for the period is finalized, i.e., the index is no longer suffixed with a “(P)”.

Period Prices are determined as follows:

Period Price = Base Price X Index Factor

Index Factor = Period Price Index / Base Price Index

Example of a Period Price Calculation:

Calculate the Period Price for December 2009 using a Base Price from March 2009 of \$0.82/Pound for 1,000 Pounds of ASTM A709 (AASHTO M270) Grade A36 Structural Steel Plate.

The Period Price Date is December 2009. From the PPI website*, the Period Price Index = 218.0.

The Base Price Date is March 2009. From the PPI website*, the Base Price Index = 229.4.

Index Factor = Period Price Index / Base Price Index = $218.0 / 229.4 = 0.950$

Period Price = Base Price X Index Factor = $\$0.82/\text{Pound} \times 0.950 = \$0.78/\text{Pound}$

Since $\$0.82 - \$0.78 = \$0.04$ is less than 5% of \$0.82, no price adjustment is required.

If the \$0.04 difference shown above was greater than 5% of the Base Price, then the price adjustment would be 1,000 Pounds X \$0.04/Pound = \$40.00. Since the Period Price of \$0.78/Pound is less than the Base Price of \$0.82/Pound, indicating a drop in the price of steel between the bid and the delivery of material, a credit of \$40.00 would be owed to MassDOT. When the Period Price is higher than the Base Price, the price adjustment is owed to the Contractor.

* To access the PPI website and obtain a Base Price Index or a Period Price Index, go to <http://data.bls.gov/cgi-bin/srgate>

End of example.

The Contractor will be paid for unfabricated structural steel and unfabricated reinforcing steel under the respective contract pay items for all components constructed of either structural steel or reinforced Portland cement concrete under their respective Contract Pay Items.

Price adjustments, as herein provided for, will be paid separately as follows:

Structural Steel

Pay Item Number 999.449 for positive (+) pay adjustments (payments to the Contractor)

Pay Item Number 999.457 for negative (-) pay adjustments (credits to MassDOT Highway Division)

Reinforcing Steel

Pay Item Number 999.466 for positive (+) pay adjustments (payments to the Contractor)

Pay Item Number 999.467 for negative (-) pay adjustments (credits to MassDOT Highway Division)

No price adjustment will be made for price changes after the Contract Completion Date, unless the MassDOT Highway Division has approved an extension of Contract Time for the Contract.

TABLE

Steel Type		Price per Pound
1	ASTM A615/A615M Grade 60 (AASHTO M31 Grade 60 or 420) Reinforcing Steel	\$0.52
2	ASTM A27 (AASHTO M103) Steel Castings, H-Pile Points & Pipe Pile Shoes (See Note below.)	\$0.73
3	ASTM A668 / A668M (AASHTO M102) Steel Forgings	\$0.73
4	ASTM A108 (AASHTO M169) Steel Forgings for Shear Studs	\$0.75
5	ASTM A709/A709M Grade 36 / AASHTO M270M/M270 Grade 36 or 250 Structural Steel Plate	\$0.79
6	ASTM A709/A709M Grade 36 / AASHTO M270M/M270 Grade 36 or 250 Structural Steel Shapes	\$0.74
7	ASTM A709/A709M Grade 50 / AASHTO M270M/M270 Grade 50 or 345 Structural Steel Plate	\$0.79
8	ASTM A709/A709M Grade 50 / AASHTO M270M/M270 Grade 50 or 345 Structural Steel Shapes	\$0.74
9	ASTM A709/A709M Grade 50WT / AASHTO M270M/M270 Grade 50WT or 345WT Structural Steel Plate	\$0.82
10	ASTM A709/A709M Grade 50WT / AASHTO M270M/M270 Grade 50WT or 345WT Structural Steel Shapes	\$0.75
11	ASTM A709/A709M Grade 50W / AASHTO M270M/M270 Grade 50W 345W Structural Steel Plate	\$0.82
12	ASTM A709/A709M Grade 50W / AASHTO M270M/M270 Grade 50W or 345W Structural Steel Shapes	\$0.75
13	ASTM A709/A709M Grade HPS 50W / AASHTO M270M/M270 Grade HPS 50W or 345W Structural Steel Plate	\$0.86
14	ASTM A709/A709M Grade HPS 70W / AASHTO M270M/M270 Grade HPS 70W or 485W Structural Steel Plate	\$0.92
15	ASTM A514/A514M-05 Grade HPS 100W / AASHTO M270M/M270 Grade HPS 100W or 690W Structural Steel Plate	\$1.41
16	ASTM A992/A992M Grade 50S / AASHTO M270M/M270 Grade 50S or 345S Structural Steel Plate	\$0.82
17	ASTM A992/A992M Grade 50S / AASHTO M270M/M270 Grade 50S or 345S Structural Steel Shapes	\$0.75
18	ASTM A276 Type 316 Stainless Steel	\$4.24
19	ASTM A240 Type 316 Stainless Steel	\$4.24
20	ASTM A148 Grade 80/50 Steel Castings (See Note below.)	\$1.46
21	ASTM A53 Grade B Structural Steel Pipe	\$0.92
22	ASTM A500 Grades A, B, 36 & 50 Structural Steel Pipe	\$0.92
23	ASTM A252, Grades 240 (36 KSI) & 414 (60 KSI) Pipe Pile	\$0.73
24	ASTM 252, Grade 2 Permanent Steel Casing	\$0.73
25	ASTM A36 (AASHTO M183) for H-piles, steel supports and sign supports	\$0.77
26	ASTM A328 / A328M, Grade 50 (AASHTO M202) Steel Sheetpiling	\$1.39
27	ASTM A572 / A572M, Grade 50 Sheetpiling	\$1.39
28	ASTM A36/36M, Grade 50	\$0.79
29	ASTM A570, Grade 50	\$0.77
30	ASTM A572 (AASHTO M223), Grade 50 H-Piles	\$0.79
31	ASTM A1085 Grade A (50 KSI) Steel Hollow Structural Sections (HSS), heat-treated per ASTM A1085 Supplement S1	\$0.92
32	AREA 140 LB Rail and Track Accessories	\$0.48

NOTE: Steel Castings are generally used only on moveable bridges. Cast iron frames, grates and pipe are not “steel” castings and will not be considered for price adjustments.

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DOCUMENT 00814

SPECIAL PROVISIONS
PRICE ADJUSTMENT FOR PORTLAND CEMENT CONCRETE MIXES

January 12, 2009

This provision applies to all projects using greater than 100 Cubic Yards (76 Cubic Meters) of Portland cement concrete containing Portland cement as stipulated in the Notice to Contractors section of the Bid Documents. This Price Adjustment will occur on a monthly basis.

The Price Adjustment will be based on the variance in price for the Portland cement component only from the Base Price to the Period Price. It shall not include transportation or other charges.

The Base Price of Portland cement on a project is a fixed price determined at the time of bid by the Department by using the same method as for the determination of the Period Price (see below) and found in the Notice to Contractors.

The Period Price of Portland cement will be determined by using the latest published price, in dollars per ton (U.S.), for Portland cement (Type I) quoted for Boston, U.S.A. in the **Construction Economics** section of *ENR Engineering News-Record* magazine or at the ENR website <http://www.enr.com> under **Construction Economics**. The Period Price will be posted on the MassDOT website the Wednesday immediately following the publishing of the monthly price in ENR, which is normally the first week of the month.

The Contract Price of the Portland cement concrete mix will be paid under the respective item in the Contract. The price adjustment, as herein provided, upwards or downwards, will be made after the work has been performed, using the monthly period price for the month during which the work was performed.

The price adjustment applies only to the actual Portland cement content in the mix placed on the job in accordance with the Standard Specifications for Highways and Bridges, Division III, Section M4.02.01. No adjustments will be made for any cement replacement materials such as fly ash or ground granulated blast furnace slag.

The Price Adjustment will be a separate payment item. It will be determined by multiplying the number of cubic yards of Portland cement concrete placed during each monthly period times the Portland cement content percentage times the variance in price between the Base Price and Period Price of Portland cement.

This Price Adjustment will be paid only if the variance from the Base Price is 5% or more for a monthly period. The complete adjustment will be paid in all cases with no deduction of the 5% from either upward or downward adjustments.

No Price Adjustment will be allowed beyond the Completion Date of this Contract, unless there is a Department-approved extension of time.

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DOCUMENT 00820

**THE COMMONWEALTH OF MASSACHUSETTS
SUPPLEMENTAL EQUAL EMPLOYMENT OPPORTUNITY,
NON-DISCRIMINATION AND AFFIRMATIVE ACTION PROGRAM**

I. Definitions

For purposes of this contract,

"Minority" means a person who meets one or more of the following definitions:

- (a) American Indian or Native American means: all persons having origins in any of the original peoples of North America and who are recognized as an Indian by a tribe or tribal organization.
- (b) Asian means: All persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian sub-continent, or the Pacific Islands, including, but Not limited to China, Japan, Korea, Samoa, India, and the Philippine Islands.
- (c) Black means: All persons having origins in any of the Black racial groups of Africa, including, but not limited to, African-Americans, and all persons having origins in any of the original peoples of the Cape Verdean Islands.
- (d) Eskimo or Aleut means: All persons having origins in any of the peoples of Northern Canada, Greenland, Alaska, and Eastern Siberia.
- (e) Hispanic means: All persons having their origins in any of the Spanish-speaking peoples of Mexico, Puerto Rico, Cuba, Central or South America, or the Caribbean Islands.

"State construction contract" means a contract for the construction, reconstruction, installation, demolition, maintenance or repair of a building or capital facility, or a contract for the construction, reconstruction, alteration, remodeling or repair of a public work undertaken by a department, agency, board, or commission of the commonwealth.

"State assisted construction contract" means a contract for the construction, reconstruction, installation, demolition, maintenance or repair of a building or capital facility undertaken by a political subdivision of the commonwealth, or two or more political subdivisions thereof, an authority, or other instrumentality and whose costs of the contract are paid for, reimbursed, grant funded, or otherwise supported, in whole or in part, by the commonwealth.

II. Equal Opportunity, Non-Discrimination and Affirmative Action

During the performance of this Contract, the Contractor and all subcontractors (hereinafter collectively referred to as "the Contractor") for a state construction contract or a state assisted construction contract, for him/herself, his/her assignees and successors in interest, agree to comply with all applicable equal employment opportunity, non-discrimination and affirmative action requirements, including but not limited to the following:

In connection with the performance of work under this contract, the Contractor shall not discriminate against any employee or applicant for employment because of race, color, religious creed, national origin, sex, sexual orientation, genetic information, military service, age, ancestry or disability, shall not discriminate in the selection or retention of subcontractors, and shall not discriminate in the procurement of materials and rentals of equipment.

The aforesaid provision shall include, but not be limited to, the following: employment upgrading, demotion, or transfer; recruitment advertising, layoff or termination; rates of pay or other forms of compensation; conditions or privileges of employment; and selection for apprenticeship or on-the-job training opportunity. The Contractor shall comply with the provisions of chapter 151B of the Massachusetts General Laws, as amended, and all other applicable anti-discrimination and equal opportunity laws, all of which are herein incorporated by reference and made a part of this Contract.

The Contractor shall post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the Massachusetts Commission Against Discrimination setting forth the provisions of the Fair Employment Practices Law of the Commonwealth (Massachusetts General Laws Chapter 151 B).

In connection with the performance of work under this contract, the Contractor shall undertake, in good faith, affirmative action measures to eliminate any discriminatory barriers in the terms and conditions of employment on the grounds of race, color, religious creed, national origin, sex, sexual orientation, genetic information, military service, age, ancestry or disability. Such affirmative action measures shall entail positive and aggressive measures to ensure nondiscrimination and to promote equal opportunity in the areas of hiring, upgrading, demotion or transfer, recruitment, layoff or termination, rate of compensation, apprenticeship and on-the-job training programs. A list of positive and aggressive measures shall include, but not be limited to, advertising employment opportunities in minority and other community news media; notifying minority, women and other community-based organizations of employment opportunities; validating all job specifications, selection requirements, and tests; maintaining a file of names and addresses of each worker referred to the Contractor and what action was taken concerning such worker; and notifying the administering agency in writing when a union with whom the Contractor has a collective bargaining agreement has failed to refer a minority or woman worker. These and other affirmative action measures shall include all actions required to guarantee equal employment opportunity for all persons, regardless of race, color, religious creed, national origin, sex, sexual orientation, genetic information, military service, age, ancestry or disability. One purpose of this provision is to ensure to the fullest extent possible an adequate supply of skilled tradesmen for this and future Commonwealth public construction projects.

III. Minority and Women Workforce Participation

Pursuant to his/her obligations under the preceding section, the Contractor shall strive to achieve on this project the labor participation goals contained herein. Said participation goals shall apply in each job category on this project including but not limited to bricklayers, carpenters, cement masons, electricians, ironworkers, operating engineers and those classes of work enumerated in Section 44F of Chapter 149 of the Massachusetts General Laws. The participation goals for this project shall be 15.3% for minorities and 6.9% for women. The participation goals, as set forth herein, shall not be construed as quotas or set-asides; rather, such participation goals will be used to measure the progress of the Commonwealth's equal opportunity, non-discrimination and affirmative action program. Additionally, the participation goals contained herein should not be seen or treated as a floor or as a ceiling for the employment of particular individuals or group of individuals.

IV. Liaison Committee

At the discretion of the agency that administers the contract for the construction project there may be established for the life of the contract a body to be known as the Liaison Committee. The Liaison Committee shall be composed of one representative each from the agency or agencies administering the contract for the construction project, hereinafter called the administering agency, a representative from the Office of Affirmative action, and such other representatives as may be designated by the administering agency. The Contractor (or his/her agent, if any, designated by him/her as the on-site equal employment opportunity officer) shall recognize the Liaison Committee as an affirmative action body, and shall establish a continuing working relationship with the Liaison Committee, consulting with the Liaison Committee on all matters related to minority recruitment, referral, employment and training.

V. Reports and Records

The Contractor shall prepare projected workforce tables on a quarterly basis when required by the administering agency. These shall be broken down into projections, by week, of workers required in each trade. Copies shall be furnished one week in advance of the commencement of the period covered, and also, when updated, to the administering agency and the Liaison Committee when required.

The Contractor shall prepare weekly reports in a form approved by the administering agency, unless information required is required to be reported electronically by the administering agency, the number of hours worked in each trade by each employee, identified as woman, minority, or non-minority. Copies of these shall be provided at the end of each such week to the administering agency and the Liaison Committee.

Records of employment referral orders, prepared by the Contractor, shall be made available to the administering agency on request.

The Contractor will provide all information and reports required by the administering agency on instructions issued by the administering agency and will permit access to its facilities and any books, records, accounts and other sources of information which may be determined by the administering agency to effect the employment of personnel. This provision shall apply only to information pertinent to the Commonwealth's supplementary non-discrimination, equal opportunity and access and opportunity contract requirements. Where information required is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the administering agency and shall set forth what efforts he has made to obtain the information.

VI. Access to Work Site

A designee of the administering agency and a designee of the Liaison Committee shall each have a right to access the work site.

VII. Solicitations for Subcontracts, and for the Procurement of Materials and Equipment

In all solicitations either by competitive bidding or negotiation made by the Contractor either for work to be performed under a subcontract or for the procurement of materials or equipment, each potential subcontractor or supplier shall be notified in writing by the Contractor of the Contractor's obligations under this contract relative to non-discrimination and equal opportunity.

VIII. Sanctions

Whenever the administering agency believes the General or Prime Contractor or any subcontractor may not be operating in compliance with the provisions of the Fair Employment Practices Law of the Commonwealth (Massachusetts General Laws Chapter 151B), the administering agency may refer the matter to the Massachusetts Commission Against Discrimination ("Commission") for investigation.

Following the referral of a matter by the administering agency to the Massachusetts Commission Against Discrimination, and while the matter is pending before the MCAD, the administering agency may withhold payments from contractors and subcontractors when it has documentation that the contractor or subcontractor has violated the Fair Employment Practices Law with respect to its activities on the Project, or if the administering agency determines that the contractor has materially failed to comply with its obligations and the requirements of this Section. The amount withheld shall not exceed a withhold of payment to the General or Prime Contractor of 1/100 or 1% of the contract award price or \$5,000, whichever sum is greater, or, if a subcontractor is in non-compliance, a withhold by the administering agency from the General Contractor, to be assessed by the General Contractor as a charge against the subcontractor, of 1/100 or 1% of the subcontractor price, or \$1,000 whichever sum is greater, for each violation of the applicable law or contract requirements. The total withheld from anyone General or Prime Contractor or subcontractor on a Project shall not exceed \$20,000 overall. No withhold of payments or investigation by the Commission or its agent shall be initiated without the administering agency providing prior notice to the Contractor.

If, after investigation, the Massachusetts Commission Against Discrimination finds that a General or Prime Contractor or subcontractor, in commission of a state construction contract or state-assisted construction contract, violated the provisions of the Fair Employment Practices Law, the administering agency may convert the amount withheld as set forth above into a permanent sanction, as a permanent deduct from payments to the General or Prime Contractor or subcontractor, which sanction will be in addition to any such sanctions, fines or penalties imposed by the Massachusetts Commission Against Discrimination.

No sanction enumerated under this Section shall be imposed by the administering agency except after notice to the General or Prime Contractor or subcontractor and an adjudicatory proceeding, as that term is used, under Massachusetts General Laws Chapter 30A, has been conducted.

IX. Severability

The provisions of this section are severable, and if any of these provisions shall be held unconstitutional by any court of competent jurisdiction, the decision of such court shall not affect or impair any of the remaining provisions.

X. Contractor's Certification

After award and prior to the execution of any contract for a state construction contract or a state assisted construction contract, the Prime or General Contractor shall certify that it will comply with all provisions of this Document 00820 Supplemental Equal Employment Opportunity, Non-Discrimination and Affirmative Action Program, by executing Document 00859 Contractor/Subcontractor Certification Form.

XI. Subcontractor Requirements

Prior to the award of any subcontract for a state construction contract or a state assisted construction contract, the Prime or General Contractor shall provide all prospective subcontractors with a complete copy of this Document 00820 entitled "Supplemental Equal Employment Opportunity, Non-Discrimination and Affirmative Action Program" and will incorporate the provisions of this Document 00820 into any and all contracts or work orders for all subcontractors providing work on the Project. In order to ensure that the said subcontractor's certification becomes a part of all subcontracts under the prime contract, the Prime or General Contractor shall certify in writing to the administering agency that it has complied with the requirements as set forth in the preceeding paragraph by executing Document 00859 Contractor/Subcontractor Certification Form.

Rev'd 03/07/14

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DOCUMENT 00821

ELECTRONIC REPORTING REQUIREMENTS
CIVIL RIGHTS PROGRAMS AND CERTIFIED PAYROLL

Implemented on March 2, 2009

Revised June 04, 2019

The Massachusetts Department Of Transportation (MassDOT) has replaced the CHAMP reporting system with Equitable Business Opportunity Solution (EBO), a new web-based civil rights reporting software system. This system is capable of handling both civil rights reporting requirements and certified payrolls. The program's functions include the administration of Equal Employment Opportunity (EEO) requirements, On-The-Job Training requirements (OJT), Disadvantage Business Enterprise (DBE) and/or Minority / Women's Business Enterprise (M/WBE) subcontracting requirements, and the electronic collection of certified payrolls associated with MassDOT projects. In addition, this system is used to generate various data required as part of the American Recovery and Reinvestment Act (ARRA). Contractors are responsible for all coordination with all sub-contractors to ensure timely and accurate electronic submission of all required data.

Contractor and Sub-Contractor EBO User Certification

All contractors and sub-contractors must use the EBO software system. The software vendor, Internet Government Solutions (IGS), has developed an online EBO Training Module that is available to contractors and sub-contractors. This module is a self-tutorial which allows all users in the company to access the training, complete the tutorial, and become certified as EBO users for a one time fee of \$75.00. This is the only cost to contractors and sub-contractors associated with the EBO software system. The online EBO Training Module can be accessed at www.ebotraining.com. Click the "Register My Company" button on the login page to begin your training registration. Questions regarding EBO online training should be directed to Gerry Anguilano, IGS at (440) 238-1684.

MassDOT will track contractors and sub-contractors who have successfully completed the on-line training module. All persons performing civil rights program and/or certified payroll functions should be EBO certified.

Vetting of Firms and Designated Firm Individuals

Contractors must authorize a Primary Log-In ID Holder who has completed EBO on-line training to have access to the EBO system by completing and submitting the "Request For EBO System Log-In/Password Form" located on the MassDOT website at: <https://www.mass.gov/how-to/how-to-get-an-ebo-login>. Contractors must also agree to comply with the EBO system user agreement located on the MassDOT website.

All subcontracts entered into on a project must include language that identifies the submission and training requirements that the sub-contractor must perform. Sub-contractors will be approved by the respective District Office of MassDOT through the existing approval process. When new sub-contractors, who have not previously worked for MassDOT, are initially selected by a general contractor, the new sub-contractor must be approved by the District before taking the EBO on-line training module.

Interim Reporting Requirements

Until MassDOT is satisfied that the EBO system is fully operational and functioning as designed, contractors and sub-contractors will be required to submit certified payrolls manually. There will be a transition period where dual reporting, through manual and electronic submission, will be required. MassDOT, however, will notify contractors and sub-contractors when they may cease manual submission of certified payrolls.

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DOCUMENT 00859

CONTRACTOR/SUBCONTRACTOR CERTIFICATION FORM ‡*The contractor shall submit this completed document 00859 to MassDOT for each subcontract.*_____
(Contractor) Date: __________
(Subcontractor) ☐ District Approved SubcontractorContract No: 130745 Project No. 613216 Federal Aid No.: NFALocation: MARLBOROUGHProject Description: Bridge Preservation, M-06-010, Elm Street over I-495

PART 1 CONTRACTOR CERTIFICATION: I hereby certify, as an authorized official of this company, that to the best of my knowledge, information and belief, the company is in compliance with all applicable federal and state laws, rules, and regulations governing fair labor and employment practices, that the company will not discriminate in their employment practices, that the company will make good faith efforts to comply with the minority employee and women employee workforce participation ratio goals and specific affirmative action steps contained in Contract Document 00820 The Commonwealth of Massachusetts Supplemental Equal Employment Opportunity, Non-Discrimination and Affirmative Action Program, and that the company will comply with the special provisions and documentation indicated below (as checked).

I further hereby certify, as an authorized official of this company, that the special provisions and documentation indicated below (as checked) have been or are included in, and made part of, the Subcontractor Agreement entered into with the firm named above.

☐ **This is not a Federally-aided construction project****Document #**

- ☐ 00718 –Participation By Minority Or Women's Business Enterprises and SDVOBE†
- ☐ 00761 –Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion
- ☐ 00820 – MA Supplemental Equal Employment Opportunity, Non-Discrimination, and Affirmative Action Program
- ☐ 00821 – Electronic Reporting Requirements, Civil Rights Programs, and Certified Payroll
- ☐ 00859 – Contractor/Subcontractor Certification Form (this document)
- ☐ 00860 – MA Employment Laws
- ☐ 00861 – Applicable State Wage Rates in the Contract Proposal**
- ☐ B00842 – MA Schedule of Participation By Minority or Women Business Enterprises (M/WBEs)†
- ☐ B00843 – MA Letter of Intent – M/WBEs†
 - ** Does not apply to Material Suppliers, unless performing work on-site
 - † Applies only if Subcontractor is a M/WBE; only include these forms for the particular M/WBE Entity
- ☐ B00844 - Schedule of Participation By SDVOBE
- ☐ B00845 - Letter of Intent – SDVOBE
- ☐ B00846 – M/WBE or SDVOBE Joint Check Arrangement Approval Form
- ☐ B00847 – Joint Venture Affidavit

☐ **This is a Federally-aided construction project (Federal Aid Number is present)****Document #**

- ☐ 00719 – Special Provisions for Participation by Disadvantaged Business Enterprises†
- ☐ 00760 - Form FHWA 1273 - Required Contract Provisions for Federal-Aid Construction Contracts
- ☐ 00820 – MA Supplemental Equal Employment Opportunity, Non-Discrimination and Affirmative Action Program
- ☐ 00821 – Electronic Reporting Requirements, Civil Rights Programs and Certified Payroll
- ☐ 00859 – Contractor/Subcontractor Certification Form (this document)
- ☐ 00860 – MA Employment Laws
- ☐ 00870 – Standard Federal Equal Employment Opportunity Construction Contract Specifications Executive Order 11246, (41 CFR Parts 60-4.2 and 60-4.3 (Solicitations and Equal Opportunity Clauses))*
- ☐ 00875 – Federal Trainee Special Provisions

- ☐ B00853 – Schedule of Participation by Disadvantaged Business Enterprise†
☐ B00854 – Letter of Intent – DBEs†
☐ B00855 – DBE Joint Check Arrangement Approval Form
☐ B00856 – Joint Venture Affidavit
☐ 00861/00880 - Applicable state and federal wage rates from Contract Proposal**

*Applicable only to Contracts or Subcontracts in excess of \$10,000

**Does not apply to Material Suppliers, unless performing work on-site

† Applies only if Subcontractor is a DBE; only include these forms for the particular DBE Entity

Signed this _____ Day of _____, 20____ Under The Pains And Penalties Of Perjury.

 (Print Name and Title)

 (Authorized Signature)

PART 2

PART 2 SUBCONTRACTOR CERTIFICATION: I hereby certify, as an authorized official of this company, that the required documents in Part 1 above were physically incorporated in our Agreement/Subcontract with the Contractor and give assurance that this company will fully comply or make every good faith effort to comply with the same. I further certify that:

1. This company recognizes that if this is a Federal-Aid Project, then this Contract is covered by the equal employment opportunity laws administered and enforced by the United States Department of Labor ("USDOL"), Office of Federal Contract Compliance Programs ("OFCCP"). By signing below, we acknowledge that this company has certain reporting obligations to the OFCCP, as specified by 41 CFR Part 60-4.2.
2. This company further acknowledges that any contractor with fifty (50) or more employees on a Federal-aid Contract with a value of fifty-thousand (\$50,000) dollars or more must annually file an EEO-1 Report (SF 100) to the EEOC, Joint Reporting Committee, on or before September 30th, each year, as specified by 41 CFR Part 60-1.7a.
3. For more information regarding the federal reporting requirements, please contact the USDOL, OFCCP Regional Office, at 1-646-264-3170 or EEO-1, Joint Reporting Committee at 1-866-286-6440. You may also find guidance at: <http://www.dol.gov/ofccp/TAguides/consttag.pdf> or <http://www.wdol.gov/dba.aspx#0>.
4. This company ☐ has, ☐ has not, participated in a previous contract or subcontract subject to the Equal Opportunity clauses set forth in 41 CFR Part 60-4 and Executive Order 11246, and where required, has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance Programs or the EEO Commission all reports due under the applicable filing requirements.
5. This company is in full compliance with applicable Federal and Commonwealth of Massachusetts laws, rules, and regulations and is not currently debarred or disqualified from bidding on or participating in construction contracts in any jurisdiction of the United States. See : <https://www.mass.gov/service-details/contractors-and-vendors-suspended-or-debarred-by-massdot>
6. This company is properly registered and in good standing with the Office of the Secretary of the Commonwealth.

Signed this _____ Day of _____, 20____, Under The Pains And Penalties Of Perjury.

Firm: _____

Address: _____

 (Print Name and Title)

Telephone Number: _____

Federal I.D. Number: _____

 (Authorized Signature)

Estimated Start Date: _____

Estimated Completion Date: _____

Estimated Dollar Amount: _____

 (Date)

DOCUMENT 00860

COMMONWEALTH OF MASSACHUSETTS PUBLIC EMPLOYMENT LAWS

Revised February 20, 2019

The Contractor's attention is directed to Massachusetts General Laws, Chapter 149, Sections 26 through 27H, and 150A. This contract is considered to fall within the ambit of that law, which provides that in general, the Prevailing Rate or Total Rate must be paid to employees working on projects funded by the Commonwealth of Massachusetts or any political subdivision including Massachusetts Department of Transportation (MassDOT).

A Federal Aid project is also subject to the Federal Minimum Wage Rate law for construction. When comparing a state minimum wage rate, monitored by the Massachusetts Attorney General, versus federal minimum wage rate, monitored by the U.S. Department of Labor Wage and Hour Division, for a particular job classification the higher wage is at all times to be paid to the affected employee.

Every contractor or subcontractor engaged in this contract to which sections twenty-seven and twenty-seven A apply will keep a true and accurate record of all mechanics and apprentices, teamsters, chauffeurs and laborers employed thereon, showing the name, address and occupational classification of each such employee on this contract, and the hours worked by, and the wages paid to, each such employee, and shall furnish to the MassDOT's Resident Engineer, on a weekly basis, a copy of said record, in a form approved by MassDOT and in accordance with M.G.L. c. 149, § 27B, signed by the employer or his/her authorized agent under the penalties of perjury.

Each such contractor or subcontractor shall preserve its payroll records for a period of three years from the date of completion of the contract.

The Prevailing Wage Rate generally includes the following:

Minimum Hourly Wage + Employer Contributions to Benefit Plans = Prevailing Wage Rate or Total Rate

Any employer who does not make contributions to Benefit Plans must pay the total Prevailing Wage Rate directly to the employee.

Any deduction from the Prevailing Wage Rate or Total Rate for contributions to benefit plans can only be for a Health & Welfare, Pension, or Supplementary Unemployment plan meeting the requirements of the Employee Retirement Income Security Act (ERISA) of 1974. The maximum allowable deduction for these benefits from the prevailing wage rate cannot be greater than the amount allowed by Executive Office of Labor (EOL) for the specified benefits. Any additional expense of providing benefits to the employees is to be borne by the employer and cannot be deducted from the Minimum Hourly Wage. If the employer's benefit expense is less than that so provided by EOL the difference will be paid directly to the employee. The rate established must be paid to all employees who perform work on the project.

When an employer makes deductions from the Minimum Hourly Wage for an employee's contribution to social security, state taxes, federal taxes, and/or other contribution programs, allowed by law, the employer shall furnish each employee a suitable pay slip, check stub or envelope notifying the employee of the amount of the deductions.

No contractor or subcontractor contracting for any part of the contract week shall require or permit any laborer or mechanic to be employed on such work in excess of forty hours in any workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all hours worked in excess of forty hours in such workweek, whichever is the greater number of overtime hours.

Apprentice Rates are permitted only when there is an Apprentice Agreement registered with the Massachusetts Division of Apprentice Training in accordance with M.G.L. c. 23, § 11E-11L.

The Prevailing Wage Rates issued for each project shall be the rates paid for the entire project. The Prevailing Wage Rates must be posted on the job site at all times and be visible from a public way.

In addition, each such contractor and subcontractor shall furnish to the MassDOT's Resident Engineer, within fifteen days after completion of its portion of the work, a statement, executed by the contractor or subcontractor or by any authorized officer or employee of the contractor or subcontractor who supervises the payment of wages, in the following form:

STATEMENT OF COMPLIANCE

Date: _____

I, _____ do hereby state:
(Name of signatory party) (Title)

That I pay or supervise the payment of the persons employed by:

(Contractor or Subcontractor)

on the _____
(MassDOT Project Location and Contract Number)

and that all mechanics and apprentices, teamsters, chauffeurs and laborers employed on said project have been paid in accordance with wages determined under the provisions of sections twenty-six and twenty-seven of chapter one hundred and forty-nine of the General Laws.

Signature _____

Title _____

The above-mentioned copies of payroll records and statements of compliance shall be available for inspection by any interested party filing a written request to the MassDOT's Resident Engineer for such inspection and copying.

Massachusetts General Laws c. 149, §27, requires annual updates to prevailing wage schedules for all public construction contracts lasting longer than one year. MassDOT will request the required updates and furnish them to the Contractor. The Contractor is required to pay no less than the wage rates indicated on the annual updated wage schedules.

MassDOT will request the updates no later than two weeks before the anniversary of the Notice to Proceed date of the contract to allow for adequate processing by the Department of Labor Standards (DLS). The effective date for the new rates will be the anniversary date of the contract (i.e. the notice to proceed date), regardless of the date of issuance on the schedule from DLS.

All bidders are cautioned that the aforementioned laws require that employers pay to covered employees no less than the applicable minimum wages. In addition, the same laws require that the applicable prevailing wages become incorporated as part of this contract. The prevailing minimum wage law establishes serious civil and criminal penalties for violations, including imprisonment and exclusion from future public contracts. Bidders are cautioned to carefully read the relevant sections of the Massachusetts General Laws.

*** END OF DOCUMENT ***

DOCUMENT 00861

STATE PREVAILING WAGE RATES

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**THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DEPARTMENT OF LABOR STANDARDS
Prevailing Wage Rates**

MAURA HEALY
Governor

KIM DRISCOLL
Lt. Governor

As determined by the Director under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H

LAUREN JONES
Secretary
MICHAEL FLANAGAN
Director

Awarding Authority:	MassDOT Highway	City/Town:	MARLBOROUGH
Contract Number:	130745		
Description of Work:	MARLBOROUGH - Bridge Preservation, M-06-010, Elm Street over I-495		
Job Location:	Along I-495		

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

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

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
(2 AXLE) DRIVER - EQUIPMENT	6/1/2025	\$40.95	\$15.57	\$20.17	\$0.00	\$0.00	\$76.69
TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	\$40.95	\$15.57	\$21.78	\$0.00	\$0.00	\$78.30
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	1/1/2026	\$40.95	\$16.17	\$21.78	\$0.00	\$0.00	\$78.90
	6/1/2026	\$41.95	\$16.17	\$21.78	\$0.00	\$0.00	\$79.90
	12/1/2026	\$41.95	\$16.17	\$23.52	\$0.00	\$0.00	\$81.64
	1/1/2027	\$41.95	\$16.77	\$23.52	\$0.00	\$0.00	\$82.24
(3 AXLE) DRIVER - EQUIPMENT	6/1/2025	\$41.02	\$15.57	\$20.17	\$0.00	\$0.00	\$76.76
TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	\$41.02	\$15.57	\$21.78	\$0.00	\$0.00	\$78.37
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	1/1/2026	\$41.02	\$16.17	\$21.78	\$0.00	\$0.00	\$78.97
	6/1/2026	\$42.02	\$16.17	\$21.78	\$0.00	\$0.00	\$79.97
	12/1/2026	\$42.02	\$16.17	\$23.52	\$0.00	\$0.00	\$81.71
	1/1/2027	\$42.02	\$16.77	\$23.52	\$0.00	\$0.00	\$82.31
(4 & 5 AXLE) DRIVER - EQUIPMENT	6/1/2025	\$41.14	\$15.57	\$20.17	\$0.00	\$0.00	\$76.88
TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	\$41.14	\$15.57	\$21.78	\$0.00	\$0.00	\$78.49
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	1/1/2026	\$41.14	\$16.17	\$21.78	\$0.00	\$0.00	\$79.09
	6/1/2026	\$42.14	\$16.17	\$21.78	\$0.00	\$0.00	\$80.09
	12/1/2026	\$42.14	\$16.17	\$23.52	\$0.00	\$0.00	\$81.83
	1/1/2027	\$42.14	\$16.77	\$23.52	\$0.00	\$0.00	\$82.43
ADS/SUBMERSIBLE PILOT	1/1/2024	\$117.16	\$10.08	\$11.62	\$12.67	\$0.00	\$151.53
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
For apprentice rates see "Apprentice- PILE DRIVER"							
AIR TRACK OPERATOR	6/1/2025	\$41.09	\$9.90	\$9.25	\$9.11	\$0.00	\$69.35
LABORERS	12/1/2025	\$42.47	\$9.90	\$9.25	\$9.11	\$0.00	\$70.73
LABORERS - ZONE 2	6/1/2026	\$43.91	\$9.90	\$9.25	\$9.11	\$0.00	\$72.17
	12/1/2026	\$45.35	\$9.90	\$9.25	\$9.11	\$0.00	\$73.61
	6/1/2027	\$46.80	\$9.90	\$9.25	\$9.11	\$0.00	\$75.06
	12/1/2027	\$48.25	\$9.90	\$9.25	\$9.11	\$0.00	\$76.51
	6/1/2028	\$49.75	\$9.90	\$9.25	\$9.11	\$0.00	\$78.01
	12/1/2028	\$51.25	\$9.90	\$9.25	\$9.11	\$0.00	\$79.51
For apprentice rates see "Apprentice- LABORER"							
AIR TRACK OPERATOR (HEAVY & HIGHWAY)	6/1/2025	\$41.09	\$9.90	\$9.25	\$9.21	\$0.00	\$69.45
LABORERS	12/1/2025	\$42.47	\$9.90	\$9.25	\$9.21	\$0.00	\$70.83
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	\$43.91	\$9.90	\$9.25	\$9.21	\$0.00	\$72.27
	12/1/2026	\$45.35	\$9.90	\$9.25	\$9.21	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
ASBESTOS REMOVER - PIPE / MECH. EQUIPT.	6/1/2025	\$43.80	\$14.50	\$4.30	\$6.75	\$0.00	\$69.35
HEAT & FROST INSULATORS LOCAL 6	12/1/2025	\$44.80	\$14.50	\$4.30	\$6.75	\$0.00	\$70.35
HEAT & FROST INSULATORS LOCAL 6 (BOSTON)							
ASPHALT RAKER	6/1/2025	\$40.59	\$9.90	\$9.25	\$9.11	\$0.00	\$68.85
LABORERS	12/1/2025	\$41.97	\$9.90	\$9.25	\$9.11	\$0.00	\$70.23
LABORERS - ZONE 2	6/1/2026	\$43.41	\$9.90	\$9.25	\$9.11	\$0.00	\$71.67
	12/1/2026	\$44.85	\$9.90	\$9.25	\$9.11	\$0.00	\$73.11

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	6/1/2027	\$46.30	\$9.90	\$9.25	\$9.11	\$0.00	\$74.56
	12/1/2027	\$47.75	\$9.90	\$9.25	\$9.11	\$0.00	\$76.01
	6/1/2028	\$49.25	\$9.90	\$9.25	\$9.11	\$0.00	\$77.51
	12/1/2028	\$50.75	\$9.90	\$9.25	\$9.11	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"							
ASPHALT RAKER (HEAVY & HIGHWAY)	6/1/2025	\$40.59	\$9.90	\$9.25	\$9.21	\$0.00	\$68.95
LABORERS	12/1/2025	\$41.97	\$9.90	\$9.25	\$9.21	\$0.00	\$70.33
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	\$43.41	\$9.90	\$9.25	\$9.21	\$0.00	\$71.77
	12/1/2026	\$44.85	\$9.90	\$9.25	\$9.21	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE	6/1/2025	\$58.33	\$15.55	\$13.25	\$3.25	\$0.00	\$90.38
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.78	\$15.55	\$13.25	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$61.08	\$15.55	\$13.25	\$3.25	\$0.00	\$93.13
	12/1/2026	\$62.53	\$15.55	\$13.25	\$3.25	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BACKHOE/FRONT-END LOADER	6/1/2025	\$58.33	\$15.55	\$13.25	\$3.25	\$0.00	\$90.38
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.78	\$15.55	\$13.25	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$61.08	\$15.55	\$13.25	\$3.25	\$0.00	\$93.13
	12/1/2026	\$62.53	\$15.55	\$13.25	\$3.25	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BARCO-TYPE JUMPING TAMPER	6/1/2025	\$40.59	\$9.90	\$9.25	\$9.11	\$0.00	\$68.85
LABORERS	12/1/2025	\$41.97	\$9.90	\$9.25	\$9.11	\$0.00	\$70.23
LABORERS - ZONE 2	6/1/2026	\$43.41	\$9.90	\$9.25	\$9.11	\$0.00	\$71.67
	12/1/2026	\$44.85	\$9.90	\$9.25	\$9.11	\$0.00	\$73.11
	6/1/2027	\$46.30	\$9.90	\$9.25	\$9.11	\$0.00	\$74.56
	12/1/2027	\$47.75	\$9.90	\$9.25	\$9.11	\$0.00	\$76.01
	6/1/2028	\$49.25	\$9.90	\$9.25	\$9.11	\$0.00	\$77.51
	12/1/2028	\$50.75	\$9.90	\$9.25	\$9.11	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"							
BLOCK PAVER, RAMMER / CURB SETTER	6/1/2025	\$41.09	\$9.90	\$9.25	\$9.11	\$0.00	\$69.35
LABORERS	12/1/2025	\$42.47	\$9.90	\$9.25	\$9.11	\$0.00	\$70.73
LABORERS - ZONE 2	6/1/2026	\$43.91	\$9.90	\$9.25	\$9.11	\$0.00	\$72.17
	12/1/2026	\$45.35	\$9.90	\$9.25	\$9.11	\$0.00	\$73.61
	6/1/2027	\$46.80	\$9.90	\$9.25	\$9.11	\$0.00	\$75.06
	12/1/2027	\$48.25	\$9.90	\$9.25	\$9.11	\$0.00	\$76.51
	6/1/2028	\$49.75	\$9.90	\$9.25	\$9.11	\$0.00	\$78.01
	12/1/2028	\$51.25	\$9.90	\$9.25	\$9.11	\$0.00	\$79.51
For apprentice rates see "Apprentice- LABORER"							
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY)	6/1/2025	\$41.09	\$9.90	\$9.25	\$9.21	\$0.00	\$69.45
LABORERS	12/1/2025	\$42.47	\$9.90	\$9.25	\$9.21	\$0.00	\$70.83
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	\$43.91	\$9.90	\$9.25	\$9.21	\$0.00	\$72.27
	12/1/2026	\$45.35	\$9.90	\$9.25	\$9.21	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
BOILER MAKER	1/1/2024	\$48.12	\$7.07	\$14.60	\$6.00	\$0.00	\$75.79
BOILERMAKERS LOCAL 29							
BOILERMAKERS LOCAL 29							

Apprentice: BOILER MAKER**Effective Date: 1/1/2024**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	65.00	\$31.28	\$7.07	\$9.32	\$3.90	\$0.00	\$51.57
2	65.00	\$31.28	\$7.07	\$9.32	\$3.90	\$0.00	\$51.57
3	70.00	\$33.68	\$7.07	\$10.03	\$4.20	\$0.00	\$54.98
4	75.00	\$36.09	\$7.07	\$10.74	\$4.50	\$0.00	\$58.40
5	80.00	\$38.50	\$7.07	\$11.45	\$4.80	\$0.00	\$61.82
6	85.00	\$40.90	\$7.07	\$12.18	\$5.10	\$0.00	\$65.25
7	90.00	\$43.31	\$7.07	\$12.88	\$5.40	\$0.00	\$68.66
8	95.00	\$45.71	\$7.07	\$13.62	\$5.70	\$0.00	\$72.10

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	2/1/2025	\$63.66	\$11.49	\$15.57	\$7.33	\$0.00	\$98.05
BRICKLAYERS LOCAL 3	8/1/2025	\$65.81	\$11.49	\$15.57	\$7.33	\$0.00	\$100.20
BRICKLAYERS LOCAL 3 (LOWELL)	2/1/2026	\$67.16	\$11.49	\$15.57	\$7.33	\$0.00	\$101.55
	8/1/2026	\$69.36	\$11.49	\$15.57	\$7.33	\$0.00	\$103.75
	2/1/2027	\$70.76	\$11.49	\$15.57	\$7.33	\$0.00	\$105.15

Apprentice: BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)**Effective Date: 2/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$31.83	\$11.49	\$15.57	\$7.33	\$0.00	\$66.22
2	60.00	\$38.20	\$11.49	\$15.57	\$7.33	\$0.00	\$72.59
3	70.00	\$44.56	\$11.49	\$15.57	\$7.33	\$0.00	\$78.95
4	80.00	\$50.93	\$11.49	\$15.57	\$7.33	\$0.00	\$85.32
5	90.00	\$57.29	\$11.49	\$15.57	\$7.33	\$0.00	\$91.68

Apprentice: BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)**Effective Date: 8/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$32.91	\$11.49	\$15.57	\$7.33	\$0.00	\$67.30
2	60.00	\$39.49	\$11.49	\$15.57	\$7.33	\$0.00	\$73.88
3	70.00	\$46.07	\$11.49	\$15.57	\$7.33	\$0.00	\$80.46
4	80.00	\$52.65	\$11.49	\$15.57	\$7.33	\$0.00	\$87.04
5	90.00	\$59.23	\$11.49	\$15.57	\$7.33	\$0.00	\$93.62

BULLDOZER/GRADER/SCRAPER	6/1/2025	\$57.68	\$15.55	\$13.25	\$3.25	\$0.00	\$89.73
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.12	\$15.55	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.40	\$15.55	\$13.25	\$3.25	\$0.00	\$92.45

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/1/2026	\$61.84	\$15.55	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
CAISSON & UNDERPINNING BOTTOM MAN	6/1/2025	\$48.85	\$9.90	\$9.25	\$9.80	\$0.00	\$77.80
LABORERS	12/1/2025	\$50.35	\$9.90	\$9.25	\$9.80	\$0.00	\$79.30
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$51.90	\$9.90	\$9.25	\$9.80	\$0.00	\$80.85
	12/1/2026	\$53.40	\$9.90	\$9.25	\$9.80	\$0.00	\$82.35
For apprentice rates see "Apprentice- LABORER"							
CAISSON & UNDERPINNING LABORER	6/1/2025	\$47.70	\$9.90	\$9.25	\$9.80	\$0.00	\$76.65
LABORERS	12/1/2025	\$49.20	\$9.90	\$9.25	\$9.80	\$0.00	\$78.15
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$50.75	\$9.90	\$9.25	\$9.80	\$0.00	\$79.70
	12/1/2026	\$52.25	\$9.90	\$9.25	\$9.80	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"							
CAISSON & UNDERPINNING TOP MAN	6/1/2025	\$48.03	\$9.90	\$9.25	\$9.80	\$0.00	\$76.98
LABORERS	12/1/2025	\$49.53	\$9.90	\$9.25	\$9.80	\$0.00	\$78.48
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$51.08	\$9.90	\$9.25	\$9.80	\$0.00	\$80.03
	12/1/2026	\$52.58	\$9.90	\$9.25	\$9.80	\$0.00	\$81.53
For apprentice rates see "Apprentice- LABORER"							
CARBIDE CORE DRILL OPERATOR	6/1/2025	\$40.59	\$9.90	\$9.25	\$9.11	\$0.00	\$68.85
LABORERS	12/1/2025	\$41.97	\$9.90	\$9.25	\$9.11	\$0.00	\$70.23
LABORERS - ZONE 2	6/1/2026	\$43.41	\$9.90	\$9.25	\$9.11	\$0.00	\$71.67
	12/1/2026	\$44.85	\$9.90	\$9.25	\$9.11	\$0.00	\$73.11
	6/1/2027	\$46.30	\$9.90	\$9.25	\$9.11	\$0.00	\$74.56
	12/1/2027	\$47.75	\$9.90	\$9.25	\$9.11	\$0.00	\$76.01
	6/1/2028	\$49.25	\$9.90	\$9.25	\$9.11	\$0.00	\$77.51
	12/1/2028	\$50.75	\$9.90	\$9.25	\$9.11	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"							
CARPENTER	3/1/2025	\$49.62	\$9.83	\$11.47	\$8.50	\$0.00	\$79.42
CARPENTERS	9/1/2025	\$50.87	\$9.83	\$11.47	\$8.50	\$0.00	\$80.67
CARPENTERS -ZONE 2 (Eastern Massachusetts)	3/1/2026	\$52.12	\$9.83	\$11.47	\$8.50	\$0.00	\$81.92
	9/1/2026	\$53.37	\$9.83	\$11.47	\$8.50	\$0.00	\$83.17
	3/1/2027	\$54.62	\$9.83	\$11.47	\$8.50	\$0.00	\$84.42

Apprentice: CARPENTER							
Effective Date: 3/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$22.33	\$9.83	\$0.00	\$1.73	\$0.00	\$33.89
2	45.00	\$22.33	\$9.83	\$0.00	\$1.73	\$0.00	\$33.89
3	55.00	\$27.29	\$9.83	\$0.00	\$3.40	\$0.00	\$40.52
4	55.00	\$27.29	\$9.83	\$0.00	\$3.40	\$0.00	\$40.52
5	70.00	\$34.73	\$9.83	\$11.41	\$5.10	\$0.00	\$61.07
6	70.00	\$34.73	\$9.83	\$11.41	\$5.10	\$0.00	\$61.07
7	80.00	\$39.70	\$9.83	\$11.44	\$6.80	\$0.00	\$67.77
8	80.00	\$39.70	\$9.83	\$11.44	\$6.80	\$0.00	\$67.77

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: CARPENTER Effective Date: 9/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$22.89	\$9.83	\$0.00	\$1.73	\$0.00	\$34.45
2	45.00	\$22.89	\$9.83	\$0.00	\$1.73	\$0.00	\$34.45
3	55.00	\$27.98	\$9.83	\$0.00	\$3.40	\$0.00	\$41.21
4	55.00	\$27.98	\$9.83	\$0.00	\$3.40	\$0.00	\$41.21
5	70.00	\$35.61	\$9.83	\$11.41	\$5.10	\$0.00	\$61.95
6	70.00	\$35.61	\$9.83	\$11.41	\$5.10	\$0.00	\$61.95
7	80.00	\$40.70	\$9.83	\$11.44	\$6.80	\$0.00	\$68.77
8	80.00	\$40.70	\$9.83	\$11.44	\$6.80	\$0.00	\$68.77
<hr/>							
CARPENTER WOOD FRAME	10/1/2024	\$26.65	\$7.02	\$3.80	\$1.00	\$0.00	\$38.47
CARPENTERS	10/1/2025	\$27.75	\$7.02	\$3.80	\$1.00	\$0.00	\$39.57
CARPENTERS-ZONE 3 (Wood Frame)	10/1/2026	\$28.85	\$7.02	\$3.80	\$1.00	\$0.00	\$40.67
All Aspects of New Wood Frame Work							

Apprentice: CARPENTER WOOD FRAME Effective Date: 10/1/2024							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$15.99	\$7.02	\$0.00	\$0.00	\$0.00	\$23.01
2	60.00	\$15.99	\$7.02	\$0.00	\$0.00	\$0.00	\$23.01
3	65.00	\$17.32	\$7.02	\$0.00	\$1.00	\$0.00	\$25.34
4	70.00	\$18.66	\$7.02	\$0.00	\$1.00	\$0.00	\$26.68
5	75.00	\$19.99	\$7.02	\$3.80	\$1.00	\$0.00	\$31.81
6	80.00	\$21.32	\$7.02	\$3.80	\$1.00	\$0.00	\$33.14
7	85.00	\$22.65	\$7.02	\$3.80	\$1.00	\$0.00	\$34.47
8	90.00	\$23.99	\$7.02	\$3.80	\$1.00	\$0.00	\$35.81

Apprentice: CARPENTER WOOD FRAME Effective Date: 10/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$16.65	\$7.02	\$0.00	\$0.00	\$0.00	\$23.67
2	60.00	\$16.65	\$7.02	\$0.00	\$0.00	\$0.00	\$23.67
3	65.00	\$18.04	\$7.02	\$0.00	\$1.00	\$0.00	\$26.06
4	70.00	\$19.43	\$7.02	\$0.00	\$1.00	\$0.00	\$27.45
5	75.00	\$20.81	\$7.02	\$3.80	\$1.00	\$0.00	\$32.63
6	80.00	\$22.20	\$7.02	\$3.80	\$1.00	\$0.00	\$34.02
7	85.00	\$23.59	\$7.02	\$3.80	\$1.00	\$0.00	\$35.41
8	90.00	\$24.98	\$7.02	\$3.80	\$1.00	\$0.00	\$36.80

CEMENT MASONRY/PLASTERING	7/1/2024	\$49.19	\$13.35	\$16.43	\$7.78	\$1.80	\$88.55
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Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
BRICKLAYERS LOCAL 3							
BRICKLAYERS LOCAL 3 (LOWELL)							

Apprentice: CEMENT MASONRY/PLASTERING**Effective Date: 7/1/2024**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$24.60	\$13.35	\$16.43	\$0.00	\$0.00	\$54.38
2	60.00	\$29.51	\$13.35	\$16.43	\$2.78	\$1.80	\$63.87
3	65.00	\$31.97	\$13.35	\$16.43	\$3.78	\$1.80	\$67.33
4	70.00	\$34.43	\$13.35	\$16.43	\$4.78	\$1.80	\$70.79
5	75.00	\$36.89	\$13.35	\$16.43	\$5.78	\$1.80	\$74.25
6	80.00	\$39.35	\$13.35	\$16.43	\$6.78	\$1.80	\$77.71
7	90.00	\$44.27	\$13.35	\$16.43	\$7.78	\$1.80	\$83.63

CHAIN SAW OPERATOR	6/1/2025	\$40.59	\$9.90	\$9.25	\$9.11	\$0.00	\$68.85
LABORERS	12/1/2025	\$41.97	\$9.90	\$9.25	\$9.11	\$0.00	\$70.23
LABORERS - ZONE 2	6/1/2026	\$43.41	\$9.90	\$9.25	\$9.11	\$0.00	\$71.67
	12/1/2026	\$44.85	\$9.90	\$9.25	\$9.11	\$0.00	\$73.11
	6/1/2027	\$46.30	\$9.90	\$9.25	\$9.11	\$0.00	\$74.56
	12/1/2027	\$47.75	\$9.90	\$9.25	\$9.11	\$0.00	\$76.01
	6/1/2028	\$49.25	\$9.90	\$9.25	\$9.11	\$0.00	\$77.51
	12/1/2028	\$50.75	\$9.90	\$9.25	\$9.11	\$0.00	\$79.01

For apprentice rates see "Apprentice- LABORER"

CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES	6/1/2025	\$59.51	\$15.55	\$13.25	\$3.25	\$0.00	\$91.56
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$60.98	\$15.55	\$13.25	\$3.25	\$0.00	\$93.03
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$62.31	\$15.55	\$13.25	\$3.25	\$0.00	\$94.36
	12/1/2026	\$63.79	\$15.55	\$13.25	\$3.25	\$0.00	\$95.84

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

COMPRESSOR OPERATOR	6/1/2025	\$37.52	\$15.55	\$13.25	\$3.25	\$0.00	\$69.57
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$38.47	\$15.55	\$13.25	\$3.25	\$0.00	\$70.52
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$39.33	\$15.55	\$13.25	\$3.25	\$0.00	\$71.38
	12/1/2026	\$40.28	\$15.55	\$13.25	\$3.25	\$0.00	\$72.33

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

DELEADER (BRIDGE)	1/1/2025	\$58.46	\$9.95	\$11.85	\$12.10	\$0.00	\$92.36
PAINTERS LOCAL 35							
PAINTERS LOCAL 35 - ZONE 2							

Apprentice: DELEADER (BRIDGE)**Effective Date: 1/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$29.23	\$9.95	\$0.00	\$0.00	\$0.00	\$39.18
2	55.00	\$32.15	\$9.95	\$0.00	\$6.66	\$0.00	\$48.76
3	60.00	\$35.08	\$9.95	\$0.00	\$7.26	\$0.00	\$52.29

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate																																																
<div>Apprentice: DELEADER (BRIDGE)</div> <div>Effective Date: 1/1/2025</div> <table><thead><tr><th>Step</th><th>Percent</th><th>Apprentice Base Wage</th><th>Health</th><th>Pension</th><th>Annuity</th><th>Supplemental Unemployment</th><th>Total Rate</th></tr></thead><tbody><tr><td>4</td><td>65.00</td><td>\$38.00</td><td>\$9.95</td><td>\$0.00</td><td>\$7.87</td><td>\$0.00</td><td>\$55.82</td></tr><tr><td>5</td><td>70.00</td><td>\$40.92</td><td>\$9.95</td><td>\$11.85</td><td>\$8.47</td><td>\$0.00</td><td>\$71.19</td></tr><tr><td>6</td><td>75.00</td><td>\$43.85</td><td>\$9.95</td><td>\$11.85</td><td>\$9.08</td><td>\$0.00</td><td>\$74.73</td></tr><tr><td>7</td><td>80.00</td><td>\$46.77</td><td>\$9.95</td><td>\$11.85</td><td>\$9.68</td><td>\$0.00</td><td>\$78.25</td></tr><tr><td>8</td><td>90.00</td><td>\$52.61</td><td>\$9.95</td><td>\$11.85</td><td>\$10.89</td><td>\$0.00</td><td>\$85.30</td></tr></tbody></table>								Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate	4	65.00	\$38.00	\$9.95	\$0.00	\$7.87	\$0.00	\$55.82	5	70.00	\$40.92	\$9.95	\$11.85	\$8.47	\$0.00	\$71.19	6	75.00	\$43.85	\$9.95	\$11.85	\$9.08	\$0.00	\$74.73	7	80.00	\$46.77	\$9.95	\$11.85	\$9.68	\$0.00	\$78.25	8	90.00	\$52.61	\$9.95	\$11.85	\$10.89	\$0.00	\$85.30
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate																																																
4	65.00	\$38.00	\$9.95	\$0.00	\$7.87	\$0.00	\$55.82																																																
5	70.00	\$40.92	\$9.95	\$11.85	\$8.47	\$0.00	\$71.19																																																
6	75.00	\$43.85	\$9.95	\$11.85	\$9.08	\$0.00	\$74.73																																																
7	80.00	\$46.77	\$9.95	\$11.85	\$9.68	\$0.00	\$78.25																																																
8	90.00	\$52.61	\$9.95	\$11.85	\$10.89	\$0.00	\$85.30																																																
DEMO: ADZEMAN	6/2/2025	\$47.75	\$9.90	\$9.25	\$9.65	\$0.00	\$76.55																																																
LABORERS	12/1/2025	\$49.25	\$9.90	\$9.25	\$9.65	\$0.00	\$78.05																																																
LABORERS - ZONE 2	6/1/2026	\$50.80	\$9.90	\$9.25	\$9.65	\$0.00	\$79.60																																																
	12/7/2026	\$52.30	\$9.90	\$9.25	\$9.65	\$0.00	\$81.10																																																
	6/7/2027	\$53.90	\$9.90	\$9.25	\$9.65	\$0.00	\$82.70																																																
	12/6/2027	\$55.50	\$9.90	\$9.25	\$9.65	\$0.00	\$84.30																																																
	6/5/2028	\$57.18	\$9.90	\$9.25	\$9.65	\$0.00	\$85.98																																																
	12/4/2028	\$58.85	\$9.90	\$9.25	\$9.65	\$0.00	\$87.65																																																
For apprentice rates see "Apprentice- LABORER"																																																							
DEMO: BACKHOE/LOADER/HAMMER OPERATOR	6/2/2025	\$48.75	\$9.90	\$9.25	\$9.65	\$0.00	\$77.55																																																
LABORERS	12/1/2025	\$50.25	\$9.90	\$9.25	\$9.65	\$0.00	\$79.05																																																
LABORERS - ZONE 2	6/1/2026	\$51.80	\$9.90	\$9.25	\$9.65	\$0.00	\$80.60																																																
	12/7/2026	\$53.30	\$9.90	\$9.25	\$9.65	\$0.00	\$82.10																																																
	6/7/2027	\$54.90	\$9.90	\$9.25	\$9.65	\$0.00	\$83.70																																																
	12/6/2027	\$56.50	\$9.90	\$9.25	\$9.65	\$0.00	\$85.30																																																
	6/5/2028	\$58.18	\$9.90	\$9.25	\$9.65	\$0.00	\$86.98																																																
	12/4/2028	\$59.85	\$9.90	\$9.25	\$9.65	\$0.00	\$88.65																																																
For apprentice rates see "Apprentice- LABORER"																																																							
DEMO: BURNERS	6/2/2025	\$48.50	\$9.90	\$9.25	\$9.65	\$0.00	\$77.30																																																
LABORERS	12/1/2025	\$50.00	\$9.90	\$9.25	\$9.65	\$0.00	\$78.80																																																
LABORERS - ZONE 2	6/1/2026	\$51.55	\$9.90	\$9.25	\$9.65	\$0.00	\$80.35																																																
	12/7/2026	\$53.05	\$9.90	\$9.25	\$9.65	\$0.00	\$81.85																																																
	6/7/2027	\$54.65	\$9.90	\$9.25	\$9.65	\$0.00	\$83.45																																																
	12/6/2027	\$56.25	\$9.90	\$9.25	\$9.65	\$0.00	\$85.05																																																
	6/5/2028	\$57.93	\$9.90	\$9.25	\$9.65	\$0.00	\$86.73																																																
	12/4/2028	\$59.60	\$9.90	\$9.25	\$9.65	\$0.00	\$88.40																																																
For apprentice rates see "Apprentice- LABORER"																																																							
DEMO: CONCRETE CUTTER/SAWYER	6/2/2025	\$48.75	\$9.90	\$9.25	\$9.65	\$0.00	\$77.55																																																
LABORERS	12/1/2025	\$50.25	\$9.90	\$9.25	\$9.65	\$0.00	\$79.05																																																
LABORERS - ZONE 2	6/1/2026	\$51.80	\$9.90	\$9.25	\$9.65	\$0.00	\$80.60																																																
	12/7/2026	\$53.30	\$9.90	\$9.25	\$9.65	\$0.00	\$82.10																																																
	6/7/2027	\$54.90	\$9.90	\$9.25	\$9.65	\$0.00	\$83.70																																																
	12/6/2027	\$56.50	\$9.90	\$9.25	\$9.65	\$0.00	\$85.30																																																
	6/5/2028	\$58.18	\$9.90	\$9.25	\$9.65	\$0.00	\$86.98																																																
	12/4/2028	\$59.85	\$9.90	\$9.25	\$9.65	\$0.00	\$88.65																																																
For apprentice rates see "Apprentice- LABORER"																																																							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
DEMO: JACKHAMMER OPERATOR LABORERS	6/2/2025	\$48.50	\$9.90	\$9.25	\$9.65	\$0.00	\$77.30
LABORERS - ZONE 2	12/1/2025	\$50.00	\$9.90	\$9.25	\$9.65	\$0.00	\$78.80
	6/1/2026	\$51.55	\$9.90	\$9.25	\$9.65	\$0.00	\$80.35
	12/7/2026	\$53.05	\$9.90	\$9.25	\$9.65	\$0.00	\$81.85
	6/7/2027	\$54.65	\$9.90	\$9.25	\$9.65	\$0.00	\$83.45
	12/6/2027	\$56.25	\$9.90	\$9.25	\$9.65	\$0.00	\$85.05
	6/5/2028	\$57.93	\$9.90	\$9.25	\$9.65	\$0.00	\$86.73
	12/4/2028	\$59.60	\$9.90	\$9.25	\$9.65	\$0.00	\$88.40
For apprentice rates see "Apprentice- LABORER"							
DEMO: WRECKING LABORER LABORERS	6/2/2025	\$47.75	\$9.90	\$9.25	\$9.65	\$0.00	\$76.55
LABORERS - ZONE 2	12/1/2025	\$49.25	\$9.90	\$9.25	\$9.65	\$0.00	\$78.05
	6/1/2026	\$50.80	\$9.90	\$9.25	\$9.65	\$0.00	\$79.60
	12/7/2026	\$52.30	\$9.90	\$9.25	\$9.65	\$0.00	\$81.10
	6/7/2027	\$53.90	\$9.90	\$9.25	\$9.65	\$0.00	\$82.70
	12/6/2027	\$55.50	\$9.90	\$9.25	\$9.65	\$0.00	\$84.30
	6/5/2028	\$57.18	\$9.90	\$9.25	\$9.65	\$0.00	\$85.98
	12/4/2028	\$58.85	\$9.90	\$9.25	\$9.65	\$0.00	\$87.65
For apprentice rates see "Apprentice- LABORER"							
DIRECTIONAL DRILL MACHINE OPERATOR OPERATING ENGINEERS LOCAL 4	6/1/2025	\$57.68	\$15.55	\$13.25	\$3.25	\$0.00	\$89.73
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.12	\$15.55	\$13.25	\$3.25	\$0.00	\$91.17
	6/1/2026	\$60.40	\$15.55	\$13.25	\$3.25	\$0.00	\$92.45
	12/1/2026	\$61.84	\$15.55	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
DIVER PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 1)	8/1/2024	\$78.11	\$10.08	\$11.62	\$10.04	\$0.00	\$109.85
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Diver wage 70/80/90 2A \$69.83, 3A \$91.79,4A \$102.14 Total Rate							
DIVER TENDER PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 1)	8/1/2024	\$55.79	\$10.08	\$11.62	\$12.67	\$0.00	\$90.16
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Piledriver wage 70/80/90 2A \$54.20, 3A \$73.93,4A \$82.05 Total Rate							
DIVER TENDER (EFFLUENT) PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 1)	8/1/2024	\$83.69	\$10.08	\$11.62	\$12.67	\$0.00	\$118.06
For apprentice rates see "Apprentice- PILE DRIVER"							
DIVER/SLURRY (EFFLUENT) PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 1)	8/1/2024	\$117.16	\$10.08	\$11.62	\$12.67	\$0.00	\$151.53
For apprentice rates see "Apprentice- PILE DRIVER"							
DRAWBRIDGE OPERATOR (Construction) DRAWBRIDGE - SEIU LOCAL 888 DRAWBRIDGE - SEIU LOCAL 888	7/1/2020	\$26.77	\$6.67	\$3.93	\$0.00	\$0.16	\$37.53
ELECTRICIAN ELECTRICIANS LOCAL 96 ELECTRICIANS LOCAL 96	9/1/2024	\$47.05	\$13.99	\$14.04	\$5.18	\$0.00	\$80.26
	9/7/2025	\$48.16	\$14.98	\$14.30	\$5.30	\$0.00	\$82.74

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	9/6/2026	\$49.38	\$15.96	\$14.57	\$5.43	\$0.00	\$85.34

Apprentice: ELECTRICIAN**Effective Date: 9/1/2024**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	\$18.82	\$13.99	\$0.56	\$0.00	\$0.00	\$33.37
2	45.00	\$21.17	\$13.99	\$0.64	\$0.00	\$0.00	\$35.80
3	48.00	\$22.58	\$13.99	\$13.31	\$2.48	\$0.00	\$52.36
4	55.00	\$25.88	\$13.99	\$13.41	\$2.85	\$0.00	\$56.13
5	65.00	\$30.58	\$13.99	\$13.55	\$3.36	\$0.00	\$61.48
6	80.00	\$37.64	\$13.99	\$13.76	\$4.14	\$0.00	\$69.53

Apprentice: ELECTRICIAN**Effective Date: 9/7/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	\$19.26	\$14.98	\$0.58	\$0.00	\$0.00	\$34.82
2	45.00	\$21.67	\$14.98	\$0.65	\$0.00	\$0.00	\$37.30
3	48.00	\$23.12	\$14.98	\$13.55	\$2.54	\$0.00	\$54.19
4	55.00	\$26.49	\$14.98	\$13.65	\$2.92	\$0.00	\$58.04
5	65.00	\$31.30	\$14.98	\$13.80	\$3.45	\$0.00	\$63.53
6	80.00	\$38.53	\$14.98	\$14.02	\$4.24	\$0.00	\$71.77

ELEVATOR CONSTRUCTOR	1/1/2022	\$65.62	\$16.03	\$10.71	\$9.50	\$0.00	\$101.86
ELEVATOR CONSTRUCTORS LOCAL 4							
ELEVATOR CONSTRUCTORS LOCAL 4							

Apprentice: ELEVATOR CONSTRUCTOR**Effective Date: 1/1/2022**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$32.81	\$16.03	\$0.00	\$0.00	\$0.00	\$48.84
2	55.00	\$36.09	\$16.03	\$10.71	\$9.50	\$0.00	\$72.33
3	65.00	\$42.65	\$16.03	\$10.71	\$9.50	\$0.00	\$78.89
4	70.00	\$45.93	\$16.03	\$10.71	\$9.50	\$0.00	\$82.17
5	80.00	\$52.50	\$16.03	\$10.71	\$9.50	\$0.00	\$88.74

ELEVATOR CONSTRUCTOR HELPER	1/1/2022	\$45.93	\$16.03	\$10.71	\$9.50	\$0.00	\$82.17
ELEVATOR CONSTRUCTORS LOCAL 4							
ELEVATOR CONSTRUCTORS LOCAL 4							

For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY)	6/1/2025	\$40.59	\$9.90	\$9.25	\$9.21	\$0.00	\$68.95
LABORERS	12/1/2025	\$41.97	\$9.90	\$9.25	\$9.21	\$0.00	\$70.33
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	\$43.41	\$9.90	\$9.25	\$9.21	\$0.00	\$71.77
	12/1/2026	\$44.85	\$9.90	\$9.25	\$9.21	\$0.00	\$73.21

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY	5/1/2025	\$53.22	\$15.30	\$13.15	\$3.25	\$0.00	\$84.92
OPERATING ENGINEERS LOCAL 4	11/1/2025	\$54.51	\$15.30	\$13.15	\$3.25	\$0.00	\$86.21
OPERATING ENGINEERS LOCAL 4	5/1/2026	\$55.95	\$15.30	\$13.15	\$3.25	\$0.00	\$87.65
	11/1/2026	\$57.24	\$15.30	\$13.15	\$3.25	\$0.00	\$88.94
	5/1/2027	\$58.67	\$15.30	\$13.15	\$3.25	\$0.00	\$90.37
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY	5/1/2025	\$54.82	\$15.30	\$13.15	\$3.25	\$0.00	\$86.52
OPERATING ENGINEERS LOCAL 4	11/1/2025	\$56.12	\$15.30	\$13.15	\$3.25	\$0.00	\$87.82
OPERATING ENGINEERS LOCAL 4	5/1/2026	\$57.57	\$15.30	\$13.15	\$3.25	\$0.00	\$89.27
	11/1/2026	\$58.87	\$15.30	\$13.15	\$3.25	\$0.00	\$90.57
	5/1/2027	\$60.32	\$15.30	\$13.15	\$3.25	\$0.00	\$92.02
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY	5/1/2025	\$26.22	\$15.30	\$13.15	\$3.25	\$0.00	\$57.92
OPERATING ENGINEERS LOCAL 4	11/1/2025	\$26.98	\$15.30	\$13.15	\$3.25	\$0.00	\$58.68
OPERATING ENGINEERS LOCAL 4	5/1/2026	\$27.83	\$15.30	\$13.15	\$3.25	\$0.00	\$59.53
	11/1/2026	\$28.59	\$15.30	\$13.15	\$3.25	\$0.00	\$60.29
	5/1/2027	\$29.44	\$15.30	\$13.15	\$3.25	\$0.00	\$61.14
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIRE ALARM INSTALLER	9/1/2024	\$47.05	\$13.99	\$14.04	\$5.18	\$0.00	\$80.26
ELECTRICIANS LOCAL 96	9/7/2025	\$48.16	\$14.98	\$14.30	\$5.30	\$0.00	\$82.74
ELECTRICIANS LOCAL 96	9/6/2026	\$49.38	\$15.96	\$14.57	\$5.43	\$0.00	\$85.34
For apprentice rates see "Apprentice- ELECTRICIAN"							
FIRE ALARM REPAIR / MAINT/COMMISSIONING	9/1/2024	\$47.05	\$13.99	\$14.04	\$5.18	\$0.00	\$80.26
ELECTRICIANS LOCAL 96	9/7/2025	\$48.16	\$14.98	\$14.30	\$5.30	\$0.00	\$82.74
ELECTRICIANS LOCAL 96	9/6/2026	\$49.38	\$15.96	\$14.57	\$5.43	\$0.00	\$85.34
For apprentice rates see "Apprentice- ELECTRICIAN"							
FIREMAN (ASST. ENGINEER)	6/1/2025	\$47.02	\$15.55	\$13.25	\$3.25	\$0.00	\$79.07
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$48.19	\$15.55	\$13.25	\$3.25	\$0.00	\$80.24
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$49.25	\$15.55	\$13.25	\$3.25	\$0.00	\$81.30
	12/1/2026	\$50.43	\$15.55	\$13.25	\$3.25	\$0.00	\$82.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FLAGGER & SIGNALER (HEAVY & HIGHWAY)	6/1/2025	\$28.09	\$9.90	\$9.25	\$9.21	\$0.00	\$56.45
LABORERS	12/1/2025	\$28.09	\$9.90	\$9.25	\$9.21	\$0.00	\$56.45
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	\$29.21	\$9.90	\$9.25	\$9.21	\$0.00	\$57.57
	12/1/2026	\$29.21	\$9.90	\$9.25	\$9.21	\$0.00	\$57.57
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
FLOORCOVERER	3/1/2025	\$57.73	\$8.83	\$11.47	\$8.80	\$0.00	\$86.83
FLOORCOVERERS LOCAL 2168	9/1/2025	\$59.23	\$8.83	\$11.47	\$8.80	\$0.00	\$88.33
FLOORCOVERERS LOCAL 2168 ZONE I	3/1/2026	\$60.73	\$8.83	\$11.47	\$8.80	\$0.00	\$89.83
	9/1/2026	\$62.23	\$8.83	\$11.47	\$8.80	\$0.00	\$91.33
	3/1/2027	\$63.73	\$8.83	\$11.47	\$8.80	\$0.00	\$92.83

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: FLOORCOVERER Effective Date: 3/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$25.98	\$8.83	\$0.00	\$1.76	\$0.00	\$36.57
2	45.00	\$25.98	\$8.83	\$0.00	\$1.76	\$0.00	\$36.57
3	55.00	\$31.75	\$8.83	\$0.00	\$3.52	\$0.00	\$44.10
4	55.00	\$31.75	\$8.83	\$0.00	\$3.52	\$0.00	\$44.10
5	70.00	\$40.41	\$8.83	\$11.47	\$5.28	\$0.00	\$65.99
6	70.00	\$40.41	\$8.83	\$11.47	\$5.28	\$0.00	\$65.99
7	80.00	\$46.18	\$8.83	\$11.47	\$7.04	\$0.00	\$73.52
8	80.00	\$46.18	\$8.83	\$11.47	\$7.04	\$0.00	\$73.52
Apprentice: FLOORCOVERER Effective Date: 9/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$26.65	\$8.83	\$0.00	\$1.76	\$0.00	\$37.24
2	45.00	\$26.65	\$8.83	\$0.00	\$1.76	\$0.00	\$37.24
3	55.00	\$32.58	\$8.83	\$0.00	\$3.52	\$0.00	\$44.93
4	55.00	\$32.58	\$8.83	\$0.00	\$3.52	\$0.00	\$44.93
5	70.00	\$41.46	\$8.83	\$11.47	\$5.28	\$0.00	\$67.04
6	70.00	\$41.46	\$8.83	\$11.47	\$5.28	\$0.00	\$67.04
7	80.00	\$47.38	\$8.83	\$11.47	\$7.04	\$0.00	\$74.72
8	80.00	\$47.38	\$8.83	\$11.47	\$7.04	\$0.00	\$74.72
FORK LIFT/CHERRY PICKER	6/1/2025	\$58.33	\$15.55	\$13.25	\$3.25	\$0.00	\$90.38
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.78	\$15.55	\$13.25	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$61.08	\$15.55	\$13.25	\$3.25	\$0.00	\$93.13
	12/1/2026	\$62.53	\$15.55	\$13.25	\$3.25	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
GENERATOR/LIGHTING PLANT/HEATERS	6/1/2025	\$37.52	\$15.55	\$13.25	\$3.25	\$0.00	\$69.57
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$38.47	\$15.55	\$13.25	\$3.25	\$0.00	\$70.52
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$39.33	\$15.55	\$13.25	\$3.25	\$0.00	\$71.38
	12/1/2026	\$40.28	\$15.55	\$13.25	\$3.25	\$0.00	\$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)	1/1/2025	\$47.96	\$9.95	\$11.85	\$12.10	\$0.00	\$81.86
GLAZIERS LOCAL 35							
GLAZIERS LOCAL 35 (ZONE 2)							
Apprentice: GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) Effective Date: 1/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)							
Effective Date: 1/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$23.98	\$9.95	\$0.00	\$0.00	\$0.00	\$33.93
2	55.00	\$26.38	\$9.95	\$0.00	\$6.66	\$0.00	\$42.99
3	60.00	\$28.78	\$9.95	\$0.00	\$7.26	\$0.00	\$45.99
4	65.00	\$31.17	\$9.95	\$0.00	\$7.87	\$0.00	\$48.99
5	70.00	\$33.57	\$9.95	\$11.85	\$8.47	\$0.00	\$63.84
6	75.00	\$35.97	\$9.95	\$11.85	\$9.08	\$0.00	\$66.85
7	80.00	\$38.37	\$9.95	\$11.85	\$9.68	\$0.00	\$69.85
8	90.00	\$43.16	\$9.95	\$11.85	\$10.89	\$0.00	\$75.85
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HOISTING ENGINEER/CRANES/GRADALLS	6/1/2025	\$58.33	\$15.55	\$13.25	\$3.25	\$0.00	\$90.38
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.78	\$15.55	\$13.25	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$61.08	\$15.55	\$13.25	\$3.25	\$0.00	\$93.13
	12/1/2026	\$62.53	\$15.55	\$13.25	\$3.25	\$0.00	\$94.58
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Apprentice: HOISTING ENGINEER/CRANES/GRADALLS							
Effective Date: 6/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	\$32.08	\$0.00	\$0.00	\$0.00	\$0.00	\$32.08
2	60.00	\$35.00	\$15.55	\$13.25	\$3.25	\$0.00	\$67.05
3	65.00	\$37.91	\$15.55	\$13.25	\$3.25	\$0.00	\$69.96
4	70.00	\$40.83	\$15.55	\$13.25	\$3.25	\$0.00	\$72.88
5	75.00	\$43.75	\$15.55	\$13.25	\$3.25	\$0.00	\$75.80
6	80.00	\$46.66	\$15.55	\$13.25	\$3.25	\$0.00	\$78.71
7	85.00	\$49.58	\$15.55	\$13.25	\$3.25	\$0.00	\$81.63
8	90.00	\$52.50	\$15.55	\$13.25	\$3.25	\$0.00	\$84.55
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Apprentice: HOISTING ENGINEER/CRANES/GRADALLS							
Effective Date: 12/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	\$32.88	\$0.00	\$0.00	\$0.00	\$0.00	\$32.88
2	60.00	\$35.87	\$15.55	\$13.25	\$3.25	\$0.00	\$67.92
3	65.00	\$38.86	\$15.55	\$13.25	\$3.25	\$0.00	\$70.91
4	70.00	\$41.85	\$15.55	\$13.25	\$3.25	\$0.00	\$73.90
5	75.00	\$44.84	\$15.55	\$13.25	\$3.25	\$0.00	\$76.89
6	80.00	\$47.82	\$15.55	\$13.25	\$3.25	\$0.00	\$79.87
7	85.00	\$50.81	\$15.55	\$13.25	\$3.25	\$0.00	\$82.86
8	90.00	\$53.80	\$15.55	\$13.25	\$3.25	\$0.00	\$85.85
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HVAC (DUCTWORK)	2/1/2025	\$59.13	\$14.91	\$18.74	\$9.53	\$2.98	\$105.29
SHEETMETAL WORKERS LOCAL 17	8/1/2025	\$60.98	\$14.91	\$18.74	\$9.53	\$2.98	\$107.14

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
SHEETMETAL WORKERS LOCAL 17 - A	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09
For apprentice rates see "Apprentice- SHEET METAL WORKER"							
HVAC (ELECTRICAL CONTROLS)	9/1/2024	\$47.05	\$13.99	\$14.04	\$5.18	\$0.00	\$80.26
ELECTRICIANS LOCAL 96	9/7/2025	\$48.16	\$14.98	\$14.30	\$5.30	\$0.00	\$82.74
ELECTRICIANS LOCAL 96	9/6/2026	\$49.38	\$15.96	\$14.57	\$5.43	\$0.00	\$85.34
For apprentice rates see "Apprentice- ELECTRICIAN"							
HVAC (TESTING AND BALANCING - AIR)	2/1/2025	\$59.13	\$14.91	\$18.74	\$9.53	\$2.98	\$105.29
SHEETMETAL WORKERS LOCAL 17	8/1/2025	\$60.98	\$14.91	\$18.74	\$9.53	\$2.98	\$107.14
SHEETMETAL WORKERS LOCAL 17 - A	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09
For apprentice rates see "Apprentice- SHEET METAL WORKER"							
HVAC (TESTING AND BALANCING -WATER)	3/1/2025	\$68.88	\$12.70	\$13.05	\$8.75	\$0.00	\$103.38
PIPEFITTERS LOCAL 537							
PIPEFITTERS LOCAL 537							
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HVAC MECHANIC	3/1/2025	\$68.88	\$12.70	\$13.05	\$8.75	\$0.00	\$103.38
PIPEFITTERS LOCAL 537							
PIPEFITTERS LOCAL 537							
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HYDRAULIC DRILLS	6/1/2025	\$41.09	\$9.90	\$9.25	\$9.11	\$0.00	\$69.35
LABORERS	12/1/2025	\$42.47	\$9.90	\$9.25	\$9.11	\$0.00	\$70.73
LABORERS - ZONE 2	6/1/2026	\$43.91	\$9.90	\$9.25	\$9.11	\$0.00	\$72.17
	12/1/2026	\$45.35	\$9.90	\$9.25	\$9.11	\$0.00	\$73.61
	6/1/2027	\$46.80	\$9.90	\$9.25	\$9.11	\$0.00	\$75.06
	12/1/2027	\$48.25	\$9.90	\$9.25	\$9.11	\$0.00	\$76.51
	6/1/2028	\$49.75	\$9.90	\$9.25	\$9.11	\$0.00	\$78.01
	12/1/2028	\$51.25	\$9.90	\$9.25	\$9.11	\$0.00	\$79.51
For apprentice rates see "Apprentice- LABORER"							
HYDRAULIC DRILLS (HEAVY & HIGHWAY)	6/1/2025	\$41.09	\$9.90	\$9.25	\$9.21	\$0.00	\$69.45
LABORERS	12/1/2025	\$42.47	\$9.90	\$9.25	\$9.21	\$0.00	\$70.83
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	\$43.91	\$9.90	\$9.25	\$9.21	\$0.00	\$72.27
	12/1/2026	\$45.35	\$9.90	\$9.25	\$9.21	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
INSULATOR (PIPES & TANKS)	9/1/2024	\$56.92	\$14.75	\$9.52	\$10.09	\$0.00	\$91.28
HEAT & FROST INSULATORS LOCAL 6	9/1/2025	\$60.34	\$14.75	\$9.52	\$10.09	\$0.00	\$94.70
HEAT & FROST INSULATORS LOCAL 6 (BOSTON)	9/1/2026	\$63.76	\$14.75	\$9.52	\$10.09	\$0.00	\$98.12

Apprentice: INSULATOR (PIPES & TANKS)

Effective Date: 9/1/2024

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$28.46	\$14.75	\$9.27	\$5.05	\$0.00	\$57.53
2	60.00	\$34.15	\$14.75	\$9.32	\$6.05	\$0.00	\$64.27

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: INSULATOR (PIPES & TANKS) Effective Date: 9/1/2024							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
3	70.00	\$39.84	\$14.75	\$9.37	\$7.06	\$0.00	\$71.02
4	80.00	\$45.54	\$14.75	\$9.42	\$8.07	\$0.00	\$77.78
Apprentice: INSULATOR (PIPES & TANKS) Effective Date: 9/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$30.17	\$14.75	\$9.27	\$5.05	\$0.00	\$59.24
2	60.00	\$36.20	\$14.75	\$9.32	\$6.05	\$0.00	\$66.32
3	70.00	\$42.24	\$14.75	\$9.37	\$7.06	\$0.00	\$73.42
4	80.00	\$48.27	\$14.75	\$9.42	\$8.07	\$0.00	\$80.51
IRONWORKER/WELDER	3/16/2024	\$53.67	\$8.35	\$12.70	\$14.00	\$0.00	\$88.72
IRONWORKERS LOCAL 7							
IRONWORKERS LOCAL 7 (WORCESTER AREA)							
Apprentice: IRONWORKER/WELDER Effective Date: 3/16/2024							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$32.20	\$8.35	\$12.70	\$14.00	\$0.00	\$67.25
2	70.00	\$37.57	\$8.35	\$12.70	\$14.00	\$0.00	\$72.62
3	75.00	\$40.25	\$8.35	\$12.70	\$14.00	\$0.00	\$75.30
4	80.00	\$42.94	\$8.35	\$12.70	\$14.00	\$0.00	\$77.99
5	85.00	\$45.62	\$8.35	\$12.70	\$14.00	\$0.00	\$80.67
6	90.00	\$48.30	\$8.35	\$12.70	\$14.00	\$0.00	\$83.35
JACKHAMMER & PAVING BREAKER OPERATOR	6/1/2025	\$40.59	\$9.90	\$9.25	\$9.11	\$0.00	\$68.85
LABORERS	12/1/2025	\$41.97	\$9.90	\$9.25	\$9.11	\$0.00	\$70.23
LABORERS - ZONE 2	6/1/2026	\$43.41	\$9.90	\$9.25	\$9.11	\$0.00	\$71.67
	12/1/2026	\$44.85	\$9.90	\$9.25	\$9.11	\$0.00	\$73.11
	6/1/2027	\$46.30	\$9.90	\$9.25	\$9.11	\$0.00	\$74.56
	12/1/2027	\$47.75	\$9.90	\$9.25	\$9.11	\$0.00	\$76.01
	6/1/2028	\$49.25	\$9.90	\$9.25	\$9.11	\$0.00	\$77.51
	12/1/2028	\$50.75	\$9.90	\$9.25	\$9.11	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"							
LABORER	6/1/2025	\$40.34	\$9.90	\$9.25	\$9.11	\$0.00	\$68.60
LABORERS	12/1/2025	\$41.72	\$9.90	\$9.25	\$9.11	\$0.00	\$69.98
LABORERS - ZONE 2	6/1/2026	\$43.16	\$9.90	\$9.25	\$9.11	\$0.00	\$71.42
	12/1/2026	\$44.60	\$9.90	\$9.25	\$9.11	\$0.00	\$72.86
	6/1/2027	\$46.05	\$9.90	\$9.25	\$9.11	\$0.00	\$74.31

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/1/2027	\$47.50	\$9.90	\$9.25	\$9.11	\$0.00	\$75.76
	6/1/2028	\$49.00	\$9.90	\$9.25	\$9.11	\$0.00	\$77.26
	12/1/2028	\$50.50	\$9.90	\$9.25	\$9.11	\$0.00	\$78.76

Apprentice: LABORER							
Effective Date: 6/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$24.20	\$9.90	\$9.25	\$9.11	\$0.00	\$52.46
2	70.00	\$28.24	\$9.90	\$9.25	\$9.11	\$0.00	\$56.50
3	80.00	\$32.27	\$9.90	\$9.25	\$9.11	\$0.00	\$60.53
4	90.00	\$36.31	\$9.90	\$9.25	\$9.11	\$0.00	\$64.57

Apprentice: LABORER							
Effective Date: 12/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$25.03	\$9.90	\$9.25	\$9.11	\$0.00	\$53.29
2	70.00	\$29.20	\$9.90	\$9.25	\$9.11	\$0.00	\$57.46
3	80.00	\$33.38	\$9.90	\$9.25	\$9.11	\$0.00	\$61.64
4	90.00	\$37.55	\$9.90	\$9.25	\$9.11	\$0.00	\$65.81

LABORER (HEAVY & HIGHWAY)	6/1/2025	\$40.34	\$9.90	\$9.25	\$9.21	\$0.00	\$68.70
LABORERS	12/1/2025	\$41.72	\$9.90	\$9.25	\$9.21	\$0.00	\$70.08
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	\$43.16	\$9.90	\$9.25	\$9.21	\$0.00	\$71.52
	12/1/2026	\$44.60	\$9.90	\$9.25	\$9.21	\$0.00	\$72.96

Apprentice: LABORER (HEAVY & HIGHWAY)							
Effective Date: 6/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$24.20	\$9.90	\$9.25	\$9.21	\$0.00	\$52.56
2	70.00	\$28.24	\$9.90	\$9.25	\$9.21	\$0.00	\$56.60
3	80.00	\$32.27	\$9.90	\$9.25	\$9.21	\$0.00	\$60.63
4	90.00	\$36.31	\$9.90	\$9.25	\$9.21	\$0.00	\$64.67

Apprentice: LABORER (HEAVY & HIGHWAY)							
Effective Date: 12/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$25.03	\$9.90	\$9.25	\$9.21	\$0.00	\$53.39
2	70.00	\$29.20	\$9.90	\$9.25	\$9.21	\$0.00	\$57.56
3	80.00	\$33.38	\$9.90	\$9.25	\$9.21	\$0.00	\$61.74
4	90.00	\$37.55	\$9.90	\$9.25	\$9.21	\$0.00	\$65.91

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER	6/1/2025	\$40.34	\$9.90	\$9.25	\$9.11	\$0.00	\$68.60
LABORERS	12/1/2025	\$41.72	\$9.90	\$9.25	\$9.11	\$0.00	\$69.98
LABORERS - ZONE 2	6/1/2026	\$43.16	\$9.90	\$9.25	\$9.11	\$0.00	\$71.42
	12/1/2026	\$44.60	\$9.90	\$9.25	\$9.11	\$0.00	\$72.86
	6/1/2027	\$46.05	\$9.90	\$9.25	\$9.11	\$0.00	\$74.31
	12/1/2027	\$47.50	\$9.90	\$9.25	\$9.11	\$0.00	\$75.76
	6/1/2028	\$49.00	\$9.90	\$9.25	\$9.11	\$0.00	\$77.26
	12/1/2028	\$50.50	\$9.90	\$9.25	\$9.11	\$0.00	\$78.76
For apprentice rates see "Apprentice- LABORER"							
LABORER: CEMENT FINISHER TENDER	6/1/2025	\$40.34	\$9.90	\$9.25	\$9.11	\$0.00	\$68.60
LABORERS	12/1/2025	\$41.72	\$9.90	\$9.25	\$9.11	\$0.00	\$69.98
LABORERS - ZONE 2	6/1/2026	\$43.16	\$9.90	\$9.25	\$9.11	\$0.00	\$71.42
	12/1/2026	\$44.60	\$9.90	\$9.25	\$9.11	\$0.00	\$72.86
	6/1/2027	\$46.05	\$9.90	\$9.25	\$9.11	\$0.00	\$74.31
	12/1/2027	\$47.50	\$9.90	\$9.25	\$9.11	\$0.00	\$75.76
	6/1/2028	\$49.00	\$9.90	\$9.25	\$9.11	\$0.00	\$77.26
	12/1/2028	\$50.50	\$9.90	\$9.25	\$9.11	\$0.00	\$78.76
For apprentice rates see "Apprentice- LABORER"							
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER	6/2/2025	\$40.43	\$9.90	\$9.25	\$9.17	\$0.00	\$68.75
LABORERS	12/1/2025	\$41.81	\$9.90	\$9.25	\$9.17	\$0.00	\$70.13
LABORERS - ZONE 2	6/1/2026	\$43.25	\$9.90	\$9.25	\$9.17	\$0.00	\$71.57
	12/7/2026	\$44.69	\$9.90	\$9.25	\$9.17	\$0.00	\$73.01
	6/7/2027	\$46.14	\$9.90	\$9.25	\$9.17	\$0.00	\$74.46
	12/6/2027	\$47.59	\$9.90	\$9.25	\$9.17	\$0.00	\$75.91
	6/5/2028	\$49.09	\$9.90	\$9.25	\$9.17	\$0.00	\$77.41
	12/4/2028	\$50.59	\$9.90	\$9.25	\$9.17	\$0.00	\$78.91
For apprentice rates see "Apprentice- LABORER"							
LABORER: MASON TENDER	6/1/2025	\$40.59	\$9.90	\$9.25	\$9.11	\$0.00	\$68.85
LABORERS	12/1/2025	\$41.97	\$9.90	\$9.25	\$9.11	\$0.00	\$70.23
LABORERS - ZONE 2	6/1/2026	\$43.41	\$9.90	\$9.25	\$9.11	\$0.00	\$71.67
	12/1/2026	\$44.85	\$9.90	\$9.25	\$9.11	\$0.00	\$73.11
	6/1/2027	\$46.30	\$9.90	\$9.25	\$9.11	\$0.00	\$74.56
	12/1/2027	\$47.75	\$9.90	\$9.25	\$9.11	\$0.00	\$76.01
	6/1/2028	\$49.25	\$9.90	\$9.25	\$9.11	\$0.00	\$77.51
	12/1/2028	\$50.75	\$9.90	\$9.25	\$9.11	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"							
LABORER: MASON TENDER (HEAVY & HIGHWAY)	6/1/2025	\$40.59	\$9.90	\$9.25	\$9.21	\$0.00	\$68.95
LABORERS	12/1/2025	\$41.97	\$9.90	\$9.25	\$9.21	\$0.00	\$70.33
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	\$43.41	\$9.90	\$9.25	\$9.21	\$0.00	\$71.77
	12/1/2026	\$44.85	\$9.90	\$9.25	\$9.21	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
LABORER: MULTI-TRADE TENDER	6/1/2025	\$40.34	\$9.90	\$9.25	\$9.11	\$0.00	\$68.60
LABORERS	12/1/2025	\$41.72	\$9.90	\$9.25	\$9.11	\$0.00	\$69.98
LABORERS - ZONE 2	6/1/2026	\$43.16	\$9.90	\$9.25	\$9.11	\$0.00	\$71.42
	12/1/2026	\$44.60	\$9.90	\$9.25	\$9.11	\$0.00	\$72.86

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	6/1/2027	\$46.05	\$9.90	\$9.25	\$9.11	\$0.00	\$74.31
	12/1/2027	\$47.50	\$9.90	\$9.25	\$9.11	\$0.00	\$75.76
	6/1/2028	\$49.00	\$9.90	\$9.25	\$9.11	\$0.00	\$77.26
	12/1/2028	\$50.50	\$9.90	\$9.25	\$9.11	\$0.00	\$78.76

For apprentice rates see "Apprentice- LABORER"

LABORER: TREE REMOVER	6/1/2025	\$40.34	\$9.90	\$9.25	\$9.11	\$0.00	\$68.60
LABORERS	12/1/2025	\$41.72	\$9.90	\$9.25	\$9.11	\$0.00	\$69.98
LABORERS - ZONE 2	6/1/2026	\$43.16	\$9.90	\$9.25	\$9.11	\$0.00	\$71.42
	12/1/2026	\$44.60	\$9.90	\$9.25	\$9.11	\$0.00	\$72.86
	6/1/2027	\$46.05	\$9.90	\$9.25	\$9.11	\$0.00	\$74.31
	12/1/2027	\$47.50	\$9.90	\$9.25	\$9.11	\$0.00	\$75.76
	6/1/2028	\$49.00	\$9.90	\$9.25	\$9.11	\$0.00	\$77.26
	12/1/2028	\$50.50	\$9.90	\$9.25	\$9.11	\$0.00	\$78.76

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	6/1/2025	\$40.59	\$9.90	\$9.25	\$9.11	\$0.00	\$68.85
LABORERS	12/1/2025	\$41.97	\$9.90	\$9.25	\$9.11	\$0.00	\$70.23
LABORERS - ZONE 2	6/1/2026	\$43.41	\$9.90	\$9.25	\$9.11	\$0.00	\$71.67
	12/1/2026	\$44.85	\$9.90	\$9.25	\$9.11	\$0.00	\$73.11
	6/1/2027	\$46.30	\$9.90	\$9.25	\$9.11	\$0.00	\$74.56
	12/1/2027	\$47.75	\$9.90	\$9.25	\$9.11	\$0.00	\$76.01
	6/1/2028	\$49.25	\$9.90	\$9.25	\$9.11	\$0.00	\$77.51
	12/1/2028	\$50.75	\$9.90	\$9.25	\$9.11	\$0.00	\$79.01

For apprentice rates see "Apprentice- LABORER"

LASER BEAM OPERATOR (HEAVY & HIGHWAY)	6/1/2025	\$40.59	\$9.90	\$9.25	\$9.21	\$0.00	\$68.95
LABORERS	12/1/2025	\$41.97	\$9.90	\$9.25	\$9.21	\$0.00	\$70.33
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	\$43.41	\$9.90	\$9.25	\$9.21	\$0.00	\$71.77
	12/1/2026	\$44.85	\$9.90	\$9.25	\$9.21	\$0.00	\$73.21

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

MARBLE & TILE FINISHERS	2/1/2025	\$50.36	\$11.49	\$15.57	\$6.05	\$0.00	\$83.47
BRICKLAYERS LOCAL 3	8/1/2025	\$52.08	\$11.49	\$15.57	\$6.05	\$0.00	\$85.19
BRICKLAYERS LOCAL 3 - MARBLE & TILE	2/1/2026	\$53.16	\$11.49	\$15.57	\$6.05	\$0.00	\$86.27
	8/1/2026	\$54.92	\$11.49	\$15.57	\$6.05	\$0.00	\$88.03
	2/1/2027	\$56.04	\$11.49	\$15.57	\$6.05	\$0.00	\$89.15

Apprentice: MARBLE & TILE FINISHERS

Effective Date: 2/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$25.18	\$11.49	\$15.57	\$6.05	\$0.00	\$58.29
2	60.00	\$30.22	\$11.49	\$15.57	\$6.05	\$0.00	\$63.33
3	70.00	\$35.25	\$11.49	\$15.57	\$6.05	\$0.00	\$68.36
4	80.00	\$40.29	\$11.49	\$15.57	\$6.05	\$0.00	\$73.40
5	90.00	\$45.32	\$11.49	\$15.57	\$6.05	\$0.00	\$78.43

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: MARBLE & TILE FINISHERS Effective Date: 8/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.04	\$11.49	\$15.57	\$6.05	\$0.00	\$59.15
2	60.00	\$31.25	\$11.49	\$15.57	\$6.05	\$0.00	\$64.36
3	70.00	\$36.46	\$11.49	\$15.57	\$6.05	\$0.00	\$69.57
4	80.00	\$41.66	\$11.49	\$15.57	\$6.05	\$0.00	\$74.77
5	90.00	\$46.87	\$11.49	\$15.57	\$6.05	\$0.00	\$79.98
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MARBLE MASONS,TILELAYERS & TERRAZZO MECH	2/1/2025	\$65.82	\$11.49	\$15.57	\$7.99	\$0.00	\$100.87
BRICKLAYERS LOCAL 3	8/1/2025	\$67.97	\$11.49	\$15.57	\$7.99	\$0.00	\$103.02
BRICKLAYERS LOCAL 3 - MARBLE & TILE	2/1/2026	\$69.32	\$11.49	\$15.57	\$7.99	\$0.00	\$104.37
	8/1/2026	\$71.52	\$11.49	\$15.57	\$7.99	\$0.00	\$106.57
	2/1/2027	\$72.92	\$11.49	\$15.57	\$7.99	\$0.00	\$107.97
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Apprentice: MARBLE MASONS,TILELAYERS & TERRAZZO MECH Effective Date: 2/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$32.91	\$11.49	\$15.57	\$7.99	\$0.00	\$67.96
2	60.00	\$39.49	\$11.49	\$15.57	\$7.99	\$0.00	\$74.54
3	70.00	\$46.07	\$11.49	\$15.57	\$7.99	\$0.00	\$81.12
4	80.00	\$52.66	\$11.49	\$15.57	\$7.99	\$0.00	\$87.71
5	90.00	\$59.24	\$11.49	\$15.57	\$7.99	\$0.00	\$94.29
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Apprentice: MARBLE MASONS,TILELAYERS & TERRAZZO MECH Effective Date: 8/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$33.99	\$11.49	\$15.57	\$7.99	\$0.00	\$69.04
2	60.00	\$40.78	\$11.49	\$15.57	\$7.99	\$0.00	\$75.83
3	70.00	\$47.58	\$11.49	\$15.57	\$7.99	\$0.00	\$82.63
4	80.00	\$54.38	\$11.49	\$15.57	\$7.99	\$0.00	\$89.43
5	90.00	\$61.17	\$11.49	\$15.57	\$7.99	\$0.00	\$96.22
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MECH. SWEEPER OPERATOR (ON CONST. SITES)	6/1/2025	\$57.68	\$15.55	\$13.25	\$3.25	\$0.00	\$89.73
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.12	\$15.55	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.40	\$15.55	\$13.25	\$3.25	\$0.00	\$92.45
	12/1/2026	\$61.84	\$15.55	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
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MECHANICS MAINTENANCE	6/1/2025	\$57.68	\$15.55	\$13.25	\$3.25	\$0.00	\$89.73
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.12	\$15.55	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.40	\$15.55	\$13.25	\$3.25	\$0.00	\$92.45

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/1/2026	\$61.84	\$15.55	\$13.25	\$3.25	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 2)	1/6/2025	\$45.09	\$10.08	\$11.47	\$10.00	\$0.00	\$76.64
MILLWRIGHTS LOCAL 1121	1/5/2026	\$47.42	\$10.08	\$11.47	\$10.00	\$0.00	\$78.97
MILLWRIGHTS LOCAL 1121 - Zone 2							

Apprentice: MILLWRIGHT (Zone 2)**Effective Date: 1/6/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	\$24.80	\$10.08	\$0.00	\$5.50	\$0.00	\$40.38
2	65.00	\$29.31	\$10.08	\$0.00	\$6.50	\$0.00	\$45.89
3	75.00	\$33.82	\$10.08	\$11.47	\$7.50	\$0.00	\$62.87
4	85.00	\$38.33	\$10.08	\$11.47	\$8.50	\$0.00	\$68.38

Apprentice: MILLWRIGHT (Zone 2)**Effective Date: 1/5/2026**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	\$26.08	\$10.08	\$0.00	\$5.50	\$0.00	\$41.66
2	65.00	\$30.82	\$10.08	\$0.00	\$6.50	\$0.00	\$47.40
3	75.00	\$35.57	\$10.08	\$11.47	\$7.50	\$0.00	\$64.62
4	85.00	\$40.31	\$10.08	\$11.47	\$8.50	\$0.00	\$70.36

MORTAR MIXER	6/1/2025	\$40.59	\$9.90	\$9.25	\$9.11	\$0.00	\$68.85
LABORERS	12/1/2025	\$41.97	\$9.90	\$9.25	\$9.11	\$0.00	\$70.23
LABORERS - ZONE 2	6/1/2026	\$43.41	\$9.90	\$9.25	\$9.11	\$0.00	\$71.67
	12/1/2026	\$44.85	\$9.90	\$9.25	\$9.11	\$0.00	\$73.11
	6/1/2027	\$46.30	\$9.90	\$9.25	\$9.11	\$0.00	\$74.56
	12/1/2027	\$47.75	\$9.90	\$9.25	\$9.11	\$0.00	\$76.01
	6/1/2028	\$49.25	\$9.90	\$9.25	\$9.11	\$0.00	\$77.51
	12/1/2028	\$50.75	\$9.90	\$9.25	\$9.11	\$0.00	\$79.01

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES, GRADALLS)	6/1/2025	\$25.97	\$15.30	\$13.15	\$3.25	\$0.00	\$57.67
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$26.63	\$15.30	\$13.15	\$3.25	\$0.00	\$58.33
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$27.22	\$15.30	\$13.15	\$3.25	\$0.00	\$58.92
	12/1/2026	\$27.89	\$15.30	\$13.15	\$3.25	\$0.00	\$59.59

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS)	6/1/2025	\$31.80	\$15.30	\$13.15	\$3.25	\$0.00	\$63.50
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$32.60	\$15.30	\$13.15	\$3.25	\$0.00	\$64.30
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$33.32	\$15.30	\$13.15	\$3.25	\$0.00	\$65.02
	12/1/2026	\$34.12	\$15.30	\$13.15	\$3.25	\$0.00	\$65.82

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OTHER POWER DRIVEN EQUIPMENT - CLASS II	6/1/2025	\$57.68	\$15.55	\$13.25	\$3.25	\$0.00	\$89.73
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Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.12	\$15.55	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.40	\$15.55	\$13.25	\$3.25	\$0.00	\$92.45
	12/1/2026	\$61.84	\$15.55	\$13.25	\$3.25	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS)	1/1/2025	\$58.46	\$9.95	\$11.85	\$12.10	\$0.00	\$92.36
PAINTERS LOCAL 35							
PAINTERS LOCAL 35 - ZONE 2							

Apprentice: PAINTER (BRIDGES/TANKS)**Effective Date: 1/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$29.23	\$9.95	\$0.00	\$0.00	\$0.00	\$39.18
2	55.00	\$32.15	\$9.95	\$0.00	\$6.66	\$0.00	\$48.76
3	60.00	\$35.08	\$9.95	\$0.00	\$7.26	\$0.00	\$52.29
4	65.00	\$38.00	\$9.95	\$0.00	\$7.87	\$0.00	\$55.82
5	70.00	\$40.92	\$9.95	\$11.85	\$8.47	\$0.00	\$71.19
6	75.00	\$43.85	\$9.95	\$11.85	\$9.08	\$0.00	\$74.73
7	80.00	\$46.77	\$9.95	\$11.85	\$9.68	\$0.00	\$78.25
8	90.00	\$52.61	\$9.95	\$11.85	\$10.89	\$0.00	\$85.30

PAINTER (SPRAY OR SANDBLAST, NEW) *	1/1/2025	\$49.36	\$9.95	\$11.85	\$12.10	\$0.00	\$83.26
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* If 30% or more of surfaces to be painted are new construction,
NEW paint rate shall be used.

PAINTERS LOCAL 35
PAINTERS LOCAL 35 - ZONE 2

Apprentice: PAINTER (SPRAY OR SANDBLAST, NEW) ***Effective Date: 1/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$24.68	\$9.95	\$0.00	\$0.00	\$0.00	\$34.63
2	55.00	\$27.15	\$9.95	\$0.00	\$6.66	\$0.00	\$43.76
3	60.00	\$29.62	\$9.95	\$0.00	\$7.26	\$0.00	\$46.83
4	65.00	\$32.08	\$9.95	\$0.00	\$7.87	\$0.00	\$49.90
5	70.00	\$34.55	\$9.95	\$11.85	\$8.47	\$0.00	\$64.82
6	75.00	\$37.02	\$9.95	\$11.85	\$9.08	\$0.00	\$67.90
7	80.00	\$39.49	\$9.95	\$11.85	\$9.68	\$0.00	\$70.97
8	90.00	\$44.42	\$9.95	\$11.85	\$10.89	\$0.00	\$77.11

PAINTER (SPRAY OR SANDBLAST, REPAINT)	1/1/2025	\$47.42	\$9.95	\$11.85	\$12.10	\$0.00	\$81.32
PAINTERS LOCAL 35							
PAINTERS LOCAL 35 - ZONE 2							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: PAINTER (SPRAY OR SANDBLAST, REPAINT)							
Effective Date: 1/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$23.71	\$9.95	\$0.00	\$0.00	\$0.00	\$33.66
2	55.00	\$26.08	\$9.95	\$0.00	\$6.66	\$0.00	\$42.69
3	60.00	\$28.45	\$9.95	\$0.00	\$7.26	\$0.00	\$45.66
4	65.00	\$30.82	\$9.95	\$0.00	\$7.87	\$0.00	\$48.64
5	70.00	\$33.19	\$9.95	\$11.85	\$8.47	\$0.00	\$63.46
6	75.00	\$35.57	\$9.95	\$11.85	\$9.08	\$0.00	\$66.45
7	80.00	\$37.94	\$9.95	\$11.85	\$9.68	\$0.00	\$69.42
8	90.00	\$42.68	\$9.95	\$11.85	\$10.89	\$0.00	\$75.37

PAINTER / TAPER (BRUSH, NEW) * 1/1/2025 \$47.96 \$9.95 \$11.85 \$12.10 \$0.00 \$81.86

* If 30% or more of surfaces to be painted are new construction,
NEW paint rate shall be used.

PAINTERS LOCAL 35

PAINTERS LOCAL 35 - ZONE 2

Apprentice: PAINTER / TAPER (BRUSH, NEW) *							
Effective Date: 1/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$23.98	\$9.95	\$0.00	\$0.00	\$0.00	\$33.93
2	55.00	\$26.38	\$9.95	\$0.00	\$6.66	\$0.00	\$42.99
3	60.00	\$28.78	\$9.95	\$0.00	\$7.26	\$0.00	\$45.99
4	65.00	\$31.17	\$9.95	\$0.00	\$7.87	\$0.00	\$48.99
5	70.00	\$33.57	\$9.95	\$11.85	\$8.47	\$0.00	\$63.84
6	75.00	\$35.97	\$9.95	\$11.85	\$9.08	\$0.00	\$66.85
7	80.00	\$38.37	\$9.95	\$11.85	\$9.68	\$0.00	\$69.85
8	90.00	\$43.16	\$9.95	\$11.85	\$10.89	\$0.00	\$75.85

PAINTER / TAPER (BRUSH, REPAINT) 1/1/2025 \$46.02 \$9.95 \$11.85 \$12.10 \$0.00 \$79.92

PAINTERS LOCAL 35

PAINTERS LOCAL 35 - ZONE 2

Apprentice: PAINTER / TAPER (BRUSH, REPAINT)							
Effective Date: 1/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$23.01	\$9.95	\$0.00	\$0.00	\$0.00	\$32.96
2	55.00	\$25.31	\$9.95	\$0.00	\$6.66	\$0.00	\$41.92
3	60.00	\$27.61	\$9.95	\$0.00	\$7.26	\$0.00	\$44.82
4	65.00	\$29.91	\$9.95	\$0.00	\$7.87	\$0.00	\$47.73
5	70.00	\$32.21	\$9.95	\$11.85	\$8.47	\$0.00	\$62.48
6	75.00	\$34.52	\$9.95	\$11.85	\$9.08	\$0.00	\$65.40

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: PAINTER / TAPER (BRUSH, REPAINT) Effective Date: 1/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
7	80.00	\$36.82	\$9.95	\$11.85	\$9.68	\$0.00	\$68.30
8	90.00	\$41.42	\$9.95	\$11.85	\$10.89	\$0.00	\$74.11
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PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY)	6/1/2025	\$40.34	\$9.90	\$9.25	\$9.21	\$0.00	\$68.70
LABORERS	12/1/2025	\$41.72	\$9.90	\$9.25	\$9.21	\$0.00	\$70.08
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	\$43.16	\$9.90	\$9.25	\$9.21	\$0.00	\$71.52
	12/1/2026	\$44.60	\$9.90	\$9.25	\$9.21	\$0.00	\$72.96
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)							
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PANEL & PICKUP TRUCKS DRIVER	6/1/2025	\$40.78	\$15.57	\$20.17	\$0.00	\$0.00	\$76.52
TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	\$40.78	\$15.57	\$21.78	\$0.00	\$0.00	\$78.13
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	1/1/2026	\$40.78	\$16.17	\$21.78	\$0.00	\$0.00	\$78.73
	6/1/2026	\$41.78	\$16.17	\$21.78	\$0.00	\$0.00	\$79.73
	12/1/2026	\$41.78	\$16.17	\$23.52	\$0.00	\$0.00	\$81.47
	1/1/2027	\$41.78	\$16.77	\$23.52	\$0.00	\$0.00	\$82.07
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PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)	8/1/2024	\$55.79	\$10.08	\$11.62	\$12.67	\$0.00	\$90.16
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
For apprentice rates see "Apprentice- PILE DRIVER"							
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PILE DRIVER	8/1/2024	\$55.79	\$10.08	\$11.62	\$12.67	\$0.00	\$90.16
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
Apprentice: PILE DRIVER Effective Date: 8/1/2024							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$25.11	\$10.08	\$0.00	\$2.53	\$0.00	\$37.72
2	55.00	\$30.68	\$10.08	\$0.00	\$5.07	\$0.00	\$45.83
3	70.00	\$39.05	\$10.08	\$11.62	\$7.60	\$0.00	\$68.35
4	80.00	\$44.63	\$10.08	\$11.62	\$10.14	\$0.00	\$76.47
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PIPEFITTER & STEAMFITTER	3/1/2025	\$68.88	\$12.70	\$13.05	\$8.75	\$0.00	\$103.38
PIPEFITTERS LOCAL 537							
PIPEFITTERS LOCAL 537							
Apprentice: PIPEFITTER & STEAMFITTER Effective Date: 3/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: PIPEFITTER & STEAMFITTER Effective Date: 3/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	\$27.55	\$12.70	\$0.30	\$8.75	\$0.00	\$49.30
2	45.00	\$31.00	\$12.70	\$13.05	\$8.75	\$0.00	\$65.50
3	60.00	\$41.33	\$12.70	\$13.05	\$8.75	\$0.00	\$75.83
4	70.00	\$48.22	\$12.70	\$13.05	\$8.75	\$0.00	\$82.72
5	80.00	\$55.10	\$12.70	\$13.05	\$8.75	\$0.00	\$89.60
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PIPELAYER	6/1/2025	\$40.59	\$9.90	\$9.25	\$9.11	\$0.00	\$68.85
LABORERS	12/1/2025	\$41.97	\$9.90	\$9.25	\$9.11	\$0.00	\$70.23
LABORERS - ZONE 2	6/1/2026	\$43.41	\$9.90	\$9.25	\$9.11	\$0.00	\$71.67
	12/1/2026	\$44.85	\$9.90	\$9.25	\$9.11	\$0.00	\$73.11
	6/1/2027	\$46.30	\$9.90	\$9.25	\$9.11	\$0.00	\$74.56
	12/1/2027	\$47.75	\$9.90	\$9.25	\$9.11	\$0.00	\$76.01
	6/1/2028	\$49.25	\$9.90	\$9.25	\$9.11	\$0.00	\$77.51
	12/1/2028	\$50.75	\$9.90	\$9.25	\$9.11	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"							
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PIPELAYER (HEAVY & HIGHWAY)	6/1/2025	\$40.59	\$9.90	\$9.25	\$9.21	\$0.00	\$68.95
LABORERS	12/1/2025	\$41.97	\$9.90	\$9.25	\$9.21	\$0.00	\$70.33
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	\$43.41	\$9.90	\$9.25	\$9.21	\$0.00	\$71.77
	12/1/2026	\$44.85	\$9.90	\$9.25	\$9.21	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
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PLUMBERS & GASFITTERS	3/2/2025	\$69.84	\$14.32	\$12.31	\$8.00	\$0.00	\$104.47
PLUMBERS & GASFITTERS LOCAL 12							
PLUMBERS & GASFITTERS LOCAL 12							
Apprentice: PLUMBERS & GASFITTERS Effective Date: 3/2/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	35.00	\$24.44	\$14.32	\$4.61	\$2.80	\$0.00	\$46.17
2	40.00	\$27.94	\$14.32	\$5.22	\$3.20	\$0.00	\$50.68
3	55.00	\$38.41	\$14.32	\$7.07	\$4.40	\$0.00	\$64.20
4	65.00	\$45.40	\$14.32	\$8.30	\$5.20	\$0.00	\$73.22
5	75.00	\$52.38	\$14.32	\$9.53	\$6.00	\$0.00	\$82.23
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PNEUMATIC CONTROLS (TEMP.)	3/1/2025	\$68.88	\$12.70	\$13.05	\$8.75	\$0.00	\$103.38
PIPEFITTERS LOCAL 537							
PIPEFITTERS LOCAL 537							
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
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PNEUMATIC DRILL/TOOL OPERATOR	6/1/2025	\$41.09	\$9.90	\$9.25	\$8.29	\$0.00	\$68.53
LABORERS	12/1/2025	\$42.47	\$9.90	\$9.25	\$8.29	\$0.00	\$69.91
LABORERS - ZONE 2	6/1/2026	\$43.91	\$9.90	\$9.25	\$8.29	\$0.00	\$71.35

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/1/2026	\$45.35	\$9.90	\$9.25	\$8.29	\$0.00	\$72.79
	6/1/2027	\$46.80	\$9.90	\$9.25	\$8.29	\$0.00	\$74.24
	12/1/2027	\$48.25	\$9.90	\$9.25	\$8.29	\$0.00	\$75.69
	6/1/2028	\$49.75	\$9.90	\$9.25	\$8.29	\$0.00	\$77.19
	12/1/2028	\$51.25	\$9.90	\$9.25	\$8.29	\$0.00	\$78.69
For apprentice rates see "Apprentice- LABORER"							
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY)	6/1/2025	\$40.59	\$9.90	\$9.25	\$9.21	\$0.00	\$68.95
LABORERS	12/1/2025	\$41.97	\$9.90	\$9.25	\$9.21	\$0.00	\$70.33
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	\$43.41	\$9.90	\$9.25	\$9.21	\$0.00	\$71.77
	12/1/2026	\$44.85	\$9.90	\$9.25	\$9.21	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
POWDERMAN & BLASTER	6/1/2025	\$41.34	\$9.90	\$9.25	\$9.11	\$0.00	\$69.60
LABORERS	12/1/2025	\$42.72	\$9.90	\$9.25	\$9.11	\$0.00	\$70.98
LABORERS - ZONE 2	6/1/2026	\$44.16	\$9.90	\$9.25	\$9.11	\$0.00	\$72.42
	12/1/2026	\$45.60	\$9.90	\$9.25	\$9.11	\$0.00	\$73.86
	6/1/2027	\$47.05	\$9.90	\$9.25	\$9.11	\$0.00	\$75.31
	12/1/2027	\$48.50	\$9.90	\$9.25	\$9.11	\$0.00	\$76.76
	6/1/2028	\$50.00	\$9.90	\$9.25	\$9.11	\$0.00	\$78.26
	12/1/2028	\$51.50	\$9.90	\$9.25	\$9.11	\$0.00	\$79.76
For apprentice rates see "Apprentice- LABORER"							
POWDERMAN & BLASTER (HEAVY & HIGHWAY)	6/1/2025	\$41.34	\$9.65	\$9.25	\$9.21	\$0.00	\$69.45
LABORERS	12/1/2025	\$42.72	\$9.65	\$9.25	\$9.21	\$0.00	\$70.83
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	\$44.16	\$9.65	\$9.25	\$9.21	\$0.00	\$72.27
	12/1/2026	\$45.60	\$9.65	\$9.25	\$9.21	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
POWER SHOVEL/DERRICK/TRENCHING MACHINE	6/1/2025	\$58.33	\$15.55	\$13.25	\$3.25	\$0.00	\$90.38
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.78	\$15.55	\$13.25	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$61.08	\$15.55	\$13.25	\$3.25	\$0.00	\$93.13
	12/1/2026	\$62.53	\$15.55	\$13.25	\$3.25	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PUMP OPERATOR (CONCRETE)	6/1/2025	\$57.68	\$15.55	\$13.25	\$3.25	\$0.00	\$89.73
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.12	\$15.55	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.40	\$15.55	\$13.25	\$3.25	\$0.00	\$92.45
	12/1/2026	\$61.84	\$15.55	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PUMP OPERATOR (DEWATERING, OTHER)	6/1/2025	\$37.52	\$15.55	\$13.25	\$3.25	\$0.00	\$69.57
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$38.47	\$15.55	\$13.25	\$3.25	\$0.00	\$70.52
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$39.33	\$15.55	\$13.25	\$3.25	\$0.00	\$71.38
	12/1/2026	\$40.28	\$15.55	\$13.25	\$3.25	\$0.00	\$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
READY-MIX CONCRETE DRIVER	1/1/2025	\$27.60	\$11.26	\$6.15	\$0.00	\$0.00	\$45.01
TEAMSTERS 170							
TEAMSTERS 170 - Dauphinis (Bellingham)							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
RECLAIMERS	6/1/2025	\$57.68	\$15.55	\$13.25	\$3.25	\$0.00	\$89.73
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.12	\$15.55	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.40	\$15.55	\$13.25	\$3.25	\$0.00	\$92.45
	12/1/2026	\$61.84	\$15.55	\$13.25	\$3.25	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

RIDE-ON MOTORIZED BUGGY OPERATOR	6/1/2025	\$40.59	\$9.90	\$9.25	\$9.11	\$0.00	\$68.85
LABORERS	12/1/2025	\$41.97	\$9.90	\$9.25	\$9.11	\$0.00	\$70.23
LABORERS - ZONE 2	6/1/2026	\$43.41	\$9.90	\$9.25	\$9.11	\$0.00	\$71.67
	12/1/2026	\$44.85	\$9.90	\$9.25	\$9.11	\$0.00	\$73.11
	6/1/2027	\$46.30	\$9.90	\$9.25	\$9.11	\$0.00	\$74.56
	12/1/2027	\$47.75	\$9.90	\$9.25	\$9.11	\$0.00	\$76.01
	6/1/2028	\$49.25	\$9.90	\$9.25	\$9.11	\$0.00	\$77.51
	12/1/2028	\$50.75	\$9.90	\$9.25	\$9.11	\$0.00	\$79.01

For apprentice rates see "Apprentice- LABORER"

ROLLER/SPREADER/MULCHING MACHINE	6/1/2025	\$57.68	\$15.55	\$13.25	\$3.25	\$0.00	\$89.73
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.12	\$15.55	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.40	\$15.55	\$13.25	\$3.25	\$0.00	\$92.45
	12/1/2026	\$61.84	\$15.55	\$13.25	\$3.25	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg)	2/1/2025	\$52.03	\$13.28	\$12.67	\$9.03	\$0.00	\$87.01
ROOFERS LOCAL 33	8/1/2025	\$53.53	\$13.28	\$12.67	\$9.03	\$0.00	\$88.51
ROOFERS LOCAL 33	2/1/2026	\$54.78	\$13.28	\$12.67	\$9.03	\$0.00	\$89.76

Apprentice: ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg)**Effective Date: 2/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.02	\$13.28	\$6.52	\$9.03	\$0.00	\$54.85
2	60.00	\$31.22	\$13.28	\$12.67	\$9.03	\$0.00	\$66.20
3	65.00	\$33.82	\$13.28	\$12.67	\$9.03	\$0.00	\$68.80
4	75.00	\$39.02	\$13.28	\$12.67	\$9.03	\$0.00	\$74.00
5	85.00	\$44.23	\$13.28	\$12.67	\$9.03	\$0.00	\$79.21

Apprentice: ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg)**Effective Date: 8/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.77	\$13.28	\$6.52	\$9.03	\$0.00	\$55.60
2	60.00	\$32.12	\$13.28	\$12.67	\$9.03	\$0.00	\$67.10
3	65.00	\$34.79	\$13.28	\$12.67	\$9.03	\$0.00	\$69.77
4	75.00	\$40.15	\$13.28	\$12.67	\$9.03	\$0.00	\$75.13
5	85.00	\$45.50	\$13.28	\$12.67	\$9.03	\$0.00	\$80.48

ROOFER SLATE / TILE / PRECAST CONCRETE	2/1/2025	\$52.28	\$13.28	\$12.67	\$9.03	\$0.00	\$87.26
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Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
ROOFERS LOCAL 33	8/1/2025	\$53.78	\$13.28	\$12.67	\$9.03	\$0.00	\$88.76
ROOFERS LOCAL 33	2/1/2026	\$55.03	\$13.28	\$12.67	\$9.03	\$0.00	\$90.01

For apprentice rates see "Apprentice- ROOFER"

SHEETMETAL WORKER	2/1/2025	\$59.13	\$14.91	\$18.74	\$9.53	\$2.98	\$105.29
SHEETMETAL WORKERS LOCAL 17	8/1/2025	\$60.98	\$14.91	\$18.74	\$9.53	\$2.98	\$107.14
SHEETMETAL WORKERS LOCAL 17 - A	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09

Apprentice: SHEETMETAL WORKER**Effective Date: 2/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	42.00	\$24.83	\$14.91	\$6.13	\$0.00	\$0.00	\$45.87
2	42.00	\$24.83	\$14.91	\$6.13	\$0.00	\$0.00	\$45.87
3	47.00	\$27.79	\$14.91	\$11.01	\$1.25	\$1.62	\$56.58
4	47.00	\$27.79	\$14.91	\$11.01	\$1.25	\$1.62	\$56.58
5	52.00	\$30.75	\$14.91	\$11.74	\$1.50	\$1.74	\$60.64
6	52.00	\$30.75	\$14.91	\$11.74	\$1.75	\$1.75	\$60.90
7	60.00	\$35.48	\$14.91	\$12.90	\$2.00	\$1.93	\$67.22
8	65.00	\$38.43	\$14.91	\$13.63	\$2.25	\$2.04	\$71.26
9	75.00	\$44.35	\$14.91	\$15.09	\$2.75	\$2.28	\$79.38
10	85.00	\$50.26	\$14.91	\$16.55	\$2.75	\$2.49	\$86.96

Apprentice: SHEETMETAL WORKER**Effective Date: 8/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	42.00	\$25.61	\$14.91	\$6.13	\$0.00	\$0.00	\$46.65
2	42.00	\$25.61	\$14.91	\$6.13	\$0.00	\$0.00	\$46.65
3	47.00	\$28.66	\$14.91	\$11.01	\$1.25	\$1.62	\$57.45
4	47.00	\$28.66	\$14.91	\$11.01	\$1.25	\$1.62	\$57.45
5	52.00	\$31.71	\$14.91	\$11.74	\$1.50	\$1.74	\$61.60
6	52.00	\$31.71	\$14.91	\$11.74	\$1.75	\$1.75	\$61.86
7	60.00	\$36.59	\$14.91	\$12.90	\$2.00	\$1.93	\$68.33
8	65.00	\$39.64	\$14.91	\$13.63	\$2.25	\$2.04	\$72.47
9	75.00	\$45.74	\$14.91	\$15.09	\$2.75	\$2.28	\$80.77
10	85.00	\$51.83	\$14.91	\$16.55	\$2.75	\$2.49	\$88.53

SPECIALIZED EARTH MOVING EQUIP < 35 TONS	6/1/2025	\$41.24	\$15.57	\$20.17	\$0.00	\$0.00	\$76.98
TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	\$41.24	\$15.57	\$21.78	\$0.00	\$0.00	\$78.59
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	1/1/2026	\$41.24	\$16.17	\$21.78	\$0.00	\$0.00	\$79.19
	6/1/2026	\$42.24	\$16.17	\$21.78	\$0.00	\$0.00	\$80.19
	12/1/2026	\$42.24	\$16.17	\$23.52	\$0.00	\$0.00	\$81.93
	1/1/2027	\$42.24	\$16.77	\$23.52	\$0.00	\$0.00	\$82.53

SPECIALIZED EARTH MOVING EQUIP > 35 TONS	6/1/2025	\$41.53	\$15.57	\$20.17	\$0.00	\$0.00	\$77.27
TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	\$41.53	\$15.57	\$21.78	\$0.00	\$0.00	\$78.88

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	1/1/2026	\$41.53	\$16.17	\$21.78	\$0.00	\$0.00	\$79.48
	6/1/2026	\$42.53	\$16.17	\$21.78	\$0.00	\$0.00	\$80.48
	12/1/2026	\$42.53	\$16.17	\$23.52	\$0.00	\$0.00	\$82.22
	1/1/2027	\$42.53	\$16.77	\$23.52	\$0.00	\$0.00	\$82.82
SPRINKLER FITTER	3/1/2025	\$72.14	\$11.51	\$7.30	\$16.50	\$0.00	\$107.45
SPRINKLER FITTERS LOCAL 550							
SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1							

Apprentice: SPRINKLER FITTER**Effective Date: 3/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	35.00	\$25.25	\$11.51	\$13.07	\$0.00	\$0.00	\$49.83
2	40.00	\$28.86	\$11.51	\$13.90	\$0.00	\$0.00	\$54.27
3	45.00	\$32.46	\$11.51	\$14.73	\$0.00	\$0.00	\$58.70
4	50.00	\$36.07	\$11.51	\$15.55	\$0.00	\$0.00	\$63.13
5	55.00	\$39.68	\$11.51	\$16.37	\$0.00	\$0.00	\$67.56
6	60.00	\$43.28	\$11.51	\$17.20	\$0.00	\$0.00	\$71.99
7	65.00	\$46.89	\$11.51	\$18.03	\$0.00	\$0.00	\$76.43
8	70.00	\$50.50	\$11.51	\$18.85	\$0.00	\$0.00	\$80.86
9	75.00	\$54.11	\$11.51	\$19.67	\$0.00	\$0.00	\$85.29
10	80.00	\$57.71	\$11.51	\$20.50	\$0.00	\$0.00	\$89.72

STEAM BOILER OPERATOR	6/1/2025	\$57.68	\$15.55	\$13.25	\$3.25	\$0.00	\$89.73
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.12	\$15.55	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.40	\$15.55	\$13.25	\$3.25	\$0.00	\$92.45
	12/1/2026	\$61.84	\$15.55	\$13.25	\$3.25	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN	6/1/2025	\$57.68	\$15.55	\$13.25	\$3.25	\$0.00	\$89.73
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.12	\$15.55	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.40	\$15.55	\$13.25	\$3.25	\$0.00	\$92.45
	12/1/2026	\$61.84	\$15.55	\$13.25	\$3.25	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TERRAZZO FINISHERS	2/1/2025	\$64.74	\$11.49	\$15.57	\$8.02	\$0.00	\$99.82
BRICKLAYERS LOCAL 3	8/1/2025	\$66.89	\$11.49	\$15.57	\$8.02	\$0.00	\$101.97
BRICKLAYERS LOCAL 3 - MARBLE & TILE	2/1/2026	\$68.24	\$11.49	\$15.57	\$8.02	\$0.00	\$103.32
	8/1/2026	\$70.44	\$11.49	\$15.57	\$8.02	\$0.00	\$105.52
	2/1/2027	\$71.84	\$11.49	\$15.57	\$8.02	\$0.00	\$106.92

Apprentice: TERRAZZO FINISHERS**Effective Date: 2/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$32.37	\$11.49	\$15.57	\$8.02	\$0.00	\$67.45
2	60.00	\$38.84	\$11.49	\$15.57	\$8.02	\$0.00	\$73.92

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: TERRAZZO FINISHERS							
Effective Date: 2/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
3	70.00	\$45.32	\$11.49	\$15.57	\$8.02	\$0.00	\$80.40
4	80.00	\$51.79	\$11.49	\$15.57	\$8.02	\$0.00	\$86.87
5	90.00	\$58.27	\$11.49	\$15.57	\$8.02	\$0.00	\$93.35
Apprentice: TERRAZZO FINISHERS							
Effective Date: 8/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$33.45	\$11.49	\$15.57	\$8.02	\$0.00	\$68.53
2	60.00	\$40.13	\$11.49	\$15.57	\$8.02	\$0.00	\$75.21
3	70.00	\$46.82	\$11.49	\$15.57	\$8.02	\$0.00	\$81.90
4	80.00	\$53.51	\$11.49	\$15.57	\$8.02	\$0.00	\$88.59
5	90.00	\$60.20	\$11.49	\$15.57	\$8.02	\$0.00	\$95.28
TEST BORING DRILLER	6/1/2025	\$51.70	\$9.90	\$9.25	\$9.80	\$0.00	\$80.65
LABORERS	12/1/2025	\$53.20	\$9.90	\$9.25	\$9.80	\$0.00	\$82.15
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$54.75	\$9.90	\$9.25	\$9.80	\$0.00	\$83.70
	12/1/2026	\$56.25	\$9.90	\$9.25	\$9.80	\$0.00	\$85.20
For apprentice rates see "Apprentice- LABORER"							
TEST BORING DRILLER HELPER	6/1/2025	\$47.82	\$9.90	\$9.25	\$9.80	\$0.00	\$76.77
LABORERS	12/1/2025	\$49.32	\$9.90	\$9.25	\$9.80	\$0.00	\$78.27
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$50.87	\$9.90	\$9.25	\$9.80	\$0.00	\$79.82
	12/1/2026	\$52.37	\$9.90	\$9.25	\$9.80	\$0.00	\$81.32
For apprentice rates see "Apprentice- LABORER"							
TEST BORING LABORER	6/1/2025	\$47.70	\$9.90	\$9.25	\$9.80	\$0.00	\$76.65
LABORERS	12/1/2025	\$49.20	\$9.90	\$9.25	\$9.80	\$0.00	\$78.15
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$50.75	\$9.90	\$9.25	\$9.80	\$0.00	\$79.70
	12/1/2026	\$52.25	\$9.90	\$9.25	\$9.80	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"							
TRACTORS/PORTABLE STEAM GENERATORS	6/1/2025	\$57.68	\$15.55	\$13.25	\$3.25	\$0.00	\$89.73
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.12	\$15.55	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.40	\$15.55	\$13.25	\$3.25	\$0.00	\$92.45
	12/1/2026	\$61.84	\$15.55	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
TRAILERS FOR EARTH MOVING EQUIPMENT	6/1/2025	\$41.82	\$15.57	\$20.17	\$0.00	\$0.00	\$77.56
TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	\$41.82	\$15.57	\$21.78	\$0.00	\$0.00	\$79.17
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	1/1/2026	\$41.82	\$16.17	\$21.78	\$0.00	\$0.00	\$79.77
	6/1/2026	\$42.82	\$16.17	\$21.78	\$0.00	\$0.00	\$80.77
	12/1/2026	\$42.82	\$16.17	\$23.52	\$0.00	\$0.00	\$82.51

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	1/1/2027	\$42.82	\$16.77	\$23.52	\$0.00	\$0.00	\$83.11
TUNNEL WORK - COMPRESSED AIR LABORERS	6/1/2025	\$59.93	\$9.90	\$9.25	\$10.25	\$0.00	\$89.33
LABORERS (COMPRESSED AIR)	12/1/2025	\$61.43	\$9.90	\$9.25	\$10.25	\$0.00	\$90.83
	6/1/2026	\$62.98	\$9.90	\$9.25	\$10.25	\$0.00	\$92.38
	12/1/2026	\$64.48	\$9.90	\$9.25	\$10.25	\$0.00	\$93.88
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) LABORERS	6/1/2025	\$61.93	\$9.90	\$9.25	\$10.25	\$0.00	\$91.33
LABORERS (COMPRESSED AIR)	12/1/2025	\$63.43	\$9.90	\$9.25	\$10.25	\$0.00	\$92.83
	6/1/2026	\$64.98	\$9.90	\$9.25	\$10.25	\$0.00	\$94.38
	12/1/2026	\$66.48	\$9.90	\$9.25	\$10.25	\$0.00	\$95.88
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - FREE AIR LABORERS	6/1/2025	\$52.00	\$9.90	\$9.25	\$10.25	\$0.00	\$81.40
LABORERS (FREE AIR TUNNEL)	12/1/2025	\$53.50	\$9.90	\$9.25	\$10.25	\$0.00	\$82.90
	6/1/2026	\$55.05	\$9.90	\$9.25	\$10.25	\$0.00	\$84.45
	12/1/2026	\$56.55	\$9.90	\$9.25	\$10.25	\$0.00	\$85.95
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - FREE AIR (HAZ. WASTE) LABORERS	6/1/2025	\$54.00	\$9.90	\$9.25	\$10.25	\$0.00	\$83.40
LABORERS (FREE AIR TUNNEL)	12/1/2025	\$55.50	\$9.90	\$9.25	\$10.25	\$0.00	\$84.90
	6/1/2026	\$57.05	\$9.90	\$9.25	\$10.25	\$0.00	\$86.45
	12/1/2026	\$58.55	\$9.90	\$9.25	\$10.25	\$0.00	\$87.95
For apprentice rates see "Apprentice- LABORER"							
VAC-HAUL TEAMSTERS JOINT COUNCIL NO. 10	6/1/2025	\$41.24	\$15.57	\$20.17	\$0.00	\$0.00	\$76.98
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/1/2025	\$41.24	\$15.57	\$21.78	\$0.00	\$0.00	\$78.59
	1/1/2026	\$41.24	\$16.17	\$21.78	\$0.00	\$0.00	\$79.19
	6/1/2026	\$42.24	\$16.17	\$21.78	\$0.00	\$0.00	\$80.19
	12/1/2026	\$42.24	\$16.17	\$23.52	\$0.00	\$0.00	\$81.93
	1/1/2027	\$42.24	\$16.77	\$23.52	\$0.00	\$0.00	\$82.53
VOICE-DATA-VIDEO TECHNICIAN	9/1/2024	\$35.29	\$13.99	\$13.69	\$3.88	\$0.00	\$66.85
ELECTRICIANS LOCAL 96	9/7/2025	\$36.12	\$14.98	\$13.94	\$3.97	\$0.00	\$69.01
ELECTRICIANS LOCAL 96	9/6/2026	\$37.04	\$15.96	\$14.20	\$4.07	\$0.00	\$71.27

Apprentice: VOICE-DATA-VIDEO TECHNICIAN**Effective Date: 9/1/2024**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$17.65	\$13.99	\$0.53	\$3.88	\$0.00	\$36.05
2	55.00	\$19.41	\$13.99	\$0.58	\$3.88	\$0.00	\$37.86
3	60.00	\$21.17	\$13.99	\$13.27	\$3.88	\$0.00	\$52.31
4	65.00	\$22.94	\$13.99	\$13.32	\$3.88	\$0.00	\$54.13
5	70.00	\$24.70	\$13.99	\$13.37	\$3.88	\$0.00	\$55.94
6	75.00	\$26.47	\$13.99	\$13.42	\$3.88	\$0.00	\$57.76
7	80.00	\$28.23	\$13.99	\$13.48	\$3.88	\$0.00	\$59.58
8	85.00	\$30.00	\$13.99	\$13.53	\$3.88	\$0.00	\$61.40

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: VOICE-DATA-VIDEO TECHNICIAN Effective Date: 9/7/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$18.06	\$14.98	\$0.54	\$3.97	\$0.00	\$37.55
2	55.00	\$19.87	\$14.98	\$0.60	\$3.97	\$0.00	\$39.42
3	60.00	\$21.67	\$14.98	\$13.51	\$3.97	\$0.00	\$54.13
4	65.00	\$23.48	\$14.98	\$13.56	\$3.97	\$0.00	\$55.99
5	70.00	\$25.28	\$14.98	\$13.62	\$3.97	\$0.00	\$57.85
6	75.00	\$27.09	\$14.98	\$13.67	\$3.97	\$0.00	\$59.71
7	80.00	\$28.90	\$14.98	\$13.73	\$3.97	\$0.00	\$61.58
8	85.00	\$30.70	\$14.98	\$13.78	\$3.97	\$0.00	\$63.43
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WAGON DRILL OPERATOR	6/1/2025	\$42.00	\$9.65	\$9.00	\$8.70	\$0.00	\$69.35
LABORERS	12/1/2025	\$43.38	\$9.65	\$9.00	\$8.70	\$0.00	\$70.73
LABORERS - ZONE 2	6/1/2026	\$44.82	\$9.65	\$9.00	\$8.70	\$0.00	\$72.17
	12/1/2026	\$46.26	\$9.65	\$9.00	\$8.70	\$0.00	\$73.61
	6/1/2027	\$47.71	\$9.65	\$9.00	\$8.70	\$0.00	\$75.06
	12/1/2027	\$49.16	\$9.65	\$9.00	\$8.70	\$0.00	\$76.51
	6/1/2028	\$50.66	\$9.65	\$9.00	\$8.70	\$0.00	\$78.01
	12/1/2028	\$52.16	\$9.65	\$9.00	\$8.70	\$0.00	\$79.51
For apprentice rates see "Apprentice- LABORER"							
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WAGON DRILL OPERATOR (HEAVY & HIGHWAY)	6/1/2025	\$40.59	\$9.90	\$9.25	\$9.21	\$0.00	\$68.95
LABORERS	12/1/2025	\$41.97	\$9.90	\$9.25	\$9.21	\$0.00	\$70.33
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	6/1/2026	\$43.41	\$9.90	\$9.25	\$9.21	\$0.00	\$71.77
	12/1/2026	\$44.85	\$9.90	\$9.25	\$9.21	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
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WASTE WATER PUMP OPERATOR	6/1/2025	\$58.33	\$15.55	\$13.25	\$3.25	\$0.00	\$90.38
OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.78	\$15.55	\$13.25	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$61.08	\$15.55	\$13.25	\$3.25	\$0.00	\$93.13
	12/1/2026	\$62.53	\$15.55	\$13.25	\$3.25	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
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WATER METER INSTALLER	3/2/2025	\$69.84	\$14.32	\$12.31	\$8.00	\$0.00	\$104.47
PLUMBERS & GASFITTERS LOCAL 12							
PLUMBERS & GASFITTERS LOCAL 12							
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"							

Additional Apprentice Information

All apprentices must be registered with the Division of Apprenticeship Training(DAS) in accordance with M.G.L.c. 23, §§ 11E-11L. Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the hourly prevailing wage rate established by the Commissioner under the provisions of M.G.L.c. 149, §§ 26-27D.

Apprentice ratios are established by DAS pursuant to M.G.L.c. 23, §§ 11E-11L. Ratios are expressed as the allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified. The ratios listed herein have been taken from relevant private collective bargaining agreements(CBAs) and are provided for illustrative purposes only. They have not been independently verified as being accurate or continuing to be accurate.

Parties having questions regarding what ratio to use should contact DAS.

DOCUMENT A00801

SPECIAL PROVISIONS**MARLBOROUGH****Bridge Preservation, M-06-010, Elm Street Over I-495**

Labor participation goals for this Project shall be 15.3% for minorities and 6.9% for women for each job category. The goals are applicable to both Contractor's and Subcontractor's on-site construction workforce. Refer to Document 00820 for details.

SCOPE OF WORK

The work under this contract consists of reconstructing bridge joints, replacing the existing concrete bridge wearing-surface, milling and repaving the roadway and approaches, and addressing other structural and safety concerns at the bridge that carries Elm Street over Interstate 495 (I-495), Southbound and Northbound Bridge Nos. M-06-010 (298) and M-06-010 (299) in Marlborough.

The scope of work includes the following:

- Reconstructing joints and installing new bridge joint seals.
- Reconstructing or repairing concrete diaphragms and backwalls.
- Milling the pavement to a depth of 1 1/2" on the roadway between the bridges, the approaches, and extending to the limits specified in the drawings and as required by the Engineer.
- Removing the top 1 3/8" of the existing concrete deck using mechanical scarification, micro milling, or another approved mechanical means.
- Full/partial depth excavating and repairing the concrete deck, as required by the Engineer.
- Removing an additional 1/2", minimum, of the existing concrete deck using hydro-excavation to produce a rough, bondable surface for placing the new overlay.
 - Installing a new concrete overlay and repaving of roadway. The overlay will be 2 inches (2") thick, made of polymer-modified concrete, applied and finished to match the existing grade and specified thickness, as required by the Engineer. Paving the roadway section between the two bridges and approaches will extend to the limits shown on the drawings, replacing 1-1/2 inches of the existing pavement with Superpave Surface Course - 9.5 Polymer (SSC - 9.5 - P).
- Resetting or replacing granite curbing on bridge approaches repairing approach and bridge sidewalks.

All work shall be performed within, and accessed by, existing State, City or Town roadway layouts. No rights to enter on, or occupy, private property have been acquired for this project.

All materials and equipment shall be approved by the Engineer prior to work commencing. If the work required by the Engineer is not in the list of bid items, then the work will be paid for as Non-Bid Items and Item 100.1 Base Labor Rate (Time and Materials).

SCOPE OF WORK (Continued)

All work under this Contract shall be done in conformance with the *2025 Standard Specifications for Highways and Bridges*, the *Supplemental Specifications* contained in this book, the *Construction Standard Details* in effect as of June, 2025, the *1990 Standard Drawings for Signs and Supports*, the *2015 Overhead Signal Structure and Foundation Standard Drawings*, the *2009 Manual on Uniform Traffic Control Devices (MUTCD) with Revisions 1, 2, and 3* and the *November 2022 Massachusetts Amendments to the MUTCD*, the *1968 Standard Drawings for Traffic Signals and Highway Lighting*, the latest edition of *The American Standard for Nursery Stock*, the Plans and these Special Provisions.

SUBSECTION 7.05 INSURANCE REQUIREMENTS**B. Public Liability Insurance**

The insurance requirements set forth in this subsection are in addition to the requirements of the Standard Specifications and supersede all other requirements.

Paragraphs 1 and 2

The Massachusetts Department of Transportation and applicable railroads shall be named as additional insureds.

CONTRACTOR QUESTIONS AND ADDENDUM ACKNOWLEDGEMENTS

Prospective bidders are required to submit all questions to the Construction Contracts Engineer by 3:00 P.M. on the Tuesday of the previous week before the scheduled bid opening date. Any questions received after this time will not be considered for review by the Department.

Contractors should email questions and addendum acknowledgements to the following email address massdot specifications@dot.state.ma.us The MassDOT proposal number and municipality is to be placed in the subject line.

PROPRIETARY PRODUCTS

MassDOT has approved the use of the following proprietary products on this contract pursuant to M.G.L. c. 30, § 39M(b):

ITEM 866.706, 6 INCH WHITE LINE WITH BLACK CONTRAST - RECESSED (PF, WR)

ITEM 867.706, 6 INCH YELLOW LINE WITH BLACK CONTRAST - RECESSED (PF, WR)

The specification is proprietary to the Stamark™ High Performance Pavement Marking Tape, as manufactured by 3M™.

An approval letter has been filed with MassDOT.

HOLIDAY WORK RESTRICTIONS

(Supplementing Subsection 7.09)

The District Highway Director (DHD) may authorize work to continue during these specified time periods if it is determined by the District that the work will not negatively impact the traveling public. DHD may allow work in those areas on a case by case basis and where work is behind barrier and will not impact traffic

Below are the holiday work restrictions:

New Year's Day (Federal Holiday)

No work on major arterial roadways from 5:00 AM on the day before until the normal start of business on the next subsequent business day. No work on local roadways on the holiday without permission by the DHD and the local police chief.

Martin Luther King's Birthday (Federal Holiday)

No work restrictions due to traffic concerns, however work on local roadways requires permission by the DHD and local police chief.

President's Day (Federal Holiday)

No work restrictions due to traffic concerns, however work on local roadways requires permission by the DHD and local police chief.

Evacuation Day (Suffolk County State Holiday)

No work restrictions due to traffic concerns.

Patriot's Day (State Holiday)

Work restrictions will be in place for Districts 3 and 6 along the entire Boston Marathon route and any other locations that the DHD in those districts determine are warranted so as to not to impact the marathon. All other districts work restrictions will be as per DHD.

Mother's Day

No work on Western Turnpike and Metropolitan Highway System from 5:00 AM on the Friday before, until the normal start of business on the following day.

Memorial Day (Federal Holiday)

No work on major arterial roadways from 5:00 AM on the Friday before, until the normal start of business on the following day.

Bunker Hill Day (Suffolk County State Holiday)

No work restrictions due to traffic concerns.

Juneteenth

No work restrictions due to traffic concerns, however work on local roadways requires permission by the DHD and local police chief.

HOLIDAY WORK RESTRICTIONS (Continued)**Independence Day (Federal Holiday)**

No work on major arterial roadways from 5:00 AM on the day before until the normal start of business on the next subsequent business day. No work on local roadways on the holiday without permission by the DHD and the local police chief.

Labor Day (Federal Holiday)

No work on major arterial roadways from 5:00 AM on the Friday before, until the normal start of business on the following day.

Columbus Day (Federal Holiday)

No work on major arterials from 5:00 AM on the Friday before, until the normal start of business on the following day

Veterans' Day (Federal Holiday)

No work restrictions due to traffic concerns.

Thanksgiving Day (Federal Holiday)

No work on major arterials from 5:00 AM two days before until the normal start of business on the following Monday.

Christmas Day (Federal Holiday)

No work on major arterial roadways from 5:00 AM on the day before until the normal start of business on the next subsequent business day.

SOIL STOCKPILING DIRECTIVE P-22-001

Any stockpiling of soil must be performed in compliance with Policy Directive P-22-001, Off-Site Stockpiling of Soil from MassDOT Construction Projects. This directive limits the allowable locations for off-site stockpiling of soil generated during MassDOT projects and includes various requirements that must be satisfied by the Contractor prior to off-site stockpiling. The Contractor is responsible for identifying a suitable stockpile location.

SUBSECTION 8.02 SCHEDULE OF OPERATIONS

Replace this subsection with the following:

An integrated cost and schedule controls program shall be implemented by the Contractor to track and document the progress of the Work from Notice to Proceed (NTP) through the Contractor Field Completion (CFC) Milestone. The Contractor's schedules will be used by the Engineer to monitor project progress, plan the level-of-effort required by the Department's work force and consultants and as a critical decision-making tool. Accordingly, the Contractor shall ensure that it complies fully with the requirements specified herein and that its schedules are both accurate and updated as required by the specification throughout the life of the project. Detailed requirements are provided in Division II, Section 722 Construction Scheduling.

TRUCK SAFETY DEVICES

(Supplementing Subsection 7.04: Motor Vehicles)

All motor vehicles subject to Section 7 of Chapter 90 to be operated under this Contract shall be equipped with safety devices as provided therein and in 540 CMR 4.00.

By December 31, 2025, the Contractor shall certify to the Registry of Motor Vehicles, in a manner prescribed by the Registrar, that all applicable vehicles are equipped with Lateral Protective Devices, Convex Mirrors, Cross Over Mirror(s) and Back Up Cameras in accordance with the requirements of 540 CMR 4.00.

The Contractor shall provide evidence satisfactory to the Department to demonstrate compliance with the above certification requirement for all applicable vehicles operated under this Contract by the Contractor and its Subcontractors and vendors in a manner set forth by the Department. Thereafter, the Contractor shall have an affirmative obligation to continue to provide such evidence of compliance on an ongoing basis and no later than 7 days after certification with the Registry of Motor Vehicles of any additional vehicles operated under this Contract by the Contractor and its Subcontractors and vendors.

Non-compliance with respect to a vehicle that is subject to 540 CMR 4.00 may subject the Contractor to statutory fines as established in M.G.L. c. 90, § 7 and/or contractual remedies up to and including termination of the Contract.

ENVIRONMENTAL PERMITTING (Continued)

The Contractor must notify the Engineer in writing at least 60 days prior to desire commencement of the proposed activity.

All environmental submittals, including any Contract with Local, State, or Federal environmental agencies, must be coordinated with the District Environmental Engineer.

The Contractor shall cooperate with requests for information and provide same in a timely manner.

The Contractor is further advised that the Department will not entertain a delay claim due to the time required to obtain the environmental permits.

TREATED WOOD PRODUCTS

The presence of potential treated wood products is unknown. If an assignment calls for the disposal of portions of treated timber, then the Contractor shall dispose of the materials in accordance with all applicable state and federal regulations at a licensed facility.

The Contractor shall submit manifests and/or certificates of disposal to the Engineer prior to the completion of the contract. All work in conjunction with the proper testing, loading, transportation, and incidental costs required for legal disposal of treated wood products will be paid under Non-Bid Items and Item 100.1 Base Labor Rate when needed and as required by the Engineer.

CONTAMINATED SOIL

Soil proposed for removal from the project area must be evaluated prior to off-site management for potential contamination with hazardous materials.

Soil may not be disposed of off-site without proper assessment by the Contractor and approval from the Engineer, District Environmental Engineer (DEE), or the project designee.

**GENERAL REQUIREMENTS FOR DEMOLITION AND
WORK INVOLVING PAINTED STEEL**

(02/06/2020)

Demolition and work involving painted steel shall conform to the requirements of Subsection 961 of the Standard Specifications.

Work Involving Painted Steel

Hazardous materials shall be removed in the immediate area of any intended welding, heating, saw cutting or burning of steel. Hazardous material removal is required to allow the demolition of structural steel, railings, drainage systems, utility supports, steel lamp posts, etc.

The contractor shall assume that the coatings on the steel contain lead (Pb), unless otherwise determined by testing. The contractor shall certify in writing to the Engineer the results of all testing, and shall also certify that any lead (Pb) coated steel removed from the project was not reused or buried, but was sent to a scrap metal recycling facility.

Implement and maintain programs and procedures, which comply with the requirements of this specification and all applicable standards and regulations. Comply with all applicable regulations even if the regulation is not specifically referenced herein. If a state or local regulation is more restrictive than the regulation of this specification, follow the more restrictive requirements.

This requirement is intended only for the demolition and preparation prior to repair and does not include provisions for recoating of steel.

Environmental

All applicable portions of Subsections 961.65 “Worker Protection” and 961.66 “Environmental Protection and Monitoring” shall be followed when performing this work.

During chemical stripping a hand washing facility may be used in lieu of a decontamination/changing facility.

Hazardous material shall be collected during the disassembly and disposed of as outlined in Subsection 961.68 “Handling of Hazardous Waste and Reporting Release Programs”.

The applicable submittals shall be according to Subsection 961.69 “Submittals”.

**GENERAL REQUIREMENTS FOR DEMOLITION AND
WORK INVOLVING PAINTED STEEL** (Continued)**Cleaning/Removal****Cutting Or Burning Of Steel**

All surfaces to be welded, heated, saw cut or burned shall be cleaned so as to remove all contaminants and/or hazardous materials, which could be discharged to the environment as a function of the subsequent operations.

Lead paint shall be removed in its entirety in an area prescribed by a 6 inch (15 cm) minimum offset from the required work. The paint removal operation may be dry abrasive blasting, wet abrasive blasting or chemical stripping.

Proper level of containment shall be used when performing this work in accordance with Subsection 961.67 "Containment". Full containment is not required during chemical stripping operation however; the Contractor shall install proper shielding and/or tarpaulins under the chemical stripping operations in order to catch all debris generated during this procedure. A cleaned area must be inspected and approved before the demolition operations are started.

During cleaning operations the Contractor shall be required to furnish and erect temporary floodlights illuminating the steel surface at a minimum of 30-foot candles. This lighting shall be used in areas where there is insufficient lighting for proper cleaning operations and inspection. The Contractor shall supply electrical power.

The Contractor shall provide support for interim and final inspection of the bridge during cleaning operations. This support shall include the necessary traffic controls and safe access to the work.

Mechanical Disassembly Of Steel

All surfaces to be mechanically disassembled by shear cutting or removing bolts or rivets shall not require deleading. When shear cutting or removing bolts or rivets, the Contractor shall not use any method that will cause dust and/or particles to be emitted and/or dispersed into the environment to an extent that would expose the workers above the Action Levels of $30\mu\text{g}/\text{m}^3$.

For purposes of limiting the lead (Pb) dust, the Contractor will be required to dampen the lead paint work areas.

The contractor shall install a proper shielding and/or tarpaulins under all lead-paint-coated surfaces to be shear cut or bolts or rivets ordered removed in order to catch any loose lead paint chips, dust or particles.

SUBSECTION 8.14 UTILITY COORDINATION, DOCUMENTATION, AND MONITORING RESPONSIBILITIES

A. GENERAL

In accordance with the provisions of Section 8.00 Prosecution and Progress, utility coordination is a critical aspect to this Contract. This section defines the responsibility of the Contractor and MassDOT, with regard to the initial utility relocation plan and changes that occur as the prosecution of the Work progresses. The Engineer, with assistance from the Contractor shall coordinate with Utility companies that are impacted by the Contractor's operations. To support this effort, the Contractor shall provide routine and accurate schedule updates, provide notification of delays, and provide documentation of the steps taken to resolve any conflicts for the temporary and/or permanent relocations of the impacted utilities. The Contractor shall provide copies to the Engineer of the Contractor communication with the Utility companies, including but not limited to:

- Providing advanced notice, for all utility-related meetings initiated by the Contractor.
- Providing meeting minutes for all utility-related meetings that the Contractor attends.
- Providing all test pit records.
- Request for Early Utility work requirements of this section (see below).
- Notification letters for any proposed changes to Utility start dates and/or sequencing.
- Written notification to the Engineer of all apparent utility delays within seven (7) Calendar Days after a recognized delay to actual work in the field – either caused by a Utility or the Contractor.
- Any communication, initiated by the Contractor, associated with additional Right-of-Way needs in support of utility work.
- Submission of completed Utility Completion Forms.

B. PROJECT UTILITY COORDINATION (PUC) FORM

The utility schedule and sequence information provided in the Project Utility Coordination Form (if applicable) is the best available information at the time of the bid and has been considered in setting the contract duration. The Contractor shall use all of this information in developing the bid price and the Baseline Schedule Submission, inclusive of the individual utility durations sequencing requirements, and any work that has been noted as potentially concurrent utility installations.

C. INITIATION OF UTILITY WORK

The Engineer will issue all initial notice-to-proceed dates to each Utility company based on either the:

- 1) Contractor's accepted Baseline Schedule
- 2) An approved Early Utility Request in the form of an Early Utility sub-net schedule (in accordance with the requirements of this Subsection)
- 3) An approved Proposal Schedule

C.1 - BASELINE SCHEDULE – UTILITY BASIS

The Contractor shall provide a Baseline Schedule submission in accordance with the requirements of Subsection 8.02 and inclusive of all of the information provided in the PUC Form that has been issued in the Contract documents. This is to include the utility durations, sequencing of work, allowable concurrent work, and all applicable considerations that have been depicted on the PUC Form.

SUBSECTION 8.14 (Continued)**C.2 – EARLY UTILITY REQUEST – (aka SUBNET SCHEDULE) PRIOR TO THE BASELINE**

All early utility work is defined as any anticipated/required utility relocations that need to occur prior to the Baseline Schedule acceptance. In all cases of proposed early utility relocation, the Contractor shall present all known information at the pre-construction conference in the form of a ‘sub-net’ schedule showing when each early utility activity needs to be issued a notice-to-proceed. The Contractor shall provide advance notification of this intent to request early utility work in writing at or prior to the Pre-Construction meeting. Prior to officially requesting approval for early utility work, the Contractor shall also coordinate with MassDOT and all utility companies (private, state or municipal) which may be impacted by the Contract. If this request is acceptable to the Utilities and to MassDOT, the Engineer will issue a notice-to-proceed to the affected Utilities, based on these accepted dates.

C.3 – PROPOSAL SCHEDULE - CHANGES TO THE PUC FORM

If the Contractor intends to submit a schedule (in accordance with MassDOT Standard Specifications, Division I, Subsection 8.02) that contains durations or sequencing that vary from those provided in the Project Utility Coordination (PUC) Form, the Contractor must submit this as an intended change, in the form of a Proposal Schedule and in accordance with MassDOT Standard Specifications, Division I, Subsection 8.02. These proposed changes are subject to the approval of the Engineer and the impacted utilities, in the form of this Proposal Schedule and a proposed revision to the PUC form. The Contractor shall not proceed with any changes of this type without written authorization from the Engineer, that references the approved Proposal Schedule and PUC form changes. The submission of the Baseline Schedule should not include any of these types of proposed utility changes and should not delay the submission of the Baseline Schedule. As a prerequisite to the Proposal Schedule submission, and in advance of the utility notification(s) period, the Contractor shall coordinate the proposed utility changes with the Engineer and the utility companies, to develop a mutually agreed upon schedule, prior to the start of construction.

D. UTILITY DELAYS

The Contractor shall notify the Engineer upon becoming aware that a Utility owner is not advancing the work in accordance with the approved utility schedule. Such notice shall be provided to the Engineer no later than seven (7) calendar days after the occurrence of the event that the Contractor believes to be a utility delay. After such notice, the Engineer and the Contractor shall continue to diligently seek the Utility Owner’s cooperation in performing their scope of Work.

In order to demonstrate that a critical path delay has been caused by a third-party Utility, the Contractor must demonstrate, through the requirements of the monthly Progress Schedule submissions and the supporting contract records associated with Subsection 8.02, 8.10 and 8.14, that the delays were beyond the control of the Contractor.

SUBSECTION 8.14 (Continued)

All documentation provided in this section is subject to the review and verification of the Engineer and, if required, the Utility Owner. In accordance with MassDOT Specifications, Division I, Subsection 8.10, a Time Extension will be granted for a delay caused by a Utility, only if the actual duration of the utility work is in excess of that shown on the Project Utility Coordination Form, and only if;

- 1) proper Notification of Delay was provided to MassDOT in accordance with the time requirements that are specified in this Section
- 2) the utility delay is a critical path impact to the Baseline Schedule (or most recently approved Progress Schedule)

E. LOCATION OF UTILITIES

The locations of existing utilities are shown on the Contract drawings as an approximation only. The Contractor shall perform a pre-construction utility survey, including any required test pits, to determine the location of all known utilities no later than thirty (30) calendar days before commencing physical site work in the affected area.

F. POST UTILITY SURVEY – NOTIFICATION

Following completion of a utility survey of existing locations, the Contractor will be responsible to notify the Engineer of any known conflicts associated with the actual location of utilities prior to the start of the work. The Engineer and the Contractor will coordinate with any utility whose assets are to be affected by the Work of this Contract. A partial list of utility contact information is provided in the Project Utility Coordination Form.

G. MEETINGS AND COOPERATION WITH UTILITY OWNERS

The Contractor shall notify the Engineer in advance of any meeting they initiate with a Utility Owner's representative to allow MassDOT to participate in the meeting if needed.

Prior to the Pre-Construction Meeting, the Contractor should meet with all Utility Owners who will be required to perform utility relocations within the first 6 months of the project, to update the affected utilities of the Project Utility Coordination Form and all other applicable Contract requirements that impact the Utilities. The Contractor shall copy the Engineer on any correspondence between the Utility Owner and the Contractor.

H. FORCE ACCOUNT / UTILITY MONITORING REQUIREMENTS

The Engineer will be responsible for recording daily Utility work force reports. The start, suspension, re-start, and completion dates of each of the Utilities, within each phase of the utility relocation work, will be monitored and agreed to by the Engineer and the Contractor as the work progresses.

I. ACCESS AND INSPECTION

The Contractor shall be responsible for allowing Utility owners access to their own utilities to perform the relocations and/or inspections. The Contractor shall schedule their work accordingly so as not to delay or prevent each utility from maintaining their relocation schedule.

COMPLIANCE WITH THE NATIONAL DEFENSE AUTHORIZATION ACT
(Supplementing Subsection 7.01)

On all projects, the “Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment” Regulation (2 CFR 200.216) prohibits the Contractor from using or furnishing the following telecommunications equipment or services:

- Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).
- For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
- Telecommunications or video surveillance services provided by such entities or using such equipment.
- Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

This prohibition applies to all products manufactured by the aforementioned companies, including any individual components or parts.

By submitting a bid on a project, the Contractor certifies that all work will be in compliance with the terms of 2 CFR 200.216. The Contractor shall submit a COC indicating compliance with the above provisions for all telecommunications equipment or services included in the Contract.

Payment for the item in which the materials are incorporated may be withheld until these COCs are received. Any cost involved in furnishing the certificate(s) shall be borne by the Contractor.

NATIONAL GRID EMERGENCY TELEPHONE NUMBERS**ELECTRIC:**

Outage/ Emergency: 1-800-465-1212

New Service: 1-800-375-7405

Customer Support: 1-800-322-3223

EVERSOURCE EMERGENCY TELEPHONE NUMBERS**GAS:**

Outage/ Emergency: 800-592-2000

New Service: 866-678-2744

Customer Support: 800-592-2000

PIGEON WASTE

The Contractor shall remove and dispose of the pigeon waste and any other debris accumulated on the steel members and bridge seats in areas where work is being performed. Pigeon waste and debris material contaminants will require special handling and disposal in accordance with all Federal, state, and local requirements. No separate payment will be made for removal and disposal of pigeon waste. Cost shall be incidental to the contract pay items.

EQUIVALENT SINGLE AXLE LOADS (ESALS)

The estimated traffic level to be used for SUPERPAVE HMA mixture designs for this contract, expressed in Equivalent Single Axle Loads (ESALs) for the design travel lane over a 20-year period, is either a traffic level 2 (0.3-10.0) million 18-kip (80-kn) ESALs or a traffic level 3 (≥ 10.0) million 18 kip ESALS as required by the Engineer.

PREPARATION OF CONCRETE SURFACES

All concrete surfaces to be patched shall be roughened, cleaned of all laitance, dirt, grease, oil, other contaminants, and all standing water.

All reinforcing steel encountered during excavation shall be thoroughly cleaned by abrasive blasting and coated with a zinc-rich primer conforming to MassDOT Standard Specification M7.04.11 before being covered with new concrete.

Bonding new concrete to set concrete; the Contractor shall thoroughly clean, roughen, and pond with clean water the surface of the concrete to achieve Saturated Surface Dry (SSD) condition and then the surface shall be blown off with oil free compressed air.

ENVIRONMENTAL PERMITTING

The proposed work does not occur in jurisdictional wetland resources subject to Section 401 or Section 404 of the Clean Water Act; therefore, the project does not require a Water Quality Certification from the Massachusetts Department of Environmental Protection or authorization from the US Army Corps of Engineers.

The proposed work qualifies for the bridge exemption authorized in the Transportation Bond Bill and is therefore not subject to the Massachusetts Wetlands Protection Act, the Massachusetts Public Waterfront Act (Chapter 91), or the Massachusetts Environmental Policy Act.

If field conditions and/or Contractor-proposed erection, demolition, staging, or other procedures require work to occur in or otherwise impact water or wetland resource areas, then the Contractor is advised that no associated work can occur until all required environmental permits have been obtained allowing such work.

NORTHERN LONG-EARED BAT AND TRICOLORED BAT PROTECTION

The northern long-eared bat (*Myotis septentrionalis*; NLEB) and tricolored bat (*Perimyotis subflavus*; TCB) are listed as federally endangered or proposed endangered, respectfully, under the Endangered Species Act (ESA). The U.S. Fish and Wildlife Service (USFWS) developed this guidance to address ESA compliance and promote conservation of NLEB and TCB. MassDOT, on behalf of FHWA, submitted a Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key Consultation through Information for Planning and Consultation (IPaC) and generated a May Affect, Not Likely to Adversely Affect (NLAA) determination (see **Document A00844 USFWS NLAA**). Subsequently, the project has completed Section 7 consultation under the ESA.

In advance of the uplisting of the TCB to endangered under the ESA, the following Avoidance and Minimization Measures (AMMs) must be strictly adhered to in order to protect NLEB and TCB and to be in compliance with the ESA. Contact MassDOT Environmental Services - Wildlife Unit Supervisor for questions about project limits, restrictions, or conservation measures.

General AMMs

- The Contractor shall ensure all personnel working in on the project site are aware of all environmental commitments related to NLEB and TCB, including all applicable AMMs. NLEB and TCB information (<https://www.fws.gov/midwest/endangered/mammals/nleb/> and <https://www.fws.gov/species/tricolored-bat-perimyotis-subflavus>) shall be made available to all personnel.

Lighting AMMs

- Direct temporary lighting away from suitable habitat during the active season: **April 15 to October 31**
- When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the BUG system developed by the Illuminating Engineering Society, be as close to 0 for all three ratings with a priority of “uplight” of 0 and “backlight” as low as practicable.

Tree Removal AMMs

- *If additional cutting is proposed by the Contractor that is outside the scope of this contract, additional review is required by the MassDOT Highway Division’s Environmental Services Section, and additional review and restrictions may be required by the USFWS.*

Bridge AMMs

- On October 30, 2024 MassDOT Highway Division Environmental Services, conducted a northern long-eared bat bridge/structure bat assessment, in accordance with the USFWS guidelines. The assessment did not find presence of, or evidence of use by bats, and as stated within the guidelines, the assessment is valid for two years. If bridge work is not complete before October 30, 2026, assessment of the bridge for the presence of, or evidence of use by, bats shall be completed by the MassDOT Wildlife Unit prior to continuing bridge work. The Contractor shall notify the MassDOT Wildlife Unit no later than fourteen (14) days prior to October 30, 2026, to provide adequate time for inspection. If bats are found to be present, or, if there is evidence of bat usage, work at the bridge shall not commence until after the MassDOT Wildlife Unit has completed coordination with the US Fish and Wildlife Service to determine the appropriate follow up or mitigation actions.

WORK SCHEDULE

All proposed work hours shall conform to Subsection 7.09 and be subject to the written approval of the Engineer.

Work schedule during the day shall be based on a normal 8-hour day (7:00 AM to 3:00 PM), 5-day week (Monday to Friday). Work schedules deviating from the normal work schedule above will be subject to prior approval by the Engineer. Approval shall be in writing.

Nighttime Work

All work locations requiring night hours, as approved by the Engineer, are restricted as follows:

Sunday	9:00 PM to 5:00 AM Monday
Monday	9:00 PM to 5:00 AM Tuesday
Tuesday	9:00 PM to 5:00 AM Wednesday
Wednesday	9:00 PM to 5:00 AM Thursday
Thursday	9:00 PM to 5:00 AM Friday

Work may not proceed beyond the normal 8-hour day unless prior approval is obtained from the Engineer for that day or for a given schedule.

Approval to work beyond the scheduled work will only be given when special conditions exist that warrant working beyond the scheduled work, as determined by the Engineer.

For operations where the Contractor plans to close lanes on Interstate 495 beyond what has been approved as part of the TTCP, the work may be restricted with lane closures on I-495 are generally permitted only during nighttime hours. Any lane closures outside of nighttime hours must be properly justified, and the proposed work hours must be coordinated and approved by the District Operations/Traffic Section.

The Contractor may schedule shifts longer than 8-hours with prior approval by the Engineer. No additional compensation will be made for work scheduled during nighttime or longer work hours.

These time periods include the "set-up" and "breakdown" of any temporary traffic control pattern employed.

No operations, personnel, or equipment will be allowed on the roadways except during working hours. Work shall not be left overnight without safety precautions. All pertinent traffic warning devices shall be in place along with safety items, traffic barriers, etc.

MassDOT has decided that the Contractor must schedule work in a way that accelerates bridge construction to reduce disruption on the community and roadway users, while ensuring work zone safety. To further minimize the work impact on the public, the duration of this work will be limited as outlined below:

WORK SCHEDULE (Continued)**Phase 1, Stage 1 through Stage 3**

No more than seventy-five (75) consecutive days will be allowed to complete this phase.

Phase 2, Stage 1 through Stage 3

No more than Forty-five (45) consecutive days will be allowed to complete this phase.

Public notification for starting both phases of work shall be coordinated with the MassDOT District 3 Bridge, Traffic, and Operations Sections through the Resident Engineer. Notifications shall be issued four (4) weeks, two (2) weeks, and one (1) week prior to the scheduled start of operations. These notifications shall be delivered through email, social media, strategically placed message boards, and any other effective means to inform local residents and businesses.

The Contractor shall also notify the City of Marlborough Police, Fire, and EMS, along with the City Manager's Office and School Department, through direct contact. A written record of these calls shall be provided to the Resident Engineer.

The Contractor is further directed to coordinate a meeting with invitations to the listed City of Marlborough Municipal Departments. The proposed detour plans and TTCP should be presented along with the proposed schedule for all phases of work. This meeting shall be held sixty (60) days before the scheduled work.

During Phase 1 of construction, the westbound traffic lane on the bridge will remain open. However, eastbound traffic will be detoured south onto Felton Street, then directed to follow

Landry Drive to Lakeside Avenue (Route 20 EB) toward Marlborough Center. Drivers will continue to use the traffic lights at Pleasant Street to be redirected back onto Elm Street.

In Phase 2 of construction, both the eastbound and westbound lanes will be open to accommodate traffic in both directions.

The detour routes may require an evaluation of traffic signals along the detour path. This may involve reviewing and adjusting the existing signal timings to ensure an acceptable level of service is maintained. Since the detour route utilizes roadways under the jurisdiction of the City of Marlborough, their review and approval of any signal timing changes will be required before the detour plan can be approved by the District. Any changes to the signal timing will be permitted only while the detour is in place and must be reverted to normal operation once the detour is removed.

The Contractor will be compensated for retiming the signals under Item 816.811.

The durations of each work phase shall be included in this submittal along with Temporary Traffic Control Plans for all proposed operations.

Portable Changeable Message Signs are to be positioned as directed by Engineer for notification fourteen (14) days in advance of the work.

POLYMER MODIFIED CONCRETE PLACEMENT

Unless otherwise approved in writing, all work that involves the Polymer Modified Concrete placements shall be restricted between May 1st and October 31st.

The Notice to Proceed for this contract is expected to be issued on September 28, 2025.

The Contractor will not be allowed to begin Phase 1 unless they can demonstrate the ability to complete the Phase 1 work and reopen the roadway to two-lane, two-way traffic within the specified timeframe for the phase.

Concrete overlay placement will not be allowed after October 31, 2025.

Any approved placement outside this timeframe shall require protection for the concrete from adverse weather in accordance with Subsection 901.64 of the MassDOT Standard Specifications for Highway and Bridges.

The Contractor shall be responsible for all costs associated with protecting the concrete from weather and damage.

NOTICE TO OWNERS OF UTILITIES

(Supplementing Subsection 7.13)

District 3 Utility/Constructability Engineer

Ross Goodale (508) 929-3938; email: Ross.A.Goodale@dot.state.ma.us

If available, existing bridge plans indicate the location of the existing known utilities in the vicinity of the work. As the accuracy and completeness of the plans are not guaranteed in any manner, it is the Contractor's responsibility to make their own investigation to assure that no damage to existing structures, drainage lines, traffic signal conduits, etc., will occur.

Written notice shall be given by the Contractor to all public service corporations or officials owning or having charge of publicly or privately owned utilities of the Contractor's intention to commence operations affecting such utilities at least one week in advance of the commencement of such operations and the Contractor shall at that time file a copy of such notice with the Engineer.

A list of public and private utilities can be found on the MassDOT website:
<https://www.mass.gov/info-details/utility-contacts-by-district-and-municipality>

Select District 3

Select Marlborough

The utility contact list is for guidance only and is not guaranteed to be complete or up to date.

NOTIFICATION OF PUBLIC OFFICIALS

Town officials are shown on: <https://www.mass.gov/lists/massachusetts-cities-and-towns> and select the required City/Town website.

State Police are shown on: <https://www.mass.gov/info-details/massachusetts-state-police-troop-boundaries>. Select the area of jurisdiction to find the local station.

The Contractor shall inform the following officials in each assigned work area:

Superintendent, Department of Public Works, or Town Engineer. Superintendent, Water Department, Superintendent, Sewer Departments. Police Department, Fire Department, Electric Company, Railroads.

2026 FIFA WORLD CUP – BOSTON, MASSACHUSETTS

The 2026 FIFA World Cup will be held at Gillette Stadium in Foxborough and related events will be held throughout the region. Matches and Fan Fest activities are scheduled from June 11, 2026 through July 19, 2026. MassDOT will impose work restrictions as necessary to minimize traffic impacts during FIFA events when the Contractor's operations could impact vehicular traffic, particularly on interstate highways and major arterials throughout the region and local roads near the event site. No additional compensation will be allowed for work restrictions except as determined under Subsection 8.10

SUPPLEMENTAL REQUIREMENTS FOR NON-BID ITEMS

(Supplementing Subsection 3.04)

The Contractor will be paid for additional artisans, equipment rental, materials, engineering services and specialty services required to perform the work plus (10%) percent, plus actual increased bond premium.

The Contractor shall be required to furnish certified paid receipts for additional artisans, equipment rental, materials, engineering services and specialty services that are required to perform the work prior to payment by the Department. Increased bond premium for additional artisans, equipment rental, materials, engineering services and specialty services will be paid after a certified paid receipt is submitted showing payment of the increased bond.

NON-BID ITEMS

For work not covered by the various bid items in this Contract, it is the intent to pay for such related work on a time and materials basis, as directed by the Engineer. The payment for such work is outlined in the following sections: Payment for Materials, Payment for Rental Equipment, Payment for Engineering Services, Payment for Specialty Services/Additional Artisans.

PAYMENT FOR MATERIALS

The Contractor will be paid the actual cost for materials that are required to maintain or repair a bridge but are not covered under the Contract bid Items plus ten (10) percent. Any arrangements for the purchase of materials will be considered incidental. Delivery charges will be incidental to the material charges. State and Federal taxes if billed will not be reimbursed by MassDOT. No materials shall be ordered until approved by the Engineer and competitive prices may be required if the Engineer directs.

The District may have surplus materials on hand that could be included into the work.

The transportation of materials and/or parts supplied by MassDOT will be included for payment under Item 100.1.

Payments for the installation of materials and/or parts will be made under Item 100.1

All materials which are necessary to perform the work under the various contract bid items shall be incidental to those Items at no additional compensation.

PAYMENT FOR RENTAL EQUIPMENT

The Contractor will be paid the actual rental cost for the equipment, which may be required to perform certain repair work that has not been included in the contract bid items, plus ten (10) percent. The rental equipment shall not be part of the tradesman basic toolbox as specified under Item 100.1 Base Labor Rate.

Contractor-owned equipment required under this contract, (with the exception of equipment listed under the various artisans' descriptions in Item 100.1 Base Labor Rate will be reimbursed in the format outlined under Subsection 9.03 "Payment for extra Work" Section C of the Standard Specifications. Rental Equipment will not carry any overtime premium rate after being in full operation for more than 8 hours in a day.

Unless the rented equipment cost includes the operator, the Contractor will receive compensation for the operator of the "Rental Equipment" used for "Related Work" as specified in Item 100.1 Base Labor Rate.

The Contractor must get the authorization of the Engineer before any equipment is rented and competitive prices may be required if the Engineer directs.

All rental equipment and tools shall be in excellent working condition. The Contractor shall not be paid for the time that the equipment is broken down.

PAYMENT FOR RENTAL EQUIPMENT (Continued)

The actual cost for rental equipment, operator, and other safety equipment) shall be judged in accordance with the rate specified in the Rental Blue Book and it is the Contractor's responsibility to provide a copy of this Blue Book to the Department. The rental for equipment will be paid on an hourly basis and will not carry any overtime rate after eight hours of operation.

All rental equipment and tools which are necessary to prosecute the work under the various contract bid items shall be incidental to those Items at no additional compensation.

PAYMENT FOR ENGINEERING SERVICES

Each non-routine structural repair for which there is no Contract bid Item to cover the work, the Contractor shall submit a design by a Professional Engineer of the appropriate discipline registered in Massachusetts (who shall be from the Department's approved consultant list) within one week of notification (seven (7) calendar days after receipt of formal Work Order).

This design shall address all structural defects itemized in the Work Order. It shall be submitted to the Engineer. The Contractor must get the proposed design approved by the Engineer and prior to commencing any work.

The Contractor will be paid the actual cost for the Engineering Services for the structural design by a Professional Engineer of the appropriate discipline registered in Massachusetts, plus ten (10) percent when any Engineering Services are required for work done on a time and materials basis for which there is no bid Item. The Engineer shall approve all engineering costs prior to any design work being undertaken.

All engineering services which are necessary to prosecute the work under the various Contract bid items shall be incidental to those Items at no additional compensation.

PAYMENT FOR SPECIALTY SERVICES/ ADDITIONAL ARTISANS

The Contractor will be paid for any artisans that are not categorized under Item 100.1 "Base Labor Rate" (Regardless of whether the additional artisans are hired by the Contractor as a specialty sub-contractor crew, or as an individual artisan) required to repair or maintain the bridges or any work that has not been included as incidental to any Contract Bid Item plus ten (10) percent. However, no artisans shall be hired until approved by the Engineer and competitive prices may be required if the Engineer so directs. The Contractor will not bid this item. If the Engineer has knowledge of source of additional artisans, which are competitive with the Contractor's choice, then the Contractor may be required to investigate and use an alternative choice.

COST ESTIMATES

Where the scope of a repair task can be adequately determined and described, the Contractor, when directed by the Engineer, shall submit a Cost Estimate for the repair task.

Each Cost Estimate, submitted in writing, shall include an itemized scope of work, a working schedule (including the number of working days and hours worked each day by each category of artisan), work procedures and a NOT-TO-EXCEED cost breakdown itemized by the following: the number and type of workers, the number and type of equipment, barges, materials, specialty contractors, engineering services, traffic controls and police, etc. The Cost Estimate submittal must also state if roadway closures, and waterway and/or bridge closures will be required.

The Engineer will approve each Cost Estimate submittal in writing. A submittal does not guarantee the Contractor will be assigned the work. Payment will be based on actual hours worked at the contractual rates for various items as previously described up to the maximum task amount. Completion of the task is the sole responsibility of the Contractor once the not-to-exceed amount has been reached. Should unforeseen problems develop during the task completion, the Contractor will submit to the Engineer a revised scope of work with a comparison to the original scope of work along with a breakdown of the additional costs for approval by the Engineer. Approval for any increases to the agreed upon not-to-exceed cost will be dependent upon the justification of the additional work.

If the Contractor performs work which is not provided for in this Contract, or which was not authorized in writing by the Engineer, said Contractor shall receive no compensation for such work.

The management of the project and generating Cost Estimates, including such items as the planning of repair details, hiring of subcontractors, meetings with affected parties, scheduling of required artisans, purchasing of the necessary materials and the arrangement of equipment rentals, etc., will be considered incidental to the work and as such, no additional compensation will be provided.

RATES OF PAYMENT

Payment for Non-Bid Items and Item 100.1 Base Labor Rate will be made for time spent on the project doing actual work on the Department's bridges and shall NOT include travel time to and from the Contractor's place of business and it shall also not include time for investigative field trips to find out how much material, equipment, tools, etc., may be needed for the work.

All equipment, materials, engineering costs and artisans' compensation which are necessary to prosecute the work under the various contract bid items shall be incidental to those bid Items at no additional compensation.

Note: For work covered by bid items in this contract and those not covered, there may be situations where the Department has pertinent materials or equipment stockpiled. The Department reserves the right to utilize these materials or equipment as seen fit in the prosecution of the work.

RATES OF PAYMENT (Continued)

The Contractor will be reimbursed for the total actual cost (plus a percentage markup as indicated) for materials, equipment rental, additional artisans and engineering services required for related work directed by the Engineer. Artisans will be compensated as specified in Item 100.1 "Base Labor Rate". The Contractor will not bid the materials, equipment rental, additional artisan, and engineering services Items.

Payment for Non-Bid Items will be based on bills submitted, covering all charges for labor, materials, and equipment according to the respective terms of the contract. Bills covering the total charges incurred in any given month are to be submitted by the fifteenth of the following month for processing.

The Contractor is encouraged to submit bills/invoices of all charges to the Engineer by the 15th of the following month. It shall be required that the Contractor furnish certified copies of any or all payrolls for the Contract, showing the name, address, and occupational classification of each employee on said works, the hours worked by, and the wages paid to such employee.

SECTION 722 CONSTRUCTION SCHEDULING DESCRIPTION

722.20 General

The Contractor's approach to prosecution of the Work shall be disclosed to the Department by submission of a Critical Path Method (CPM) schedule and a cost/resource loaded Construction Schedule as defined by the schedule type set forth below. These requirements are in addition to any requirements imposed in other sections.

This section establishes the requirement for scheduling submissions. There are four schedule types identified as types A, B, C and D.

All schedules shall be prepared and submitted in accordance with this specification and the instructions contained in the Construction Schedule Toolkit located on the MassDOT-Highway Division website at <https://www.mass.gov/info-details/massdot-highway-Contractors-schedule-toolkit>.

Type A –

- Schedule Planning Session
- Baseline CPM Schedule
- Monthly Update CPM Schedule
- Short-term Construction Schedule
- Contract Schedule Update Meeting
- Cost-loaded & Resource Loaded CPM
- Resources Graphic Reporting
- Cash Flow Projections from the CPM
- Cash Flow Charts
- Monthly Projected Spending Report (PSR)
- Contractor-furnished CPM software and computer

Type B –

- Schedule Planning Session
- Baseline CPM Schedule
- Monthly Update CPM Schedule
- Short-term Construction Schedule
- Contract Schedule Update Meeting
- Cost-loaded & Resource Loaded CPM
- Monthly Projected Spending Report (PSR)
- Contractor-furnished CPM software and computer

Type C –

- Schedule Planning Session
- Baseline CPM Schedule
- Monthly Update CPM Schedule
- Short-term Construction Schedule
- Contract Schedule Update Meeting
- Monthly Projected Spending Report (PSR)
- Contractor-furnished CPM software and computer

SECTION 722 (Continued)**Type D -**

- Bar chart schedule updated monthly or at the request of the Engineer
- Short-term Construction Schedule
- Monthly Projected Spending Report (PSR)

EQUIPMENT, PERSONNEL**722.40 General****A. Software Requirements**

The Contractor shall use Primavera P6 computer scheduling software.

In addition to the requirements of Section 740 – Engineer’s Field Office and Equipment, the Contractor shall provide to the Department one (1) copy of the scheduling software, one (1) software license and one (1) computer capable of running the scheduling software for the duration of the Contract. This computer and software shall be installed in the Engineer’s Field Office. The computer and software shall be maintained and serviced at no additional cost to the Department.

B. Scheduler Requirements

The Scheduler shall be approved by the Engineer.

For Type A, B and C Schedules the name of the Contractor’s Project Scheduler together with his/her qualifications shall be submitted to the Department for approval by the Engineer within seven (7) Calendar Days after NTP. The Project Scheduler shall have a minimum of five (5) years of project CPM scheduling experience, three (3) years of which shall be on projects of similar scope and value as the project for which the Project Scheduler is being proposed. References shall be provided from past projects that can attest to the capabilities of the Project Scheduler.

SCHEDULING METHODS**722.60 General****A. Schedule Planning Session**

The Contractor shall conduct a schedule planning session prior to submission of the Baseline Schedule. This session will be attended by the Department and its consultants. During this session, the Contractor shall present its planned approach to the project including, but not limited to:

1. the Work to be performed by the Contractor and its subContractors;
2. the planned construction sequence and phasing; planned crew sizes;
3. summary of equipment types, sizes, and numbers to be used for each work activity;
4. all early work related to third party utilities;
5. identification of the most critical submittals and projected submission timelines;
6. estimated durations of major work activities;
7. the anticipated Critical Path of the project and a summary of the activities on that Critical Path;
8. a summary of the most difficult schedule challenges the Contractor is anticipating and how it plans to manage and control those challenges;

SECTION 722 (Continued)

9. a summary of the anticipated quarterly cash flow over the life of the project.

This will be an interactive session and the Contractor shall answer all questions that the Department and its consultants may have. The Contractor shall provide a written summary of the information presented and discussed during the session to the Engineer. The Contractor's Baseline Schedule and accompanying Schedule Narrative shall incorporate the information discussed at this Schedule Planning Session.

B. Schedule Reviews by the Department**1. Baseline Schedule Reviews**

The Engineer will respond to the Baseline Schedule Submission within thirty (30) Calendar Days of receipt providing comments, questions and/or disposition that either accepts the schedule or requires revision and resubmittal. Rejected Baseline Schedules shall be resubmitted within fifteen (15) Calendar Days after receipt of the Engineer's comments.

2. Contract Progress Schedule / Monthly Update Reviews / Recovery Schedules

The Engineer will respond to each submittal within twenty-one (21) Calendar Days. Rejected schedules shall be resubmitted by the Contractor within five (5) Calendar Days after receipt of the Engineer's comments.

The Engineer's review comments shall not be construed as direction to change the Contractor's means and methods. The review and acceptance of the CPM schedule does not relieve the Contractor of the responsibility for accomplishing the work within the contract required completion dates. Omissions and errors in the accepted CPM schedule shall not excuse performance less than that required by the Contract.

722.61 Schedule Content and Preparation Requirements

All schedules shall be prepared and submitted in accordance with the instructions contained in the Construction Schedule Toolkit located on the MassDOT-Highway Division website at:

<https://www.mass.gov/info-details/massdot-highway-Contractors-schedule-toolkit>
and the following:

A. LOGIC

The schedules shall divide the Work into activities with appropriate logic ties to show:

1. conformance with the requirements of this Section and Division I, Subsection 8.02 - Schedule of Operations
2. the Contractor's overall approach to the planning, scheduling, and execution of the Work
3. conformance with any additional sequences of Work required by the Contract Documents, including, but not limited to, Subsection 8.03 - Prosecution of Work and Subsection 8.06 – Limitations of Operations.

SECTION 722 (Continued)**B. ACTIVITIES**

The schedule shall clearly define the progression of the Work from the Notice to Proceed (NTP) to Contractor Field Completion (CFC) by using separate activities, or including attributes within appropriate activities, to address each of the following:

1. Notice to Proceed
2. Work Breakdown Structure
3. The Critical Path is clearly defined and organized.
4. Float shall be clearly identified.
5. Detailed activities to satisfy permit requirements.
6. SubContractor approvals at fifteen (15) Calendar Days from submittal to response
7. The preparation and submission of shop drawings, procedures, and other required submittals, with a planned duration that is to be demonstrated to the Engineer as reasonable.
8. The review and return of shop drawings, procedures, and other required submittals, approved or with comments, the duration of which shall be thirty (30) Calendar Days, unless otherwise specified or as approved by the Engineer.
9. Procurement of fabricated materials and equipment with long lead times, including time for review and approval of submittals required before procuring and fabricating.
10. Each component of the Work defined by specific activities.
11. Right-of-Way (ROW) takings that have been identified in the Contract.
12. Early Utility Relocation (by others) that has been identified in the Contract.
13. Interfaces with adjacent work, utility companies, other public agencies, sensitive abutters, and/or any other third-party work affecting the Contract.
14. Utility work to be performed in accordance with the Project Utility Coordination (PUC) Form as provided in Section 8.14 - Utilities Coordination, Documentation and Monitoring Responsibilities
15. Access Restraints – restrictions on access to areas of the Work that are defined by the Department in the bid package, in Subsection 8.06 – Limitations of Operations or elsewhere in the Contract
16. Limitations of Work – time of year restrictions and any other limitations identified in the contract
17. Traffic work zone set-up and removal, night work and phasing
18. Material Certifications
19. Milestones listed in Subsection 8.03 - Prosecution of Work or elsewhere in the Contract Documents
20. For Type A and B Contracts only: All items to be paid for, including all Unit Price and Lump Sum pay items, shall be identified by activity. This shall include all non-construction activities such as engineering work; purchase of permanent materials and equipment, purchase of structural steel stock, equipment procurement, equipment delivery to the site or storage location and the representative amount of overhead/indirect costs that was included in the Contractor's Bid Prices.

SECTION 722 (Continued)

21. Contractor's request for validation of FBU (ready to open to traffic)
22. Full Beneficial Use (FBU) Contract Milestone per the following requirements:
The majority of contract Work has been completed and the asset(s) has been opened for full multi-modal transportation use, except for limited contract work items that do not materially impair or hinder the intended public use of the transportation facility. All anticipated lane takings have been completed, except for minor, short term work items and as defined in Subsection 8.03 - Prosecution of Work
23. The Department's confirmation of completed work to allow for FBU.
24. Contractor's request for validation of Substantial Completion
25. Department generated punch list of twenty-one (21) Calendar Days
26. Substantial Completion Contract Milestone as defined in the standard specifications.
27. Punch list Completion Period of at least thirty (30) Calendar Days per the requirements of Subsections 5.11 - Final Acceptance, 7.15 - Claims Against Contractors for Payment of Labor, Materials and Other Purposes
28. Contractor confirmation that all punchlist work and documentation has been completed.
29. Physical Completion of the Work Contract Milestone per the requirements of Subsections 5.11 - Final Acceptance and 8.03 - Prosecution of Work
30. Documentation Completion per the requirements of Subsections 5.11 - Final Acceptance and 8.03 - Prosecution of Work
31. Contractor Field Completion Contract Milestone (which can also be considered the completion date) per the following requirements: All physical contract Work is complete including punchlist. The Contractor has fully de-mobilized from field operations and as defined in Subsection 5.11

C. EARLY AND LATE DATES

Early Dates shall be based on proceeding with the Work or a designated part of the Work exactly on the date when the corresponding Contract Time commences. Late Dates shall be based on completing the Work or a designated part of the Work exactly on the corresponding Contract Time, even if the Contractor anticipates early completion.

D. DURATIONS

Activity durations shall be in Work Days. Planned Original Durations shall be established with consideration of resources and production rates that correspond to the Contractor's Bid Price. Within all of the Department-required schedules, the Contractor shall plan the Work using durations for all physical construction activities of no less than one (1) Work Day and no greater than fourteen (14) Work Days, unless approved by the Engineer as part of the Baseline Schedule Review.

SECTION 722 (Continued)

Should there be an activity with a duration that is determined by the Engineer to be unreasonable, the Contractor will be asked to provide a basis of the duration using bid documents, historic production rates for similar work, or other form of validation that is acceptable to the Engineer. Should the Contractor and the Engineer be unable to agree on reasonable activity durations, the Engineer will, at a minimum, note the disagreement in the Baseline Schedule Review along with a duration the Engineer considers reasonable and the basis for that duration. A schedule that contains a substantial number of activities with durations that are deemed unreasonable by the Engineer will not be accepted.

E. MATERIALS ON HAND

The Contractor shall identify in the Baseline Schedule all items of permanent materials (Materials On Hand) for which the Contractor intends to request payment prior to the incorporation of such items into the Work.

F. ACTIVITY DESCRIPTIONS

The Contractor shall use activity descriptions in all schedules that clearly describe the work to be performed using a combination of words, structure numbers, station numbers, bid item numbers, work breakdown structure (WBS) and/or elevations in a concise and compact label.

G. ACTIVITY IDENTIFICATION NUMBERS

The Contractor shall use the activity identification numbering system specified in the MassDOT Highway Division Contractor Construction Schedule Toolkit.

H. ACTIVITY CODES

The Contractor shall use the activity codes specified in the MassDOT Highway Division Contractor Construction Schedule Toolkit.

I. CALENDARS

Different calendars may be created and assigned to all activities or to individual activities. Calendars define the available hours of work in each Calendar Day, holidays and general or project-specific non-Work Days such as Fish Migration Periods, time-of-year (TOY) restrictions and/or area roadway restrictions. All calendars shall extend two years beyond the current project completion date.

Project Special Provisions identify specific calendar restrictions some examples of special calendars include, but are not limited to:

- Winter Shutdown Period, specific work is required by separate special provision to be performed during the winter. See Special Provision 8.03 (if applicable)
- Peak traffic hours on heavily traveled roadways. This shall be from 6:30 am to 9:30 am and from 3:30 pm to 7:00 pm, unless specified differently elsewhere in the Contract.
- Special requirements by sensitive abutters, railroads, utilities and/or other state agencies as defined in the Contract.
- Planting seasons for trees, shrubs and grasses and wetlands mitigation work.

SECTION 722 (Continued)

- Cape Cod and the Islands Summer Roadway Work Restrictions: A general restriction against highway and bridge construction is enforced between Memorial Day and Labor Day, unless otherwise directed by the Engineer. Cape Ann Summer Roadway Work Restrictions: While there are no general restrictions for Cape Ann as there are for Cape Cod and the Islands, project-specific restrictions may be enforced.
- Turtle and/or Fish Migration Periods and/or other in-water work restrictions: Refer to the Project Special Provisions for specific restrictions.
- Working over Waterways Restricted Periods.
- Night-time paving and striping operations, traffic, and temperature restrictions.
- Utility Restrictions shall be as specified within the Contract.

J. FLOAT

For the calculation of float in the CPM schedule, the setting for *Retained Logic* is required for all schedule submissions, starting with the Baseline Schedule Submission. Should the Contractor have a reason to propose that an alternative calculation setting such as *Progress Override* be used, the Contractor shall obtain the Engineer's approval prior to modifying to this setting.

K. COST AND RESOURCE LOADING (Types A and B only)

For all Type A and B Schedules, the Contractor shall provide a cost and resource-loaded schedule with an accurate allocation of the costs and resources necessary to complete the Work. The costs and resources shall be assigned to all schedule activities in order to enable the Contractor to efficiently execute the Contract requirements and the Engineer to validate the original plan, monitor progress, provide cash flow projections, and analyze delays.

1. Each schedule activity shall have an assigned cost that accurately represents the value of the Work. Each schedule activity shall have its resources assigned to it by craft and the anticipated hours to accomplish the work. Each schedule activity's equipment resources shall be assigned to it by equipment type and hours operated. Front-loading or other unbalancing of the cost distribution will not be permitted.
2. The sum of the cost of all schedule activities shall be equal to the Contractor's Bid Price.
3. Indicating the labor hours per individual, per day, by craft and equipment hours/day will be acceptable.
4. The Engineer reserves the right to use the cost-loading as a means to resolve changes, disputes, time entitlement evaluations, increases or decreases in the scope of Work, unit price renegotiations and/or claims.
5. For all Type A and B Schedules, all subnets, fragnets, Proposal Schedules, and Recovery Schedules shall be cost and resource- loaded to help to quickly validate and monitor the duration of the Work to be performed.
6. For Type A Schedules, cost-loading of the schedule will also be used for cash flow projection purposes.
7. The cost-loading of each activity shall indicate the portion of the cost for that activity that is applicable to a specific bid item (cost account.) The total cost for each cost account must equal the bid item price.

SECTION 722 (Continued)**L. NOT TO BE USED IN THE CONTRACTOR'S CPM SCHEDULE**

1. Milestones or constraint dates not specified in the Contract.
2. Scheduled work not required for the accomplishment of a Contract Milestone
3. Use of activity durations, logic ties and/or sequences deemed unreasonable by the Engineer.
4. Delayed starts of follow-on trades.
5. Float suppression techniques.
6. Leads such as leads, lags, SS, SF, & FF relationships without the expressed permission of the Department.

722.62 Submittal Requirements

All schedules shall be prepared and submitted in accordance with the requirements listed below.

Each monthly Contract Progress Schedule submittal shall be uniquely identified.

Each Submission shall, at a minimum, include the following:

- a. Narrative
- b. Schedule submittals shall be signed by the Scheduler
- c. Schedule Printout - All Activities
- d. Schedule Printout - Critical Path Layout
- e. Schedule Printout - Remaining Work
- f. Schedule Printout - Top 3 Float Path
- g. Work Breakdown Structure (WBS) Summary
- h. Project Spending Report (PSR) in Portable Document Format (.PDF)
- i. Project Spending Report (PSR) in Microsoft Excel spreadsheet (.XLS)
- j. Oracle Primavera P6 Schedule File (.XER)

All digital file submittals will be labeled with the following information.

- Contract Number
- Project Number
- Project locations (i.e., town(s))
- Brief description
- Submittal description (i.e., UP07)
- Data Date (MM-DD-YY)
- File Description (i.e., Critical Path)

Example: C110464 (P606309) - Orange Route 2 over 202 – UP23 (07-15-22) - Critical Path

A. Narratives

A written narrative shall be submitted with every schedule submittal. The narrative shall:

1. itemize and describe the flow of work for all activities on the Critical Path in a format that includes any changes made to the schedule since the previous Contract Progress Schedule / Monthly Update or the Baseline Schedule, whichever is most recent.
2. provide a description of any specification requirements that are not being followed. Identify those that are improvements and those that are not considered to be meeting the requirements.

SECTION 722 (Continued)

3. provide all references to any Notice of Delay that has been issued, within the time period of the Contract Progress Schedule Update, by letter to the Engineer. Note that any Notice of Delay that is not issued by letter will not be recognized by the Engineer. See Subsection 722.64.A – Notice of Delay.
4. provide a description of each third-party utility's planned vs. actual progress and note any that are trending late or are late per the durations and commitments as provided in the PUC Form; provide a description of the five (5) most important responses needed from the Department and the need date for the responses in order to maintain the current Schedule of Record.
5. provide a description of all critical issues that are not within the control of the Contractor or the Department (third party) and any impact they had or may have on the Critical Path.
6. provide a description of any possible considerations to improve the probability of completing the project early or on time.
7. compare Early and Late Dates for activities on the Critical Path and describe reasons for changes in the top three (3) most critical paths.
8. describe the Contractor's plan, approach, methodologies, and resources to be employed for completing the various operations and elements of the Work for the top three (3) most critical paths. For update schedules, describe and propose changes to those plans and verify that a Proposal Schedule is not required.
9. describe, in general, the need for shifts that are not 5 days/week, 8 hours/day, the holidays that are inserted into each calendar and a tabulation of each calendar that has been used in the schedule.
10. describe any out-of-sequence logic and provide an explanation of why each out-of-sequence activity does not require a correction, if one has not been provided, and an adequate demonstration that these changes represent the basis of how these activities will be built, including considerations for resources, dependencies, and previously approved production rates.
11. identify any possible duration increases resulting from actual or anticipated unit price item quantity overruns as compared to the baseline duration, with a corresponding suggestion to mitigate any possible delays to the Critical Path. If the delay is anticipated to impact the Critical Path, refer to Subsections 4.06 – Increased or Decreased Contract Quantities and 8.10 – Determination and Extension of Contract Time for Completion and submit a letter to the Engineer notifying of a potential delay.
12. include a schedule log consisting of the name of the schedule, the data date and the date submitted.
13. include and describe any notifications, communications and coordination meetings with third-parties such as utility companies that occurred from the last update including personnel names, job titles and contact information, date of meeting(s)/correspondence(s), topics discussed, and reasons the third party provided for deviations from the PUC form.

SECTION 722 (Continued)**B. CPM Bar Charts**

One (1) timescaled bar chart containing all activities shall be prepared and submitted using a scale that yields readable plots and that meets the requirements of Subsection 722.61 – Schedule Content and Preparation Requirements. Activities shall be linked by logic ties and shown on their Early Dates. Critical Paths shall be highlighted, and Total Float shall be shown for all activities.

A second timescaled bar chart shall also be prepared containing only the Critical Path or, if the Critical Path is not the longest path, the Longest Path using a scale that yields readable plots and that meets the requirements of Subsection 722.61 – Schedule Content and Preparation Requirements. Activities shall be linked by logic ties and shown on their Early Dates. Total Float shall be shown for all activities.

C. Detailed Activity Schedule Comparisons

A Detailed Activity Schedule Comparison (DASC) is a simple reporting tool in the format of a graphical report that will provide Resident Engineers with immediate, timely and up-to-date information. The DASC consists of an updated bar chart that overlays the current time period's bar chart onto the previous time period's bar chart for an easily read comparison of progress during the present and previous reporting periods.

D. Activity Cost Report and Monthly Cash Flow Projections (Type A only)

With each Contractor Quantity Estimate (CQE), the Contractor shall submit an Activity Cost Report and Cash Flow Projection that includes all activities grouped by Contract Bid Item.

The Activity Cost Report shall be generated from the Schedule of Record and shall be the basis of the Monthly Cash Flow Projection. Within each contract Bid Item, activities shall be sequenced by ascending activity identification number and shall show:

1. activity ID and description,
2. forecast start and finish dates for each activity and,
3. when submitted as a revised schedule, actual start, and finish dates for each completed activity.
4. any variance to the estimated contract quantity shall be shown.

E. Resource Graphs (Type A only)

Monthly and cumulative resource graphs for the remaining Contract period using the Early Dates and Late Dates in the Contract Progress Schedule shall be included as part of each schedule submittal.

SECTION 722 (Continued)**F. Projected Spending Reports**

A Projected Spending Report (PSR) shall be prepared and submitted monthly. The PSR shall indicate the monthly spending (cash flow) projection for each month from NTP to Contractor Field Completion (CFC). Each month's actual spending shall be calculated using all CQEs paid during that month. The Projected Spending Report (PSR) shall be depicted in a tabular format and provided in both an .XLS and .PDF.

722.63. Progress Schedule Requirements**A. Baseline Schedule**

The Baseline Schedule shall be due thirty (30) Calendar Days after Notice to Proceed (NTP). The Baseline Schedule shall only reflect the Work awarded to the Contractor and shall not include any additional work involving Extra Work Orders or any other type of alleged delay. The Baseline Schedule shall be prepared and submitted in accordance with Subsections 722.61 - Schedule Content and Preparation Requirements and 722.62 - Submittal Requirements. Once the Baseline Schedule has been accepted by the Engineer, with or without comments, it shall represent the as-planned schedule for the Work and become the Contract Progress Schedule of Record until such time as the schedule is updated or revised under Subsections 722.63.C - Contract Progress Schedules / Monthly Updates, 722.64.C - Recovery Schedules and 722.64.D - Proposal Schedules.

The Cost and Resource-Loading information (Types A and B only) shall be provided by the Contractor within forty-five (45) Calendar Days after NTP.

The Engineer's review comments on the Baseline Schedule and the Contractor's responses to them will be maintained for the duration of the Contract and will be used by the Engineer to monitor the Contractor's work progress by comparing it to the Contract Progress Schedule / Monthly Update.

B. Interim Progress-Only Schedule Submissions

The first monthly update of the Contract Progress Schedule/Monthly Update is due within seventy (70) Calendar Days after Notice to Proceed (NTP.) The Baseline Schedule review period ends at sixty (60) Calendar Days after NTP, see Subsection 722.60.B - Schedule Reviews by the Department. If the Baseline Schedule has not been accepted within sixty (60) Calendar Days after NTP, an Interim Progress-Only Schedule shall be due within seventy (70) Calendar Days after NTP. The purpose of the Interim Progress-Only Schedule is to document the actual progress of all activities, including non-construction activities, from NTP until the Baseline Schedule is accepted.

SECTION 722 (Continued)**C. Contract Progress Schedules / Monthly Updates**

The first Contract Progress Schedule shall be submitted by the Contractor no later than seventy (70) Calendar Days after NTP. The data date for this first Progress Schedule shall be two months (approximately sixty (60) Calendar Days) after NTP. Subsequent Progress Schedules shall be submitted monthly.

Each Contract Progress Schedule shall reflect progress up to the data date. Updated progress shall be limited to asbuilt sequencing and asbuilt dates for completed and inprogress activities. Asbuilt data shall include actual start dates, remaining Work Days and actual finish dates for each activity, but shall not change any activity descriptions, the Original Durations, or the Original Resources (as planned at the time of bid), without the acceptance of the Engineer. If any activities have been completed out-of-sequence, the Contractor shall propose new logic ties for affected in-progress and future activities that accurately reflect the previously approved sequencing. Alternatively, the Contractor may submit to the Engineer for approval an explanation of why an out-of-sequence activity does not require a correction and an adequate demonstration that the changes accurately represent how the activities will be built, including considerations for resources, dependencies, and previously approved production rates. Once approved by the Engineer, the Contractor may incorporate the changes in the next Contract Progress Schedule/Monthly Update with the affected activities clearly identified and explained in the Schedule Narrative.

No revisions to logic ties, sequence, description, or duration of future activities; or planned resource costs shall be made without prior approval by the Engineer.

Any proposed logic changes for in-progress or future activities shall be submitted to the Engineer for approval before being incorporated into a Contract Progress Schedule. The logic changes must be submitted using a Proposal Schedule or a schedule fragnet submission. Once approved by the Engineer, the Contractor may incorporate the logic in the next Contract Progress Schedule/Monthly Update with the affected activities clearly identified and explained in the Schedule Narrative.

For any proposed changes to the original sequence, description or duration of future activities, the Contractor shall submit to the Engineer for approval an explanation of how the proposed description or duration change reflects how the activity will be progressed, including considerations for resources and previously approved production rates. Any description or duration change that does not accurately reflect how the activity will be progressed will not be approved by the Engineer. Once approved by the Engineer, the Contractor may incorporate the changes in the next Contract Progress Schedule/Monthly Update with the affected activities clearly identified and explained in the Schedule Narrative.

Contract Progress Schedules that extend performance beyond the Contract Time or beyond any Contract Milestone shall not be approved by the Engineer. The Contractor shall submit a Recovery Schedule, or a Time Entitlement Analysis, if any Contract Progress Schedule/Monthly Update indicates a failure to meet the Contract Dates.

SECTION 722 (Continued)**D. Short-Term Construction Schedule**

The Contractor shall provide a Short-Term Construction Schedule that details daily work activities, including any multiple shift work that the Contractor intends to conduct, in a spreadsheet format. The daily activities shall directly correspond to the Contract Progress Schedule activities, with a matching reference to the activity identification number in the Contract Progress Schedule and may be at a greater level of detail. The Short-Term Construction Schedule shall be submitted every two weeks. It shall display all work for a thirty-five (35) Calendar Day period consisting of completed work for the two (2) week period prior and all planned work for the following three (3) week period. The initial submission shall be provided no later than thirty (30) Calendar Days after NTP or as required by the Engineer.

The Contractor shall be prepared to discuss the Short-Term Construction Schedule, in detail, with the Engineer in order to coordinate field inspection staff requirements, the schedule of work affecting abutters and any corresponding work with affected utilities. Short-Term Construction Schedules shall be prepared and submitted in accordance with Subsections 722.61 - Schedule Content and Preparation Requirements and 722.62 - Submittal Requirements.

722.64 Impacted Schedule Requirements**A. Notice of Delay**

The Contractor shall notify the Engineer in writing, with copies to the District and State Construction Engineers, within fifteen (15) of the start of any delays to the Critical Path that are caused by actions or inactions that were not within the control of the Contractor. Delay notifications that are not provided in a letter to the Engineer, such as a delay notification in the schedule narrative, will not be recognized as contractual notice in the determination of any Time Extension related to the impacts to the work associated with this specific alleged delay. Should such a delay continue for more than one (1) week, the Contractor shall note it in the Schedule Narrative until the delay is no longer impacting the Critical Path for the completion of the Contract Milestones. The Engineer will evaluate the alleged delay and its impact and will respond to the Contractor within ten (10) Calendar Days after receipt of a notice of delay.

B. Time Entitlement Analysis

A Time Entitlement Analysis (TEA) shall consist of a descriptive narrative, prepared in accordance with Subsection 722.62.A - Narratives, and an as-built CPM schedule, which may be in the form of a schedule fragnet that has been developed from the project's Contract Progress Schedule of Record, and illustrates the impact of a delay to the Critical Path, Contract Milestones and/or Contract Completion Date as required in Subsection 8.10 - Determination and Extension of Contract Time for Completion. TEAs shall also be used to determine the schedule impact of proposed Extra Work Orders (EWO) as also required in Subsection 8.10.

TEAs shall be prepared and submitted in accordance with the requirements of Subsections 722.61 - Schedule Content and Preparation Requirements and 722.62 - Submittal Requirements and shall be based on the Contract Progress Schedule of Record applicable at the start of the delay or impact from an EWO. A TEA fragnet must start with a specific new activity describing the work contained in either a Notice of Delay previously submitted to the Department per Subsection 722.64.A - Notice of Delay or an EWO.

SECTION 722 (Continued)

TEAs shall be submitted:

1. as part of any Extra Work Order that may impact Contract Time,
2. with a request for a Time Extension,
3. within fifteen (15) Calendar Days after a request for a TEA by the Engineer for any other reason.

A TEA shall be submitted to the Engineer before any Time Extension is granted to the Contractor. Time Extensions will not be granted unless the TEA accurately reflects an evaluation of all past delays and the actual events that occurred that impacted the Critical Path. The TEA must also demonstrate a plan for the efficient completion of all of the remaining work through an optimized CPM Schedule. The analysis shall include all delays, including Contractor-caused delays, and shall be subdivided into timeframes and causes of delays.

TEAs shall incorporate any proposed activities, logic ties, resource considerations, and activity costs required to demonstrate the schedule impacts most efficiently in addition to detailing all impacts to existing activities, logic ties, the Critical Path, Contract Milestones, and the Contract Completion Date. In addition, TEAs shall accurately reflect any changes made to activities, logic ties, restraints, and activity costs, necessitated by an Extra Work Order or other schedule impact, for the completion of the remaining work. The Contractor shall provide TEAs that demonstrate that all delays have been mitigated to the fullest extent possible without requiring an Equitable Adjustment to the original bid basis.

All TEAs shall clearly indicate any overtime hours, additional shifts and the resources that are proposed to be incorporated in the schedule. The Engineer shall have final discretion over the use of overtime hours and additional shifts. The Engineer shall have the right to require that overtime hours and/or additional shifts be used to minimize the duration of Time Extensions if it is determined to be in the best interest of the Department to do so.

When accepted, the changes included in a TEA shall be incorporated into the next Contract Progress Schedule per the requirements of Subsection 722.63.C - Contract Progress Schedules / Monthly Updates. During the review of any TEA, all Contract Progress Schedules shall continue to be submitted as required.

The Engineer may request that the Contractor prepare a Proposal Schedule or a Recovery Schedule to further mitigate any delays that are shown in the accepted TEA or Contract Progress Schedule.

C. Recovery Schedules

The Contractor shall promptly report to the Engineer all schedule delays during the prosecution of the Work. Contract Progress Schedules that predict performance extended beyond the Contract Time or beyond any Contract Milestone shall not be approved as the schedule of record. This requirement is critical to the Department's ability to make informed decisions regarding Contract Time and costs.

The Contractor shall submit a Recovery Schedule within fifteen (15) Calendar Days of a Contract Progress Schedule submission that shows failure to meet the Contract Dates unless a recovery schedule is waived by the Department. Waiving the recovery schedule does not relieve the Contractor of the responsibility for the delay. The Department may revoke the waiver of a Recovery Schedule, at which time a Recovery Schedule shall be submitted within fifteen (15) Calendar Days of the Contractor being notified.

Changes represented in accepted Recovery Schedules shall be incorporated into the next Contract Progress Schedule.

SECTION 722 (Continued)**D. Proposal Schedules**

A Proposal Schedule is an alternative schedule used to evaluate proposed changes to the Contract scope or significant alternatives to previously approved approaches to complete the Work, which may include changes to activity durations, logic, and sequence. For Types A and B Schedules, the Proposal Schedule shall be cost and resource loaded.

A Proposal Schedule may be requested by the Department at any time or may be offered by the Contractor. The Engineer may request that the Contractor prepare a Proposal Schedule to further mitigate any delays that are shown in an accepted TEA or Contract Progress Schedule.

The Contractor shall submit the Proposal Schedule within thirty (30) Calendar Days of a request from the Department.

The Proposal Schedule shall not be considered a Schedule of Record until the logic, durations, narrative, and basis of the Proposal Schedule have been accepted by the Engineer. If the Proposal Schedule took the form of a fragnet, it must be incorporated into the Contract Progress Schedule of Record showing the current progress of all other activities and the impacts/results of the changes made by the Proposal Schedule before the Proposal Schedule is accepted by the Department.

Proposal Schedules shall clearly indicate any proposed acceleration including overtime hours, additional shifts, and the resources that are proposed to be incorporated in the schedule. The Engineer shall have final discretion over the use of overtime hours and additional shifts. Proposal Schedules that contain a cost element shall be submitted with a separate Cost Proposal.

Changes represented in the accepted Proposal Schedules shall be incorporated into the next Contract Progress Schedule. During the review of any Proposal Schedule, all Contract Progress Schedules shall continue to be required every month.

E. Disputes

All schedules shall be submitted, reviewed, dispositioned, and accepted in the timely manner specified herein so as to provide the greatest possible benefit to the execution of this Contract.

The Contractor may dispute a decision by the Engineer by filing a claim notice within seven (7) days after the Contractor's request for additional time has been denied or if the Contractor does not accept the number of days granted in a time extension. The Contractor's claim notice shall include a revised time entitlement analysis that sufficiently explains the basis of the time-related claim. Failure to submit the required time entitlement analysis with the claim notice shall result in denial of the Contractor's claim. A determination on the Contractor's claim shall be in accordance with Subsection 7.16 Claims of Contractor for Compensation. Pending resolution of any dispute, the last schedule accepted by the Engineer will remain the Contract Schedule of Record.

SECTION 722 (Continued)**722.65 Schedule Type D Requirements**

This section is to detail the requirements for Type D Schedules and is separate from the requirements listed above. These schedules are intended for a project in which a more formal schedule would not be practical.

Schedules for Type D projects shall be submitted for each work assignment. The Schedule Type D shall be submitted electronically in .XLS and .PDF format and meet the following requirements.

The schedule requirements for work assignments that are anticipated to last three weeks or less shall conform to the requirements for Short-term Construction Schedules below.

Work assignments that are anticipated to last longer than three weeks shall submit a bar chart baseline and provided update schedules upon request of the engineer as required under Bar Chart Schedule below in addition to meeting the Short-term Construction schedule requirements.

A. Bar Chart Schedule

A Bar Chart that shall include the following:

- Work Assignment start date.
- Activities to identify.
 - Major work operations broken down to be no longer than 14 days.
 - Procurement of fabricated materials and equipment with long lead times, including time for review and approval of submittals required before procuring and fabricating.
 - The preparation and submission of shop drawings, procedures, and other required submittals, with a planned duration that is to be demonstrated to the Engineer as reasonable.
 - The review and return of shop drawings, procedures, and other required submittals, approved or with comments, the duration of which shall be shown as thirty (30) Calendar Days,
 - Detailed activities to satisfy permit requirements.
 - SubContractor approvals at fifteen (15) Calendar Days from submittal to response
 - Project Close out activities including a 21-calendar day creation of a punchlist activity and 30 calendar day minimum completion of punchlist activity.
- Interfaces with adjacent work, utility companies, other public agencies, sensitive abutters, and/or any other third-party work affecting the Contract.
- Access Restraints – restrictions on access to areas of the Work
- Traffic work zone set-up and removal, night work and phasing
- Contract Milestones including Full beneficial Use, Substantial Completion and Contractor Field Completion

The Bar Char Schedule shall be provided at the beginning of the project and updated with each work order created for the project.

SECTION 722 (Continued)**B. Short-Term Construction Schedule**

The Contractor shall provide a Short-Term Construction Schedule that details daily work activities, including any multiple shift work that the Contractor intends to conduct, in a spreadsheet format. The daily activities shall directly correspond to the Contract Progress Schedule activities, with a matching reference to the activity identification number in the Contract Progress Schedule and may be at a greater level of detail. See schedule toolkit for suggested format.

The Short-Term Construction Schedule shall be submitted every two weeks. It shall display all work for a thirty-five (35) Calendar Day period consisting of completed work on the assignment for the two week period prior and all planned work for the following three week period. The initial submission shall be provided no later than thirty (30) Calendar Days after NTP or as required by the Engineer.

The Contractor shall be prepared to discuss the Short-Term Construction Schedule, in detail, with the Engineer in order to coordinate field inspection staff requirements, the schedule of work affecting abutters and any corresponding work with affected utilities.

C. Project Spending Report (PSR)

A Projected Spending Report (PSR) shall be prepared and submitted monthly. The PSR shall be for all active work assignments, broken down by work assignment. The PSR shall indicate the monthly spending (cash flow) projection for each month from NTP to Contractor Field Completion (CFC). Each month's actual spending shall be calculated using all CQEs paid during that month. The Projected Spending Report (PSR) shall be depicted in a tabular format and provided in both an .XLS and .PDF

SECTION 722 (Continued)**COMPENSATION****722.80 Method of Measurement****Schedule of Operations (Type A, B and C)**

The project bid documents specify the fixed-price amounts to be paid to the Contractor for the Project Schedule requirements contained herein. Each bidder shall include this fixed price bid item amounts in their bid. Failure to do so may be grounds for the rejection of the bid.

This fixed price amount is for payment purposes only and is separate from what the Department considers to be the Contractor's General Condition costs. If the Contractor deems it necessary to include additional costs to provide all of the requirements of this section, these additional costs shall be included in the Contractor's overall bid price.

All required schedule-related work, including, but not limited to computers, computer software, the planning and coordination with utilities, training, schedule preparation and schedule submittals will be paid for under the fixed price amount.

Twenty percent (20%) of this pay item will be paid upon the Engineer's acceptance of the Contractor's Baseline Schedule, prepared and submitted in accordance with Subsection 722.63.A.

The remaining eighty percent (80%) of this pay item will be paid in equal monthly installments distributed across the Contract Duration from Notice to Proceed (NTP) to Contractor Field Completion (CFC), less the 2 months required for the submittal and review of the Baseline Schedule in accordance with the following formula:

$$\text{Monthly Payment} = \frac{\text{Remaining Fixed Price amount (80\% of the Item Cost.)}}{\text{Contract Duration in whole months} - 2 \text{ months}}$$

The Schedule of Operations pay item will be adjusted to pay for only the actual quantity of schedules that have been submitted in accordance with this section.

Should there be a Time Extension granted to the Contractor, the Engineer may provide an Equitable Adjustment for additional Contract Progress Schedule Updates at intervals directed by the Engineer. The monthly payment will be the basis for this Equitable Adjustment.

Schedule of Operations (Type D)

For projects assigned with Type D schedule requirements, all scheduling work shall be considered incidental to the project with no separate payment under this section.

SECTION 722 (Continued)**722.81 Basis of Payment**

The timely and accurate submission of the Baseline Schedule is critical to the Contract and the Department's ability to make informed decisions. Only payments under Item 740 - Engineer's Field Office and Item 748 - Mobilization will be made until the Baseline Schedule is accepted by the Engineer.

All required schedule-related work, including, but not limited to computers, computer software, the planning and coordination with utilities, training, schedule preparation and schedule submittals (including monthly progress schedules, short-term schedules, project spending reports, TEAs, recovery schedules or impacted schedules) shall be included in this work.

No payment for any other pay item will be processed beyond seventy-five (75) Calendar Days from Notice to Proceed (NTP) until the Baseline Schedule is accepted by the Engineer. Until the Engineer's acceptance of the Baseline Schedule, the combined total of all payments made to the Contractor will be limited to an amount no greater than the total price for Item 748 - Mobilization or 3% of the contract price, whichever is less.

All Contract Progress Schedule Updates submitted later than ten (10) Calendar Days after the CQE (Contract Quantity Estimate) completion date, or greater than forty (40) Calendar Days from the Data Date of the previous submission, will be deemed to be no longer useful and will not qualify for payment. The late submission of Impacted schedules, including TEAs, recovery schedules and proposal schedules will result in the forfeiture of the monthly payment for the month in which they were due and subsequent months until the submission is made. Late submission of missed submittals will not result in recovery of the previously forfeited portion of the Schedule of Operations Fixed Price Payment Item.

Failure to submit schedules as and when required may result in the forfeiture of that portion of the Schedule of Operations Fixed Price Payment and/or the withholding of the full or partial CQE payments by the Engineer.

Failure to submit schedules that are acceptable to the Engineer may result in the forfeiture of that portion of the Schedule of Operations Fixed Price Payment and/or the withholding of the full or partial CQE payments by the Engineer.

The Schedule of Operations pay item will be adjusted to pay for only the actual quantity of schedules that have been submitted in accordance with this section.

The Contractor's failure or refusal to comply with the requirements of this Section shall be reasonable evidence that the Contractor is not prosecuting the Work with due diligence and may result in the Engineer withholding of full or partial payments of all work performed.

722.82 Payment Items

722.1	SCHEDULE OF OPERATIONS (TYPE A) - FIXED PRICE \$ _____	LUMP SUM
722.2	SCHEDULE OF OPERATIONS (TYPE B) - FIXED PRICE \$ _____	LUMP SUM
722.3	SCHEDULE OF OPERATIONS (TYPE C) - FIXED PRICE \$ _____	LUMP SUM

ITEM 100.1**BASE LABOR RATE****HOURLY**

The Contractor shall provide competent artisans, possessing all pertinent licenses and/or certifications, as required by the Engineer, to maintain and repair various components of the bridges.

Included in this Item will be a tool kit for each trade with incidental tools, special apparel, any required personal safety equipment, and a vehicle for each trade with no additional charge to the Department.

The Contractor shall submit to the Engineer all pertinent licenses and/or certifications for each artisan prior to beginning any work. Failure to provide the pertinent licenses and/or certifications could result in the artisan being compensated at the laborer rate regardless of how the Contractor so compensated the artisan.

The payment under this Item will be for the artisan and their toolkit only.

Payment will be based upon time spent on the project doing actual work assigned by the Engineer and shall NOT include travel time to and from the Contractor's place of business and it shall also not include time for investigative field trips.

Payment for equipment, other than the usual artisan toolbox, will be made under payment for equipment rental as stated elsewhere in these special provisions.

All tools and equipment contained in the artisan tool kit shall be in excellent working condition.

Incidental to this item, vehicles are to be supplied for each artisan. If more than one artisan of a certain type (for example, carpenter) is working at a work site, the Contractor need only supply the minimum vehicles required to transport the artisans, their equipment, any laborers, materials, and supplies. The artisan vehicle(s) shall be capable of transporting materials consistent with the trade. It is the intent under this item for material deliveries to be reimbursable only for bulk items or materials of sufficient quantity as determined by the Engineer. The Contractor shall make his bid with the understanding that ownership and operating costs do not apply and are not reimbursable for the vehicles utilized under the artisan items.

If a separate tool truck is utilized, such vehicle shall also be incidental to Item 100.1.

Any additional vehicles the Engineer deems necessary will be paid for under the rental equipment item. If it is the Contractor's policy for the artisans to use their personal vehicles for the above purposes, no additional vehicles are required.

Equipment and tools that are part of the artisan's toolbox are as follows:

Laborer

Small hand tools, handheld power tools, chipping hammer, eye shields, gloves, protective clothing, generators as necessary to run the equipment and equipment that is normally used in the trade.

ITEM 100.1 (Continued)**Carpenter**

Hammer, framing square, tape measure, pouch, levels, hand saws, power saws, all electric power tools, air tools and generators and compressors as necessary to run the equipment. Saw blades and drill bits are also included.

Cement Mason

All trowels, floats, Chipping Hammers, Wire Brushes, Trowels, Floats, Reinforcing Tie Wires, Mortar Boards, Jointing Tools and Buckets, mortar board and mixing tub/buckets, and other hand tools as necessary to complete masonry patching work.

Iron Worker/Welder

Spud wrench, dowels, alignment pins, tape measure, pouch, levels, eye shields, gloves, protective clothing, rivet buster, air hammer, jackhammer, reamers, chipping hammer, wire brushes AC/DC- 300 amp- 100% duty cycle (minimum size) welding machine, torches for cutting, burning, or preheating steel, including fuel tanks & fuel / oxygen, grinders, heating oven for all welding consumables and other equipment that is normally used in the trade.

Operator

Operator shall have all licenses and certifications required by the Commonwealth of Massachusetts for the equipment they will be operating. Operators shall be in possession of their licenses at all times and show it to the Engineer when requested. Typical equipment includes a backhoe, skid-steer loader, and front-end loader.

Equipment which does not require a special license or certification for its operation shall be considered incidental to the artisan using it.

Method of Measurement

Item 100.1 will be measured for payment by the Hour.

The Engineer will calculate total Base Labor Rate hours spent on the project by artisans.

Overtime hours will be paid for work exceeding eight (8) consecutive hours per day or forty (40) hours per week and shall be compensated as specified in this Item.

To calculate the total Base Labor Rate hours, the Engineer will modify hours spent by various artisans on the project using adjustment factor(s) described below:

COMPENSATION FACTORS		
<u>ARTISAN</u>	<u>REGULAR</u>	<u>OVERTIME</u>
LABORER	1	1.3
CARPENTER	1.16	1.51
CEMENT MASON	1.29	1.68
IRON WORKER/WELDER	1.29	1.68
OPERATOR	1.32	1.72

ITEM 100.1 (Continued)

If an artisan has an apprentice, then that apprentice's compensation factor shall be determined from the State Wages Apprentice level.

The Compensation Factors above will be used to adjust the number of hours a specific artisan will be paid for, per one (1) hour of work.

Example:

If the time spent on this project by various artisans is:

- Laborer 8 hrs
- Carpenter 4 hrs
- Cement Mason 6 hrs

Then the total hours for "Base Labor Rate" will be calculated as follows:

- "Artisan A(hrs)" x "Compensation Factor A" +
 - "Artisan B(hrs)" x "Compensation Factor B" +
 - "Artisan C(hrs)" x "Compensation Factor C"
- $$8(\text{hr}) \times 1.00 + 4(\text{hr}) \times 1.16 + 6(\text{hr}) \times 1.29 =$$
- $$8.00(\text{hr}) + 4.64(\text{hr}) + 7.74(\text{hr}) = 20.38 (\text{hr})$$

The total hours for "Base Labor Rate" = 20.38 (hr) (billable hours).

Special Notes Regarding Prevailing Wage Requirements

Item 100.1, Base Labor Rate, establishes a unit price for the Department's compensation to the Contractor for furnishing competent artisans to maintain and repair various components of the bridges. Nothing herein should be construed as establishing, altering or otherwise affecting the prevailing wages rates applicable to the work performed or relieving the Contractor of its obligations to ensure that workers are paid in accordance with applicable labor and wage laws.

Note that the erection and dismantling of scaffolding, rigging and containment for bridge painting work is subject to the "Painter(Bridges/Tanks)" prevailing wage rate. This includes surface preparation, including removal of all types of paint on bridges, the application of paint and the clean-up of debris resulting from paint removal operation on bridges, pursuant to the determination by the Massachusetts Department of Labor Standards' 12/23/2009 "Notice Concerning the Removal and Application of Paint on Bridges and Tanks."

Basis of Payment

Item 100.1, Base Labor Rate, will be paid for at the Contract unit price per Hour. This price shall include all equipment, standard artisan tool kit, tools required to perform the normal artisans' work, all clothing, and safety equipment normally associated with the artisans' work.

Any transportation required for an artisan and their toolbox to travel to and from a job site will be incidental to this Item. Ownership and operating costs, fuel and maintenance are not reimbursable for the vehicles and tools utilized under the artisan items.

ITEM 106.12**BRIDGE CURB REMOVED AND RESET****FOOT**

The work under this Item shall conform to the relevant provisions of Section 500 and Subsection 580 of the Standard Specifications and the following:

The work includes removing and resetting the existing granite curb and edging on bridge decks, where the existing curbs are out of their original alignments, the anchors are rusted out, concrete securing the curb anchors is not sound, or the curb will come out of their alignments due to other work to be done under this contract.

Reinforcing bar anchors shall meet Section M8.01.0.

Mortar shall meet Section M4.04.5.

Non-shrink cementitious or epoxy grout shall be pre-approved by the Research and Materials Division.

The Contractor shall first remove the concrete behind the curb and/or edging under Item 127.1 and the Contractor shall carefully remove the curb and/or edging and stack it temporarily in a safe place.

The Contractor shall replace all curbing damaged by their operations at the Contractor's expense.

The Contractor shall remove the existing # 5 L-shaped anchors by core drilling 3 inches into the granite. Each core hole shall be centered with the corresponding anchor and be slightly oversized to permit grouting of new anchors.

The new anchors shall be # 5 L-shaped reinforcing bars extending three inches (3") into the granite and six inches (6") into the concrete.

The new anchors shall be grouted into the granite using the approved grout.

After completing the concrete deck repairs, the Contractor shall reset the curb in accordance with Subsection 501.66.

Method of Measurement

Item 106.12 will be measured for payment by the Foot of bridge curbs removed and reset, complete in place.

Basis of Payment

Item 106.12 will be paid for at the Contract unit price per Foot. This price shall include all labor, materials, equipment, and incidental costs required to complete the work.

ITEM 120.1**UNCLASSIFIED EXCAVATION****CUBIC YARD**

The work under this Item shall conform to the relevant provisions of Subsection 120 of the Standard Specifications and the following:

The work includes removing and properly disposing of excavated material at the approaches.

The Contractor shall excavate as required during reconstruction of backwalls and joints and, if required, remove the existing abutment joint protective course which could be made up of HMA or concrete.

Prior to excavation, the Contractor shall cover all drainage structures that may be affected by the work. These structures shall remain covered until the new concrete has set, and the area has been cleaned.

The edges of the limit of the excavation shall be cut to neat lines by saw cutting or by methods approved by the Engineer, to a minimum depth of 2 inches, and all costs in connection with such work shall be considered as incidental under this Item.

Method of Measurement

Item 120.1 will be measured for payment at the Contract unit price by the Cubic Yard. Pavement removed within the excavated area will be measured for payment under this Item.

Basis of Payment

Item 120.1 will be paid at the Contract unit price per Cubic Yard. This price shall include all labor, materials, drainage covers, saw cutting, equipment, and incidentals required to complete the work.

<u>ITEM 127.1</u>	<u>REINFORCED CONCRETE EXCAVATION</u>	<u>CUBIC YARD</u>
<u>ITEM 127.4</u>	<u>REINFORCED CONCRETE DECK EXCAVATION (FULL DEPTH)</u>	<u>SQUARE YARD</u>
<u>ITEM 127.41</u>	<u>REINFORCED CONCRETE DECK EXCAVATION (PARTIAL DEPTH)</u>	<u>CUBIC YARD</u>

The work under these Items shall conform to the relevant provisions of Subsection 120 and 482 of the Standard Specifications and the following:

The work includes full and/or partial depth removal and proper disposal of all disintegrated or unsatisfactory reinforced concrete from the bridge deck, parapet, coping, sidewalk, etc. as required by the Engineer.

Any equipment necessary to erect forms shall be incidental to the respective shielding, Items 994.1 and 994.12, and reinforced concrete excavation Items 127.1, 127.4, and 127.4.

Prior to excavation, the Contractor shall cover all drainage structures that may be affected by the work. These structures shall remain covered until the new concrete has set, and the area has been cleaned.

The Contractor shall take all precautions necessary not to damage that portion of the deck, including reinforcing steel, which is to remain. This includes determining the concrete cover to the steel bars at the edge of each patch prior to excavating concrete.

The edges of all areas where concrete is removed under Items 127.1, 127.4 and 127.41 shall be cut to neat lines by saw cutting or by methods approved by the Engineer, to a minimum depth of 1 inch, and all costs in connection with such work shall be considered as incidental under these Items. Patch areas shall be made rectangular in shape, if possible, with horizontal and vertical edges and square corners.

Minimum depth of all cement concrete areas to be excavated shall be one (1) inch below the bottom of the top layer of longitudinal reinforcing steel throughout the entire excavated area. No concrete shall be placed until the approval of the Engineer is given.

The cost for the removal of hot mix asphalt and any membrane waterproofing above the area of reinforced concrete excavation shall be incidental to this Item.

Surface preparation and concrete removal equipment shall be of the following types:

- Pneumatic and Power-Driven Chipping Hammers: In no event shall any pneumatic or power hammer weighing more than twenty-five (25) pounds be used for the removal of concrete.
- Abrasive Blasting Equipment: Abrasive Blasting equipment shall be capable of removing rust and old concrete from exposed reinforcing steel when deemed necessary by the Engineer.

ITEMS 127.1, 127.4, and 127.41 (Continued)

During the prosecution work, the Engineer may reject the use of any method or equipment which causes undue vibration or possible damage to the structure or any part thereof.

Bobcats/Skid Steers will be allowed only to collect debris from the deck surface and will not be allowed to remove concrete from the patch area. All concrete debris shall be removed by hand or by using hand tools. The smaller pieces may be blown out using an air compressor after first being wetted with water to control airborne particulates.

The Contractor shall take necessary precautions not to damage that portion of the deck including reinforcing steel which is to remain. This includes determining the concrete cover to the steel bars at the edge of each patch prior to excavating concrete.

Also included under these Items are all costs in connection with the cleaning, cutting, and bending of the existing reinforcing steel designated to be retained in the proposed construction. Any existing reinforcing steel damaged or otherwise made unsatisfactory for continued use because of the Contractor's operations shall be replaced at the Contractor's expense.

All reinforcing steel with active rusting encountered in the excavation shall be thoroughly cleaned by abrasive blasting and coated with a zinc-rich primer conforming to Section M7.04.11 or as required by the Engineer.

Any reinforcing steel that is unsuitable for further use through no fault of the Contractor shall be replaced under Item 910.1.

Reinforcing steel that is loose shall be tied tightly together using wire ties. Ties are required at every other intersection of transverse and longitudinal reinforcing.

Temporary Protective Shielding must be used on bridges over the roadway during full depth excavation and when, in the opinion of the Engineer, there is the possibility of dislodging concrete from the bottom of the deck. Payment for temporary protective shielding shall be made under Item 994.1 and shall be removed and reset under Item 994.12.

Immediately before preparation for placement of new concrete, the exposed area to be patched shall be free of foreign materials. These materials shall be removed by abrasive blasting and by use of compressed air. No grease, dust, rust, or laitance will be allowed to remain on reinforcing steel and exposed concrete surfaces.

The Contractor shall take all measures necessary to protect pedestrian and vehicular traffic from his construction operations. No debris, tools or incidental equipment of any kind will be permitted to fall into areas where vehicle or pedestrian traffic exists. Any material that accidentally falls into such areas shall be removed immediately.

All excavated materials shall become the property of the Contractor and shall be removed from the job site.

ITEMS 127.1, 127.4, and 127.41 (Continued)**Method of Measurement**

Items 127.1 and 127.41 will be measured at the Contract unit price by the Cubic Yard.

Item 127.4 will be measured at the Contract unit price by the Square Yard.

Basis of Payment

Items 127.1 and 127.41 will be paid at the respective contract unit price per Cubic Yard. These prices shall include all labor, materials, equipment, sawcutting, removing bituminous concrete, waterproof membrane, drainage covers, cleaning, cutting, and bending of the existing reinforcing steel designated to be retained, and incidental costs required to complete the work.

Item 127.4 will be paid for at the Contract unit price per Square Yard. This price shall include all labor, materials, equipment, sawcutting, drainage covers, removing bituminous concrete, waterproof membrane, cleaning, cutting, and bending of the existing reinforcing steel designated to be retained, and incidental costs required to complete the work.

Items 127.4 and 127.41 will compensate the Contractor for excavation performed on the bridge deck for full depth or partial depth.

The Contractor will be paid under either Item 127.1, 127.4 or 127.41 for excavated concrete. In no case the Contractor shall be paid under more than one Item for the same excavated material.

New reinforcing steel will be paid under Item 910.1.

Temporary protective shielding will be paid under Items 994.1 and 994.12.

ITEM 129.11 HYDRO-EXCAVATION OF BRIDGE DECK SQUARE YARD

The Work under this Item shall conform to the relevant provisions of Subsection 120 of the Standard Specifications and the following:

The work includes removing +1 3/8" of the existing concrete deck using mechanical scarification, micro milling, or another approved mechanical means, and the partial depth removal, an additional 1/2" minimum, of the existing cement concrete deck through hydro-excavation to produce a rough, bondable surface for the installation of the new overlay.

The work shall also include installing a sidewalk protection barrier to shield and provide safe pedestrian access over the bridge, as shown on the drawings and approved by the Engineer.

Scarification or micro milling of the concrete cement deck is deemed necessary to efficiently perform the hydro-excavation.

ITEM 129.11 (Continued)

The depth of hydro-excavation shall be a minimum ½” below the depth removed by concrete scarification, resulting in a total uniform depth for the partial removal for the deck equal to 1 7/8”. In addition to this uniform depth, hydro-excavation is expected to remove any additional unsound concrete below the uniform depth. Any unsound deck concrete that remains after the first pass of the hydro-excavation is complete, shall also be removed using pneumatic chipping hammers (15 lbs.), all to produce a rough, bondable surface for the installation of the new overlay.

The overlay uniform thickness shall be 2” with up to 1/8” sacrificial to be removed during overlay adjustments and grooving as called for under Item 907.1.

This Item shall also include cleaning and removal of debris resulting from concrete milling, and control of runoff due to hydro-excavation.

Areas of the deck requiring partial/full depth repairs (including all areas patched with rapid set concrete) shall be identified, excavated, and repaired prior to starting the hydro-excavation. Compensation for these repairs will be made under appropriate contract Items, 127.4 and 127.41, 905. and 910.1.

CONSTRUCTION METHODS

Micro milling and preparing and replacing the existing deck surface shall be in accordance with the following construction sequence:

1. Scarify (micro mill) the top 1 3/8” of the existing deck.
2. Perform partial/full depth repairs (127.4, 127.41, 905. And 910.1).
3. Hydro-excavate ½” (minimum) of the cement concrete deck below the surface cut by micro milling, as well as any remaining unsound concrete. The depth of removal will vary depending on the quality of the existing concrete.
4. Inspect the surface for loose, delaminated, deterioration or otherwise unsound concrete that remains after the hydro-excavation operation is complete.
5. Remove any remaining unsound concrete using small chipping hammers.
6. Use the hydro-excavator hand wand (or a chipping hammer) to remove the grout under the granite curbing and material where the robot cannot reach including from under the bridge granite curbing.
7. Clean, prepare and install the new overlay (476.32).

Upon completion installing the polymer (latex) modified concrete:

1. Sawcut grooves in the concrete overlay paid under Item 907.1.
2. Seal the deck paid under Item 964.60.

ITEM 129.11 (Continued)

The original bridge deck surface shall be scarified to a depth of 1 3/8" with a mechanical micro-milling machine capable of accurately and automatically establishing profile grades.

Any areas adjacent to the curb, scuppers, joints, or other locations inaccessible to the milling machine shall be hand chipped.

If mechanical milling results in the snagging of reinforcing steel, then the operation shall be stopped immediately, and the depth of removal adjusted.

Any damaged or dislodged reinforcing steel because of the Contractor's negligence during the operation shall be repaired or replaced at the Contractor's expense.

All construction debris, wearing surface material or residual materials from the micro milling process shall be completely removed from the bridge deck prior to the commencement of deck hydro-excavation.

Hydro-excavation shall be performed over the entire surface of the reinforced concrete bridge deck to provide a highly roughened and clean bondable surface and to remove all unsound concrete.

The Contractor shall clean the surface with a vacuum system capable of collecting loose and wet debris and water in the same pass leaving a clean surface prior to installing the new polymer (latex) modified concrete.

The Contractor shall clean up the slurry and rubble from the hydro-excavation operation in a timely manner, and before it dries on the deck and reinforcing steel.

Vacuum clean-up shall follow as closely as possible behind the hydro-excavation process.

The deck shall then be blown dry to remove excess water.

Following the cleaning, the surface shall be free of all debris, loose material, slurry, or cement paste.

After the initial pass of hydro-excavation and appropriate cleaning, sounding will be done after the deck is clean, dry and frost free. Any unsound deck concrete that remains shall be removed at the Contractor's expense with the use of pneumatic hammers as required by the Engineer.

Equipment

The hydro-excavation equipment shall be a computerized, self-propelled robotic machine that utilizes a high-pressure water jet stream capable of removing concrete to the desired depths specified with a single pass of the unit, including the selective removal of all unsound concrete.

The equipment shall be capable of providing a highly roughened and clean bondable surface profile. The equipment shall also be capable of cleaning rust and concrete particles from all exposed reinforcing steel.

ITEM 129.11 (Continued)

Only workers who have experience on jobs of similar size and type over the past three years shall operate the hydro-excavation equipment. This information shall be submitted to the Engineer to be approved before the Preconstruction Conference.

The Contractor shall take steps to prevent damage to existing reinforcing steel.

All equipment shall be operated in a manner that does not damage the slab, reinforcing steel or superstructure components.

Any damage caused by the Contractor's equipment or negligence shall be repaired at the Contractor's expense.

Only vehicles directly required to perform the hydro-excavation work, clean up, or corresponding overlay construction shall be allowed on the bridge deck.

Contamination of the deck by construction equipment or any other source shall be prevented.

Any reinforcing steel damaged by the Contractor's operation shall be replaced at no additional cost.

Replacement may include the removal of additional concrete to adequately anchor reinforcing steel to the appropriate lap splice length. Where the bond between exposed reinforcing steel and sound concrete has not been compromised, the clearance requirement around existing reinforcing steel will be waived by the Engineer.

As directed by the Engineer, handheld high-pressure wands or 15 lb. maximum pneumatic or power hammers operated at no more than a 45-degree angle from horizontal shall be used in areas that are inaccessible to the hydro-excavation equipment or in preparing deck repair areas or in areas that require minor trim work to remove.

The vacuum equipment shall be equipped with fugitive dust control devices and capable of removing wet and dry debris, along with standing water, in the same pass.

Limitations on Equipment

The Contractor shall take steps to prevent damage to existing reinforcing steel.

The Contractor will not be permitted to place wheels from heavy equipment, such as vacuum trucks, on deck areas where top layer of slab reinforcement has been left unsupported by the hydro-excavation process without demonstrating to the satisfaction of the Engineer that such loading will not result in undue damage to the deck.

Equipment shall be operated at speeds and in a manner that will not cause damage to the slab or girders.

ITEM 129.11 (Continued)**Water Control Plan**

Prior to hydro-excavation, the Contractor must submit a plan to the Engineer for the control and filtering of all water discharged by the operation.

All drains, joints, and other locations where discharge water could exit the deck must be blocked, to direct runoff to a central collection and filtering location, as designed by the Contractor.

The Contractor shall be responsible for compliance with all current environmental laws and regulations regarding the discharge of runoff water into the environment.

The Contractor shall provide specific details for the proposed methods utilized for water and debris collection, filtering, treatment, and legal disposal.

The Contractor shall control all overspray and prevent spray, runoff, dust and any possible material from falling on traffic below the work zone or adjacent to the work zone.

Timber plywood shall be placed against the bridge rail or edge of sidewalk (sidewalk to remain open during both phases of work) for protection. The installation of the plywood shall be incidental to Item 129.11.

The Contractor is responsible for the proper disposal of all concrete and debris and securing any applicable permits which may be required.

Test Area

A test area is required to establish operating parameters and demonstrate that equipment, personnel, and methods of operation will produce suitable concrete removal results.

Once acceptable results are achieved, the quality and depth of removal will become standard for the project.

If hand lances are to be used to perform concrete removals, then the lances should perform with satisfactory results.

The robotic hydro-excavation equipment shall be calibrated on a representative sample of sound deck concrete, as required by the Engineer, to demonstrate the ability to cut to the desired depth, as indicated on the plans.

The allowable water pressure shall be between a minimum of 13,000 psi and a maximum of 20,000 psi. The calibration must accomplish the desired surface roughness, profile, and cutting depth.

The Contractor shall move the equipment to an area of the deteriorated deck, as required by the Engineer, to demonstrate the ability to remove all unsound material. The equipment shall selectively remove all unsound concrete, avoid the removal of unnecessary sound concrete, and provide a highly rough and bondable surface.

ITEM 129.11 (Continued)

Once the Engineer accepts that the equipment settings do selectively remove all unsound concrete and provide a highly rough and bondable surface, the calibration will be approved, and the settings recorded.

If the Engineer determines that the equipment does not demonstrate the ability to produce the desired result, then the equipment shall be removed from the project and the Contractor shall provide other equipment for calibration.

No additional contract time or compensation will be allowed for the mobilization of different equipment to the work site. The operating parameters shall be recorded as follows:

Water Pressure Gauge	
Machine Staging Control (Step)	
Nozzle Size	
Nozzle Type	
Nozzle Travel Speed	

Upon approval of the calibration, the Contractor shall perform total surface hydro-excavation over the entire top surface of the bridge deck with a single pass of the unit, as required by the Engineer.

The calibration and production settings shall be maintained and provided in writing to the Engineer. The settings shall be maintained throughout the operation, unless the desired results are not attained, in which case re-calibration shall be performed. Calibration shall be required prior to commencing hydro-excavation at the bridge and when different equipment is brought to the site for use. The Engineer shall also periodically verify the calibration settings, and the desired results are being attained.

Special Conditions

If planning to access hydrants, it is the Contractor's responsibility to coordinate with the municipal water department.

Submittals for approval shall include complete manufacturer's data for equipment proposed for use, equipment operator's qualifications to perform the work, placement of machinery, means of shielding, means of controlling runoff, source of water, and any other means and methods necessary for completing the work. No work shall begin without prior approval.

Method of Measurement

Item 129.11 will be measured at the Contract unit price by Square Yard of hydro-excavated bridge deck.

ITEM 129.11 (Continued)**Basis for Payment**

Item 129.11 will be paid at the at the Contract unit price per Square Yard. This price shall include all equipment, labor, materials testing to determine the cover over the concrete deck reinforcement, blocking drains, initial equipment calibration, re-calibration, filtering discharge water, shielding, hand chipping or hand-wand hydro-excavation along curb areas and under the curbs, micro-milling required to roughen the surface prior to hydro-excavation, removal of remaining unsound concrete, deck washing, clean-up, collection and disposal of all debris, slurry, and water produced by the operation, excavation, removal, and proper disposal of all excavated reinforced concrete/materials, sawcutting, cleaning of all existing reinforcing steel and concrete surfaces prior to the placement of any new concrete , removal and proper disposal of all excavated materials, , and all incidental costs required to complete the work.

ITEM 129.2**OLD PAVEMENT EXCAVATION****SQUARE YARD**

The work under this Item shall conform to the relevant provisions of Subsection 120 of the Standard Specifications and the following:

The work includes removing and properly disposal of all disintegrated or unsatisfactory bituminous concrete/old pavement on bridge approaches and as required by the Engineer.

The edges of all areas where the existing asphalt is proposed for removal under this Item shall be sawcut to a minimum depth of 1 inch.

Method of Measurement

Item 129.2 will be measured at the Contract unit price by the Square Yard for actual area of the existing bituminous pavement excavated, removed, and disposed.

Basis for Payment

Item 129.2 will be paid at the Contract unit price per Square Yard. This price shall include all labor, materials, equipment, bituminous pavement excavated, removed, disposed, and all incidental costs required to complete the work.

Excavation for reconstruction of joints will be compensated under Item 120.1.

ITEM 151.**GRAVEL BORROW****CUBIC YARD**

The work under this Item shall conform to the relevant Provisions of Subsection 150 of the Standard Specifications and the following:

The work includes furnishing and placing gravel borrow at the approaches for the reconstruction of backwalls and joints.

If approved by the Engineer, then the existing materials excavated for the backwall, and joint reconstruction can be reused as backfill materials.

Method of Measurement

Item 151. will be measured by the Cubic Yard, complete in place.

Basis for Payment

Item 151. will be paid for at the Contract unit price per Cubic Yard. This price shall include all labor, materials, tools, equipment, and incidental costs required to complete the work.

ITEM 476.32**POLYMER MODIFIED
CONCRETE OVERLAYMENT****SQUARE YARD****ITEM 476.322****POLYMER MODIFIED CONCRETE
OVERLAYMENT (OVERAGE)****CUBIC YARD**

The work under these items shall conform to the relevant Provisions of Subsection 901 of the Standard Specifications and the following:

The work includes furnishing and constructing a 2", minimum, single-course protective wearing surface of polymer modified Portland cement concrete on the prepared surface of the concrete deck.

The Contractor shall obtain a field survey of the existing roadway in the areas proposed for the polymer (latex) modified concrete along the expansion joints and at other locations as required to ensure that the placement of the latex modified concrete overlayment maintains the existing roadway surface.

The field survey shall establish the finished grades for the polymer modified concrete overlayment is included for payment under this item.

ITEMS 476.32 and 476.322 (Continued)**MATERIALS**

- a) The material used in producing the latex modified concrete shall meet the applicable requirements of Section M4 of the Standard Specification for Highway and Bridges and as described or amended herein.
- b) Portland cement shall be non-air entraining cement of recent manufacture, free of lumps and conform to the requirements of AASHTO M85, Type I or Type II.
- c) Latex Emulsion Admixture – Use a formulated latex admixture that is a non-hazardous, film forming, polymeric emulsion in water and is homogeneous and uniform in composition. Add all stabilizers at the point of manufacture. Use a latex modifier conforming to the following requirements:

Polymer Type	Styrene Butadiene
.....	68 ±4% Styrene
.....	32 ±4% Butadiene
Average Polymer Particle Size	1500 to 2500 Angstroms
Emulsion Stabilizers	Anionic and non-ionic surfactants
Percent Solids.....	46.5 to 49.0
Weight per gallon (lbs at 75°F).....	8.40 to 8.60
PH	9.5 to 11.0
Shelf Life	2 Years
Color	White

The Contractor shall provide the Engineer with a supplier's certification for each load of latex emulsion admixture in accordance with the Standard Specifications.

The Contractor shall provide test admixture samples to verify compliance with the specification requirements before use.

The Contractor shall allow 7 days for sampling and testing after delivery to the project.

The temperature of the latex emulsion admixture shall not fall below 35°F at any time or exceed 85°F after delivery to the project. For latex emulsion that has been in storage, use a transfer pump and lines to recirculate it before using.

Latex Modified Concrete – Use a workable mixture that meets the following requirements:

Cement Content (lbs/yd ³)	658
Latex Emulsion Admixture (gal/yd ³)	24.5
Air Content of Plastic Mix (%).....	3.5 to 6.5
Slump (inches)	3 – 6
% Fine Aggregate as percent of total aggregate by weight	50 – 55
Slump (in).....	4 to 6
Minimum 7-day compressive strength (psi)	3000
Minimum 28-day compressive strength (psi)	4000
Maximum Water-Cement Ratio by weight.....	0.40

ITEMS 476.32 and 476.322 (Continued)

Measure the slump 4 to 5 minutes after discharge from the mixer. Submit the latex modified concrete mix design, completed by the latex emulsion manufacturer, to the Engineer for review and approval.

Surface Preparation

After completion of the hydro-excavation and associated clean-up of debris, but not more than 24 hours prior to the placement of the concrete, the entire deck surface shall be thoroughly cleaned by either abrasive blasting with oil-free compressed air or high-pressure water blasting (7500 psi minimum).

After the surface preparation has been accepted, every effort should be made to thoroughly pre-wet the concrete surface, and all porous surfaces that are to be in contact with new concrete. This may be accomplished by continuous wetting with soaker hoses or the use of burlap/burlene, etc., where moisture can be maintained.

If the Engineer determines that conditions or the situation prohibits this, then the surfaces shall be wetted for as long as possible.

Surfaces must be wetted by a means acceptable to the Engineer using potable water.

The Contractor shall remove any puddles of free-standing water with oil-free compressed air, and protect the surfaces from drying, so the existing concrete remains in a clean, saturated surface dry condition until the placement of the new concrete.

If the Engineer determines that the deck has dried out, then the Contractor shall re-wet and re-blast dry the deck at the Contractor's expense.

The Contractor shall take all steps necessary to ensure that pedestrian and vehicular traffic is always protected from harm.

Equipment

Prior to beginning work, the Contractor shall obtain approval from the Engineer for all equipment to be used for deck preparation, mixing, placing, finishing, and curing the latex modified concrete.

Use abrasive blasting equipment capable of removing all clay, salt deposits, oil and grease deposits and all other foreign matter. Provide traps or separators to remove oil and water from the compressed air. Use traps or separators of adequate size and drain them periodically during operations.

ITEMS 476.32 and 476.322 (Continued)

For proportioning and mixing, use self-contained, mobile, and continuously mixing equipment that meets the following requirements:

1. Use a self-propelled mixer that can carry sufficient unmixed dry, bulk cement, sand, coarse aggregate, latex modifier, and water to produce at least 6 yd³ of concrete on site.
2. Use a mixer that is capable of positive measurement of cement introduced into the mix. Use a recording meter that is always visible and equipped with a ticket printout to indicate the quantity of cement.
3. Calibrate the mixers to accurately proportion the specified mix. Prior to placing latex modified concrete, perform calibration and yield tests under the Engineer's supervision in accordance with the Department's written instructions. Copies of these written instructions are available from the Research and Materials Section. Perform the calibration and yield tests using the material to be used on the project. Recalibrate the mixer after any major maintenance operation, on the mixer, anytime the source of materials changes, or as directed. Furnish all materials and equipment necessary to perform the calibrations and yield tests.
4. Use a mixer that controls the flow of water and latex emulsion into the mix. Measure the flow rate of water and the latex emulsion with a calibrated flowmeter coordinated with both the cement and aggregate feeding mechanisms and the mixer. Adjust the flow rate, as necessary, to control the slump and ensure that the water-cement ratios are met. In addition to flowmeters, use mixers with accumulative water and latex meters capable of indicating the number of gallons, to the nearest 0.1 gallon, introduced into the mixer. Filter water and latex with a suitable mesh filter before it flows through the accumulative water and latex meters.
5. Calibrate the mixer to automatically proportion and blend all components of the indicated composition on a continuous or intermittent basis as the finishing operation requires. Provide a mixer that discharges mixed material through a conventional chute and is capable of spraying water over the placement width as it moves ahead to ensure that the surface to be overlaid is wet prior to receiving the modified material.
6. Mount a tachometer on the unit to indicate the drive shaft speed.

An approved bridge deck finishing machine complying with the following requirements shall be used for consolidating, striking off, and finishing the concrete surface.

The finishing machine shall have the necessary adjustments, built in by the manufacturer, to produce the required profile grade, cross-section, and surface smoothness.

The supporting frame shall span the section being cast in a transverse direction without intermediate support.

ITEMS 476.32 and 476.322 (Continued)

The finishing machine(s) shall be self-propelled, with two or more rotating cylinder screeds, and capable of forward and reverse movement under positive control.

Provisions shall be made for raising all screeds to clear the screeded surface for traveling in reverse. The screed device shall be provided with positive control of the vertical position.

The rotating cylinder screeds shall rotate in a transverse direction while also traveling in the same direction and shall be operated transversely in overlapping strips in the longitudinal direction not to exceed 6 inches.

One or more powered augers shall be operated in advance of the screed(s) and a drag (pan type) float shall follow the screed(s).

The transversely operated rotating cylinders of the finishing machine(s) shall be rotated such that the direction of the rotation of the cylinders at the surface of the concrete is in accordance with the manufacturer's recommendations.

The finishing machine shall be operated over the full length of the bridge segment to be finished prior to beginning concrete placement operations. The test run of the self-propelled finishing machine shall be performed in the presence of the Engineer at least 24 hours in advance of the concrete placement with the screed adjusted to its finishing position. During the test run, checks shall be made of the deflection due to the finishing machine, adjustment of guide rails and required thickness of the concrete overlay. Discrepancies found, which are in excess of tolerance, shall be rectified. All necessary corrections shall be made before concrete placement is begun.

The rate of concrete placement shall be coordinated with the initial strike-off so that the initial strike-off is never more than 10 feet behind the concrete placement.

Concrete immediately in front of the power auger(s) of bridge deck finishing machine shall be placed or cut to a depth no higher than the center of the rotating auger(s).

The concrete shall be consolidated just prior to the auger strike off.

The Contractor shall utilize approved high frequency internal vibrators (9000 – 13500 vibrations per minute in concrete) that shall be applied in a manner to secure maximum consolidation of the concrete.

Consolidation shall leave the concrete free from voids but shall not be continued so long as to cause segregation or bleeding.

The advance auger(s) shall strike off the concrete to approximately ¼ inch above the final grade and then the concrete shall be finished to final grade.

ITEMS 476.32 and 476.322 (Continued)

Improper adjustment or operation of the finishing machine that results in inadequate overlay thickness or smoothness shall be corrected immediately. Unsatisfactory performance, particularly with respect to the smoothness attained, shall be the cause for rejection of the equipment and cement concrete placed.

Work bridges supported on the screed rails shall be provided by the Contractor to permit access to the surface of the deck for the purpose of finishing, straight-edging, making corrections, and setting curing materials.

The Contractor shall furnish a minimum of two work bridges behind the bridge deck finishing machine, capable of spanning the entire width of the deck and supporting at least a 500-pound load without deflection to the concrete surface. One work bridge shall be used exclusively to facilitate the setting of curing materials. These work bridges shall be available to the Engineer for inspection purposes. Workmen will not be permitted to walk in the fresh concrete overlay after it has been screeded. All finishing work, including application of the fog spray and placement of curing mats, shall be performed from bridges supported above the deck surface.

Proportioning and Mixing of Modified Compositions

Proportioning and mixing modified materials shall meet the following requirements:

Mobile continuous mixers that accurately proportion all materials for the specified mixture shall be used. Operate the proportioning equipment at the manufacturer's recommended speed verified with the tachometer during calibration and normal operations.

Yield checks and other checks are permitted.

Placing and Finishing

Place and fasten screed rails in position to ensure finishing the new surface to the required profile.

Brush a latex cement mixture onto the wetted, prepared surface. Carefully give all vertical and horizontal surfaces a thorough, even coating and do not let the brushed material dry before it is covered with the additional material required for the final grade.

Construction joints other than those shown on the plans are not permitted.

Curing shall begin by fog spraying during the placing and finishing operations. Fogging shall continue and applied continuously, rather than intermittently, after the finishing operation until wet covering material has been placed over the concrete surface. Deck finishing machine mounted fogging systems shall be augmented by hand-held fogging equipment as needed.

The Polymer Modified Concrete Overlayment shall be water cured only and shall be kept continuously wet for the entire curing period by covering with one layer of wet burlap and either a polyethylene sheet or a polyethylene coated burlap blanket.

ITEMS 476.32 and 476.322 (Continued)

Curing protection shall be applied within 15 minutes after the concrete is deposited and before the surface of the concrete has lost its surface "wetness" or "sheen" appearance. The burlap shall be completely saturated over its entire area by being submerged in water for at least 8 hours before the scheduled start of the placement. The burlap shall be drained of excess water prior to application. The burlap shall be free from cuts, tears, uneven weaving and contaminants. The burlap shall be placed such that the edges are lapped a minimum of 6 inches. Continuous burlap wetting shall commence 10 minutes from the time it is placed and shall be kept continuously wet and protected from displacement for the entire curing period in a manner acceptable to the Engineer.

The covering of Polymer Modified Concrete Overlayment shall be kept continuously wet for the entire curing period using soaker hoses. The soaker hoses shall circulate water continuously and shall be located to ensure a completely wet surface for the entire curing period.

The Contractor shall make sure that adequate personnel are available at the site to carry out the placement, screeding, finishing, fogging and curing operations simultaneously. At least two workers shall continuously place wet burlap curing materials from a dedicated work bridge until the deck is completely covered with wet burlap.

The application of impervious liquid membrane curing compounds shall not be considered a substitute for achieving the curing of the concrete required by these Specifications. Only in the event of an unavoidable delay during concrete placement shall two coats of an approved curing compound be sprayed onto the concrete that has been deposited and not screeded. The curing compound shall conform to the requirements provided under Sub-Section M9.06.5, except that only AASHTO M 148, Type I shall be permitted. This curing compound shall later be mixed into the concrete by the finishing machine. Curing compounds shall not be applied to the screeded surfaces of bridge decks.

The Polymer Modified Concrete Overlayment shall be wet cured for a minimum of 48 hours, followed by 96 hours of air curing.

As soon as practical, after the concrete has hardened sufficiently, test the finished surface with an approved rolling straightedge that is designed, constructed, and adjusted so that it will accurately indicate or mark all areas which deviate from a plane surface by more than 1/8 inch in 10 feet. Remove all high areas in the hardened surface more than 1/8 inch in 10 feet with an approved grinding or cutting machine. Where variations are such that the corrections extend below the limits of the top layer, grout and seal the corrected surface with an approved sealing agent if required by the Engineer. If approved by the Engineer, correct low areas in an acceptable manner.

The Polymer Modified Concrete Overlayment shall be profiled and grooved as specified in Item 907.1.

ITEMS 476.32 and 476.322 (Continued)**Limitations of Operations**

The mixer is not permitted on the bridge deck unless otherwise approved.

No traffic is permitted on the finished latex modified concrete surface until the total specified curing time is completed and until the concrete reaches the minimum compressive strength.

Do not place latex modified concrete if the temperature of the concrete surface on which the overlay is to be placed is below 40°F or above 85°F. Measure the surface temperature by placing a thermometer under the insulation against the surface.

Prior to placing latex modified concrete, the Engineer determines the air temperature and wind speed. Do not place latex modified concrete if the ambient air temperature is below 45°F or above 85°F, or if the wind velocity is more than 10 mph.

If working at night, provide approved lighting. Provide aggregates, from an approved source, for use in the latex modified concrete that are free from ice, frost and frozen particles when introduced into the mixer.

Do not place latex modified concrete when the temperature of the latex modified concrete is below 45°F or above 85°F.

Do not place latex modified concrete if the National Weather Service predicts the air temperature at the site to be below 35°F during the next 72 hours. If this predicted air temperature is above 35°F but below 50°F, then use insulation to protect the latex modified concrete for a period of at least 48 hours.

When using insulation to protect latex modified concrete during the wet curing period, do not remove the insulation until the ambient air temperature is at least 40°F and rising. Leave the latex modified concrete uncovered for the 96-hour air curing period.

Stop all placement operations during periods of precipitation. Take adequate precautions to protect freshly placed latex modified concrete from sudden or unexpected precipitation. Keep an adequate quantity of protective coverings at the worksite to protect the freshly placed pavement from precipitation.

Method of Measurement

Item 476.32 will be measured for payment by the Square Yard of the polymer modified concrete properly placed upon the deck.

Item 476.322 will be measured for payment by the Cubic Yard of the additional Polymer Modified Concrete properly placed on the deck. Measurement for Item 476.322 shall be defined as the calculated volume of placed polymer modified concrete in excess of one hundred and five percent (105%) of the calculated volume for the 2" uniform thickness overlays.

ITEMS 476.32 and 476.322 (Continued)**Basis of Payment**

Item 476.32 will be paid for at the Contract unit price bid per Square Yard. This price shall include all labor, materials, tools, equipment, screed and pump truck, and all incidental costs required to complete the work.

Item 476.322 will be paid for at the contract unit price per Cubic Yard. This price shall include all labor, materials, additional polymer modified concrete placed equipment, and incidental costs required to complete the work.

ITEM 482.33**SAWING & SEALING JOINTS AT BRIDGES****FOOT**

The work under this item includes saw cutting the existing pavement at the bridge joint concrete header to install the joint sealer, as shown in the contract drawings.

After the completion of the paving operation, the Contractor shall snap a straight chalk line on the pavement in line with the reconstructed concrete joint header. The Contractor shall then saw cut the pavement at the interface of the concrete headers to create a cut that is 3/4" wide and 1 1/4" deep.

The equipment shall be approved by the Engineer prior to commencing work.

After completing the saw cutting, the Contractor shall clean the saw groove of any dust and debris with an oil free air blast. If the groove was wet sawn, the groove shall be cleaned with a water blast to remove any remaining slurry and debris, vacuumed with a Wet-or-Dry vacuum to remove any standing water, and then dried with an air blast from a Hot-Air-Lance.

Once the groove is clean and dry, the Contractor shall fill it completely with a hot-applied bituminous crack sealer meeting the requirements of M3.05.0 in accordance with the manufacturer's application instructions and restrictions regarding ambient and material temperatures. The crack sealer shall be thoroughly cured prior to opening the road to traffic. To reduce tackiness, only boiler slag aggregate (black beauty) shall be scattered over the sealer when deemed necessary by the Engineer. Conventional sand shall not be used for this purpose.

Method of Measurement

Item 482.33 will be measured for payment by the Foot. As measured along the center line of the joint.

Basis of Payment

Item 482.33 will be paid for at the contract unit price per Foot. This price shall include all labor, materials, equipment, and all incidentals required to complete the work.

ITEM 740. ENGINEER'S FIELD OFFICE AND EQUIPMENT (TYPE A) MONTH

The work under this Item shall conform to the relevant provisions of Subsection 740 of the Standard Specifications and the following:

Two computer systems and printer system meeting minimum requirements set forth below including installation, maintenance, power, paper, disks, and other supplies shall be provided at the Resident Engineer's Office:

All equipment shall be UL approved and Energy Star compliant.

The Computer System shall meet the following minimum criteria or better:

Processor:	Intel, 3.5 GHz
System Memory (RAM):	12 GB
Hard Drive:	500 GB
Optical Drive:	DVD-RW/DVD+RW/CD-RW/CD+RW
Graphics Card:	8 GB
Network Adapter:	10/100 Mbit/s
USB Ports:	6 USB 3.0 ports
Keyboard:	Generic
Mouse:	Optical mouse with scroll, MS-Mouse compliant

Video/Audio the computer system shall be capable of allow video calling and recording:

Video camera shall be High Definition 1080p widescreen capable video calling and recording with built in microphone. The microphone system shall capture natural audio while filtering out background noise.

Audio shall be stereo multimedia speaker system delivering premium sound.

OS: Latest Windows Professional with all security updates
Web Browser: Latest Internet Explorer with all security updates
Applications: Latest MS Office Professional with all security updates
Latest Adobe Acrobat Professional with all security updates
Latest Autodesk AutoCAD LT
Antivirus software with all current security updates maintained through the life of the contract.

Monitors: Two 27" LED with Full HD resolution.
Max. resolution 1920 x 1080

Flash drives: 2 (two) - 128GB USB 3.0
Internet access: High Speed (min. 24 mbps) internet access with wireless router.

ITEM 740. (Continued)

The Multifunction Printer System shall meet the following minimum criteria or better:

Color laser printer, fax, scanner, email and copier all in one with the following minimum capabilities:

- Estimated volume 8,000 pages per month
- LCD touch panel display
- 50 page reversing automatic document feeder
- Reduction/enlargement capability
- Ability to copy and print 11" x 17" paper size
- email and network pc connectivity
- Microsoft and Apple compatibility
- ability to overwrite latent images on hard drive
- 600 x 600 dpi capability
- 30 pages per minute print speed (color),
- 4 Paper Trays Standard (RADF) (not including the bypass tray)
- Automatic duplexing
- Finisher with staple functions
- Standard Ethernet. Print Controller
- Scan documents to PDF, PC and USB
- ability to print with authenticated access protection

The Contractor shall supply a maintenance contract for next day service, and all supplies (toner, staples, paper) necessary to meet estimated monthly usage.

The Engineer's Field Office and the equipment included herein including the computer system, and printer shall remain the property of the Contractor at the completion of the project. Disks, flash drives, and card readers with cards shall become the property of the Department.

Compensation for this work will be made at the contract unit price per month which price includes full compensation for all services and equipment, and incidentals necessary to provide equipment, maintenance, insurance as specified and as directed by the Engineer.

ITEM 816.811 TEMPORARY MODIFICATIONS TO TRAFFIC SIGNAL**DAY**

The work under this Item shall conform to the relevant provisions of Subsection 815 of the Standard Specifications and the following:

This work includes timing existing traffic signal location to accommodate the one-way traffic on Elm Street during construction phasing as shown on the plans.

Programming modifications may be completed at various times during the temporary traffic control period to support the changing of work zone set-ups based on phases described in the plans and while school is and is not in general session.

Intersection Locations

Location 1 = Elm Street / Felton Street

Location 2 = Landry Drive / Lakeside Avenue (Route 20)

Location 3 = Route 20 (W. Main Street) / Pleasant Street

Traffic Signal Programming – Fine Tuning

All labor associated with programming traffic signal timing, phasing, and other related cabinet hardware adjustments will be compensated under this item.

Prior to, during, and following completion of work at each of the intersections noted above, the Contractor, and only as required by the Engineer and with District Traffic approval, will make necessary timing adjustments and tests to ensure safe and efficient operation during periods where the various work zones are in place.

For the purposes of this bid, the Contractor shall provide a bid price that includes the following assumed programming work with the various contracted or subcontracted traffic signal personnel:

- Programming of traffic signal timing/phasing on at least one day during work zone set-up Phase 1. This day visit is generally envisioned to include adjusting the signal phasing to reflect restricting traffic on Elm Street to one lane in the westbound direction and “fine-tuning” of the signal timings based on the traffic demand for peak and off-peak hours as necessary.
- Programming of traffic signal timing/phase on at least one day during work zone set-up Phase 2 (shortly after phase commencement). This day visit is generally envisioned to include “fine-tuning” of the signal timings based on the traffic demand for peak and off-peak hours as necessary which may be needed if the original Phase 2 timings are insufficient to control demand
- Programming of traffic signal timing/phasing, and other programming (e.g. video detection zones) on the day following the end of work zone set-up to return traffic signal programming to their existing settings.

Method of Measurement

Item 816.811 will be measured for payment by the Day, as defined as 24 hours during which required modifications to the traffic signals are made as described above will be measured as 1 day regardless of the number of modifications made.

ITEM 816.811 (Continued)**Basis of Payment**

Item 816.811 will be paid for at the contract unit price per Day. This price shall include all labor, material, equipment, adjusting or readjusting other signal equipment at each location, such as vehicle detection zones, modifications to detection zones, modification to preemption equipment direction, and incidental costs required to complete the work.

ITEM 853.21**TEMPORARY BARRIER REMOVED AND RESET****FOOT**

Work under this item shall conform to the relevant provisions of Subsection 850 and shall consist of removing, transporting and resetting temporary barrier systems and limited deflection temporary barrier systems from alignments established along the roadway to new alignments in accordance with the details shown on the plans, as required by the construction and staged construction operations and as required by the Engineer for the channelization of traffic and/or work zone protection.

The work shall also include furnishing and installing all hardware and associated materials per the details and/or manufacturer's specifications. The work shall also include necessary patches and repairs caused by the temporary barrier system to damaged pavement surfaces or any adjacent longitudinal barrier once the system has been removed.

Temporary barrier systems and limited deflection temporary barrier systems shall be removed from existing locations and reset in accordance to the construction methods stated in the respective barrier items.

Damage to the pavement surface or adjacent permanent barriers caused by removing or resetting temporary barrier shall be repaired as directed by the Engineer at the Contractor's expense.

Method of Measurement and Basis of Payment

Item 853.21 will be measured and paid by the Foot, in place which shall provide full compensation for removing, relocating, resetting, realigning, and transporting maintaining the temporary barrier system and/or limited deflection temporary barrier system. The Contractor will be paid for this item each time the barrier is relocated either to a new work zone, to off-season storage, or back to the project from storage. The Contractor will not be separately compensated for any work necessary to maintain or re-align units or replace damaged units. No payment will be made for removing and resetting barriers for the purpose of gaining access to the construction work zone. No payment will be made for removing, relocating and resetting any barriers moved for the convenience of the Contractor.

For temporary barrier systems that require anchorage systems, the cost of furnishing, installing and removing the anchorage and hardware and the restoration of pavement surfaces or adjacent permanent barrier systems to facilitate anchorage shall be considered incidental to the cost of this Item.

ITEM 853.33 TEMPORARY BARRIER – LIMITED DEFLECTION (TL-3)**FOOT**

Work under this item shall conform to the relevant provisions of Subsection 850 and shall consist of furnishing, installing, maintaining and final removal of limited deflection TL-3 temporary barrier systems for channelization of traffic and/or work zone protection. Limited deflection temporary barrier systems shall have a maximum dynamic deflection of 17 inches at the top of the barrier and 6 ¼" inches at the base and in all cases the clear area available behind the barrier shall be greater than the dynamic deflection of the barrier system.

MATERIALS

The Contractor shall use a temporary barrier system that is listed on the Qualified Traffic Control Equipment List.

The Contractor may submit alternate materials to the Engineer for approval if the limited deflection temporary barrier system meets the following criteria:

1. The system has been tested by an independent laboratory that is accredited by FHWA to crash test roadside hardware;
2. The system meets the minimum requirements of the AASHTO *Manual on Assessing Safety Hardware* (MASH) at Test Level (TL) 3 or higher; and
3. The system has a federal-aid eligibility letter from FHWA.

Copies of the testing results and the federal-aid eligibility letter shall be submitted and approved by the Engineer prior to procurement of an alternate temporary barrier system.

The Contractor shall supply shop drawings to confirm the available clear area behind the barrier equals or exceeds the maximum dynamic deflection of MASH Test 3-11 during testing procedures taken at an independent laboratory that is accredited by FHWA to crash test roadside hardware.

Delineators shall be installed on all limited deflection temporary barrier systems in conformance with the relevant provisions of Section 850.69 and shall be incidental to the temporary barrier systems.

Temporary impact attenuators that are listed on the Qualified Traffic Control Equipment List shall be used whenever a blunt end of the limited deflection temporary barrier system is facing traffic within the clear zone unless it is protected by a second barrier system or secured to a separate barrier system or bridge railing by a method approved by the manufacturer.

CONSTRUCTION METHODS

Limited deflection temporary barrier systems shall be placed in line with the drawings. Installation shall be per the manufacturer's specifications, details, and the approved shop drawings.

The Contractor shall not place any breaks in the limited deflection temporary barrier system that will result in sections that are shorter than the stated minimum length-of-need (LON) under MASH Test 3-11. Exceptions shall be allowed for gate systems or changeable length segments placed over expansion joints if those barrier segment types have been tested and meet the minimum requirements of MASH Test 3-11 with the adjoining limited deflection barrier system.

ITEM 853.33 (Continued)

Within the LON section, limited deflection temporary barrier systems shall only be placed on paved surfaces unless otherwise tested and certified under MASH TL-3 for those conditions.

Damage to the pavement surface caused by the limited deflection temporary barrier during installation, while in service, and/or during removal shall be repaired as directed by the Engineer at the Contractor's expense.

Limited deflection temporary barrier systems that require anchorage systems shall conform to the relevant provisions of Section 850.70.

Method of Measurement

Item 853.33 will be measured by the Foot, complete in place.

Basis of Payment

Payment for work under this item will be made at the contract price per foot for limited deflection temporary barrier installed in place, including all incidental items. This price shall include the cost of furnishing, installing, maintaining and final removal of all limited deflection temporary barrier systems.

For limited deflection temporary barrier systems that require anchorage systems, the cost of furnishing and installing the anchorage and hardware and the restoration of pavement surfaces or adjacent permanent barrier systems to facilitate anchorage shall be considered incidental to the cost of the item.

Payment for limited deflection temporary barrier removed and reset will be made under Item 853.21.

ITEM 853.8**TEMPORARY ILLUMINATION FOR WORK ZONE****DAY**

The work under this Item shall conform to the relevant provisions of Subsection 850 of the Standard Specifications and the following:

The work under this Item shall include the deployment and maintaining in proper operating condition a LED balloon diffuser lighting system. These portable light towers shall be used throughout the project area for temporary work zone lighting. The use of unshielded high wattage flood lights shall not be permitted.

The Contractor shall illuminate the following work zone areas:

- Change in direction (i.e., work zone entrances and exits, crossovers, etc.)
- Tapered areas
- Actual area where the construction is being performed

ITEM 853.8 (Continued)

Light measurement shall be based on the illuminance method and the lighting levels shall be based on the classification of construction activity that is taking place. At no time shall the light level be below 5 fc and the uniformity shall not exceed 6:1. Task Classifications and recommended illumination levels is shown in Table 1.

Task Classifications	Illumination Level	Average Minimum Maintained Illuminance
All work operations areas, setup of lane or road closures, lane closure tapers, and flagging stations, such as: Excavation (all types), Embankment Fill and Compaction, Reworking Shoulders, Asphalt Pavement Rolling, Subgrade, Stabilization and Construction, Base Course Rolling, Sweeping, Cleaning and Landscaping.	Level I	5 foot-candles
Areas on or around construction equipment; asphalt paving, milling, concrete placement and/or removal, such as, Milling, Removal of Pavement, Asphalt Paving and Resurfacing, Concrete Pavement, Waterproofing and Sealing, Sidewalk Construction, Base Course Grading and Shaping, Surface Treatment, Bridge Decks, Drainage Structures and Drainage Piping, Other Concrete Structures, Barrier Wall and Traffic Separators, Guardrails and Fencing, Striping and Pavement Markings, Repair of Concrete Pavement, Highway Signs, Hole Filling and Repair of Guardrails and Fencing.	Level II	10 foot-candles
Pavement or structural crack/ pothole filling; joint repair, pavement patching and/or repairs, installation of signal/electrical/mechanical equipment, such as, Traffic Signals, Highway Lighting Systems and Crack	Level III	20 foot-candles

TABLE 1
Task Classifications and Illumination Levels

Prior to commencement of work the Contractor shall submit to MassDOT for approval a description of illumination equipment that is proposed to be used on this project and shall include photometrics that detail the light levels that are to be provided for the particular operation for the type of equipment, level of luminance and height to be installed.

Any potential glare from the lighting system should be considered from each direction and on all approaching roadways and opposing lanes of traffic. Glare from the illumination system should be minimized as much as possible for both workers and motorists in adjacent active travel lanes. If necessary, the Contractor shall provide supplemental hardware, such as, visors, louvers, shields, glare screen and barrier to reduce glare in adjacent active travel lanes.

Equipment mounted lighting may be used to supplement light towers to achieve the required lighting levels for the activity involved per Table 1.

The Contractor shall allow MassDOT up to 30 calendar days for review and comment.

Method of Measurement

Item 853.8 will be measured for payment by the Day.

Basis of Payment

Item 853.8 will be paid for at the contract unit price per Day. This price shall include all labor, materials, equipment, tools and all incidentals required for the design and installation of the work zone lighting system. This shall include, but not be limited to lighting plan preparation, wiring connections, equipment relocations, and include all material and labor incidental for a complete, functional and operational work zone illumination system.

The price of this item shall include the material and labor necessary to install any supplemental hardware required to reduce glare on all adjacent active travel lanes.

The per day price shall be full compensation for all “Temporary Illumination for Work Zone” regardless of the number of concurrent work areas, amount of equipment concurrently in use or the durations of or changes of the work shifts per day.

Installation and modifying the existing set-up shall be incidental to Item 853.8.

ITEM 859.1 REFLECTORIZED DRUMS WITH SEQUENTIAL DAY **FLASHING WARNING LIGHTS**

The work under this Item shall conform the relevant provisions of Subsection 850 of the Standard Specifications and the following:

Work under this item consists of furnishing, installing, maintaining in proper operating conditions, and removing reflectorized drums, and any necessary ballast, equipped with sequential flashing warning lights.

MATERIALS

Reflectorized drums shall be listed on the MassDOT Qualified Traffic Control Equipment List. Reflective sheeting on drums shall meet or exceed ASTM D4956 Type VIII. All drums shall be maintained in a satisfactory manner including the removal of oils, dirt, and debris that may cause reduced retroreflectivity.

The Contractor shall use one of the following sequential flashing warning light systems unless otherwise approved by the Engineer:

1. Empco-Lite LWCS.
2. pi-Lit® Sequential Barricade-Style Lamp; or
3. Unipart Dorman SynchroGUIDE.

ITEM 859.1 (Continued)

Sequential flashing warning lights shall be secured to reflectorized drums per the light manufacturer's specifications.

CONSTRUCTION METHODS

The first ten (10) drums in any merging or shifting taper as designated in the Temporary Traffic Control Plan shall be equipped with sequential flashing warning lights. These lights shall be operating, at a minimum, between dusk and dawn when the taper is deployed.

The successive flashing of the sequential warning lights shall occur from the upstream end of the merging or shifting taper to the downstream end of the taper in order to identify the desired vehicle path. Each warning light in the sequence shall be flashed at a rate of not less than 55, nor more than 75 times per minute.

Warning lights shall be powered off when drums are not deployed in a taper.

Method of Measurement

A group of ten (10) reflectorized drums with sequential flashing warning lights is considered one (1) unit and will be measured by the day. Each period of up to 24 hours during which this unit is in use will be measured as one day regardless of the number of times that the drums are positioned, repositioned, removed, or returned to service.

Basis of Payment

Reflectorized Drums with Sequential Flashing Warning Lights will be paid for at the contract unit price per day, which shall include full compensation for furnishing, positioning, repositioning, and removing the group of ten (10) drums as directed by the Engineer.

<u>ITEM 866.706</u>	<u>6 INCH WHITE LINE WITH BLACK CONTRAST - RECESSED (PF, WR)</u>	<u>FOOT</u>
<u>ITEM 867.706</u>	<u>6 INCH YELLOW LINE WITH BLACK CONTRAST - RECESSED (PF, WR)</u>	<u>FOOT</u>

The work under these items shall conform to the relevant provisions of Subsection 860 of the Standard Specifications and the following:

The work includes furnishing and installing recessed pavement marking lines (Patterned, Retroreflective, Pliant Tape) at the locations shown on the plans and as required by the Engineer.

The tape to be used shall be Stamark 380AW, Stamark 380A W-5 (Contrast) White or Yellow Wet Reflective by 3M, or approved equivalent.

A Manufacturer's technical representative must be onsite for the initial installation of the tape. Groove preparation and tape installation shall be done in strict accordance with manufacturer's requirements.

ITEMS 866.706 and 867.706 (Continued)

All pavement marking colors shall conform to the MUTCD standards, including the Daytime Color Specification Limits for Retroreflective Pavement Marking Material found in 23 CFR 655, Subpart F.

Post-installation, the surfaces of the Tape shall provide a minimum skid resistance value of 45 British Pendulum Number (BPN) when tested in accordance with ASTM E303.

Retroreflective properties shall be verified by an independent laboratory prior to installation. The average initial retroreflectance readings shall exceed the following minimum values:

<u>Test Method</u>	<u>*White Markings</u>	<u>*Yellow Markings</u>
<u>ASTM E1710 (Dry)</u>	<u>500 mcd/lux/m²</u>	<u>300 mcd/lux/m²</u>
<u>ASTM E2177 (Wet Recovery)</u>	<u>300 mcd/lux/m²</u>	<u>250 mcd/lux/m²</u>
<u>ASTM E2832 (Continuous Wetting)</u>	<u>250 mcd/lux/m²</u>	<u>200 mcd/lux/m²</u>

*Observation Angle = 1.05°, Entrance Angle = 88.8°

The black contrast shall be non-reflective and 1 to 2 in. wide, adding a total of 2 to 4 in. of nominal width to the line.

The leading edge(s) of all preformed markings shall be tapered to minimize risk of plow damage. The Contractor shall provide a Certificate of Compliance verifying the product supplied will meet the color, friction, and retroreflectivity requirements prior to installation.

CONSTRUCTION METHODS

The Contractor shall supply Shop Drawings to the Engineer for approval a minimum of 30 days in advance of installation. Shop Drawings shall include the product manufacturer's instructions, material safety data sheets (MSDS) for all components including any primers and sealers, and all tools, equipment, and procedures to be used for the installation. No work shall commence until the Shop Drawings have been approved.

Recessing of markings shall be per Subsection 860.65: Recessed Markings.

Lines shall not be placed adjacent to each other to increase line width unless lines greater than 12 in. wide are required and the manufacturer's specifications allow it.

All existing pavement markings that are to remain, castings, curbs, and rumble strips within the vicinity of the Preformed Markings shall be protected by the Contractor. Existing pavement markings damaged during the installation shall be removed and replaced by the Contractor at no additional cost.

The Contractor shall follow all installation instructions from the manufacturer, including allowable ranges of temperature and humidity for installation, unless otherwise approved by the Engineer.

ITEMS 866.706 and 867.706 (Continued)

Upon completion of installation, a sealer shall be applied if recommended by the manufacturer. The sealer shall be installed per the manufacturer's specification. The application of a sealer shall be considered incidental to the cost of the item.

The Contractor shall maintain protection of the Preformed Markings installation from vehicle and foot traffic throughout the minimum cure time recommended by the manufacturer.

Method of Measurement

Items 866.706 and 867.706 will be measured for payment by the Foot as specified in Subsection 860.80.

Basis of Payment

Items 866.706 and 867.706 will be paid for at the respective contract unit price per Foot. These prices shall include all material, labor, installation, inspection, acceptance of the groove, equipment, and incidental costs required to the complete the work.

ITEM 905. **4000 PSI, 3/8 INCH, 660 CEMENT CONCRETE** **CUBIC YARD**

The work under this Item shall conform to the relevant provisions of Subsection 901 of the Standard Specifications and the following:

The work under this Item includes of furnishing and placing 4000 PSI, 3/8 INCH, 660 Cement Concrete.

This item shall be used for patching the deck, after concrete is removed under Items 127.4 and/or 127.41.

This Item also shall be used for deep repair patching after the concrete is removed under Item 127.1.

Note: The Contractor's attention is also directed towards the Repair Notes and Details contained in Document A00803.

The Engineer shall determine whether to use this Item or to direct the use of a Hi-Early mix.

All formworks shall be approved and accepted by the Engineer prior concrete placement.

All concrete surfaces shall be prepared in accordance with PREPARATION OF CONCRETE SURFACES.

Method of Measurement

Item 905. will be measured for payment by the Cubic Yard, of concrete finished and installed complete in place.

ITEM 905. (Continued)**Basis of Payment**

Item 905. will be paid for at the Contract unit price per Cubic Yard. This price shall include all labor, materials, tools, equipment, installation and subsequent removal of any formwork, coating of the reinforcing steel oversight services, addition of any approved admixture to the cement concrete, and all incidental costs required to complete the work.

If Hi-Early Cement Concrete is required by the Engineer, then the Contractor will be compensated at the unit bid price for the Item plus a cost allowance of the actual cost difference between the 4000 PSI, 3/8 INCH, 660 CEMENT CONCRETE and High-Early Cement Concrete mix. The differential per cubic yard material allowance will be made under Non-Bid Items.

ITEM 907.1 **BRIDGE DECK RIDEABILITY AND GROOVING** **SQUARE YARD**

The work under this Item shall include testing, diamond grinding, grooving and all other related work associated to obtain rideability and surface texture of the bridge deck surface.

Testing

Perform acceptance testing of the longitudinal profile of the finished bridge deck in each wheel path of each lane in the presence of the Engineer. It is the Contractor's responsibility to submit a proposed plan of action and schedule for profilograph testing using a certified independent provider, approved by the Engineer.

Joint locations should be temporarily bridged sufficiently to facilitate the operation of the profilograph and corrective equipment across the joint. Remove all obstructions from the bridge deck and sweep the surface clean of debris prior to testing. If automated profilograph equipment is used, there shall be no radio transmissions or other activities that might disrupt the automated profilograph equipment during the testing. Ensure that the profilograph is in good operating condition per the manufacturer's recommendations. Maintain tires free of debris and buildup during each test run. Operate the profilograph at a maximum speed of 2 miles per hour. If a propulsion vehicle is used, it shall be approved, and the gross vehicle weight shall not exceed 1,000 pounds.

Take profiles with the recording wheel in each wheel path of each lane. The wheel paths of a lane are considered parallel to and approximately 3.5 feet (1.1 m) inside both edges of the travel lane. Take profiles over the entire length of the travel lanes on the bridge deck.

Upon completion of testing, submit the profilograms for each wheel path with the calculated Profile Index for each wheel path. The maximum allowable Profile Index per lane shall not exceed 25" per mile as determined with a 0.0" blanking band over any 600-foot test section. The Contractor will correct individual deviations more than 0.3" over any 25-foot length on the line tested by diamond grinding.

ITEM 907.1 (Continued)

The entire deck surface shall meet a 0.125" in 10 feet straightedge check made atop the deck either transversely or longitudinally as deemed necessary by the Engineer.

Diamond Grinding

If the deck does not meet the testing requirements, then diamond grinding is required to make corrections.

Diamond grind the full width of all lanes and shoulders in the direction of travel. When diamond grinding, use either a Boart Longyear PC 5000, a Target 3804 or an approved equal. Submit grinding equipment specifications to the Engineer for approval before any grinding is performed.

Use a grinding machine capable of removing a minimum of 3 feet of width with each pass.

Multiple passes may be needed to achieve the required depth of removal. In addition, hand grinding may be required to remove vertical steps between passes.

The final concrete texture shall be uniform. Construct and operate the grinding machine such that it will not cause strain or damage to the deck surface, excessive ravels, aggregate fractures, spalls, or disturbance of transverse joints. Longitudinally grind the deck parallel to the roadway centerline. Continuously remove all slurry or other debris resulting from the grinding operations by vacuum pick-up or other approved methods. Prevent the slurry from flowing into drainage structures, onto the ground under the bridge. Dispose of all residues off the project. The surface of exposed concrete decks shall be left in a washed clean condition that is free from all slipperiness from the sawcutting slurry.

All corrective work on the deck surface shall be performed to satisfy the rideability criteria. In cases where this cannot be achieved, other corrective work may be required as directed by the Engineer. Provide additional profilograph testing as necessary following grinding until the rideability requirements above are satisfied.

Sawcut Grooves in Concrete Deck

After the concrete surface profile has been accepted by the Engineer, the concrete blockouts poured, and the joints installed, groove the bridge deck.

The work under this Item shall be performed in accordance with this Special Provision and the applicable parts of the Specifications.

The Polymer Modified Concrete Overlayment shall be grooved using multi-bladed self-propelled sawcutting equipment. Transverse grooves shall be sawcut no sooner than completion of the 96-hour air curing operation. The grooves shall be rectangular in shape, 1/8 inch wide (plus 1/16 inch, minus 0 inches) and 3/16-inch-deep (plus or minus 1/16 inch). The grooves shall be cut at a variable spacing measured from the centerline of grooves as follows: 3/4 inch, 1 1/8 inches, 5/8 inch, 1 inch, 5/8 inch, 1 1/8 inches, and 3/4 inch in 6-inch repetitions across the width to be grooved in one pass of the mechanical saw device. One 6-inch sequence may be adjusted by 1/4 sequence increments to accommodate various cutting head widths provided the general pattern is carried out. The tolerance for the spacing of the grooves is plus or minus 1/16 inch.

ITEM 907.1 (Continued)

The groove sawcutting equipment shall have a depth control device that will detect variations in the surface profile and adjust the cutting head height to maintain the depth of groove specified.

The groove sawcutting equipment shall be provided with devices to control the alignment. Flailing type grooving that is uncontrolled and erratic shall not be permitted. Grooves shall be cut continuously across the roadway, perpendicular to the centerline of the roadway, and shall stop 1 foot from the curb line. Grooves shall be continuous across construction joints. At skewed metal bridge deck expansion joints and at the skewed ends of bridge deck, the groove cutting shall be adjusted by using narrow width cutting heads so that all grooves end within 6 inches of the edge of deck joint measured normal to the centerline of joint or end of deck. No un-grooved deck surface greater than 6 inches in width shall remain. A minimum clearance of 1 inch shall exist between the first groove and the end of deck or edge of metal bridge deck expansion joint.

No overlapping or repeating of grooving in the same location by the grooving machine shall be permitted. The pattern of grooving shall be discussed and agreed upon with the Engineer before grooving begins.

Method of Measurement

Item 907.1 will be measured for payment by the Square Yard.

Basis of Payment

Item 907.1 will be paid for at the Contract unit price per Square Yard. This price shall include all labor, materials, equipment, testing, grinding, and grooving the proposed polymer modified concrete overlayment, profilograph testing, diamond grinding of the bridge deck, removal and disposal of slurry resulting from the grinding operation, and all incidental costs required to complete the work.

ITEM 909.2 **CEMENTITIOUS MORTAR FOR PATCHING** **SQUARE FOOT**

The work under this item consists of furnishing and placing a cementitious, fast setting, trowel grade patching mortar for shallow depth (2" or less inches in depth) repairs of delaminated or deteriorated and/or unsound concrete surfaces at the substructures, sidewalk and as required by the Engineer.

This item does not include the repair of any vertical patch that exceeds 2" in depth. The repairs to those patches shall be made with masonry cement concrete to be paid under Item 905.

Excavation for repairs performed under this Item will be paid under Item 127.1.

Certification

Only those products previously approved for the purpose intended herein and listed on the Qualified Construction Materials List maintained by the MassDOT Research and Materials Section may be used.

ITEM 909.2

No materials will be ordered or used before the approval of the Engineer.

Surface Preparation

The Contractor shall remove all deteriorated and spalled areas as designated by the Engineer.

All costs to remove the deteriorated and spalled concrete will be paid for under Item 127.1.

The Contractor shall have the approval of the Engineer certifying that all spalled and deteriorated concrete has been removed prior to patching deteriorated areas. If the deterioration of the vertical surfaces is deeper than 1", then the repair will be made in maximum lifts of 1" deep.

The preceding lift shall be allowed to reach the final set before applying fresh material. The fresh mortar must be scrubbed into the preceding lift.

Areas to be patched must be clean and sound. All loose and deteriorated concrete shall be removed by means of abrasive blasting, or an equivalent method, to a depth where sound concrete is exposed.

APPLICATION METHODS

Minimum patch depths at edges of patch shall be ½". Abrasive blast existing concrete to remove all contaminants prior to applying mortar. Chipping methods are to be approved in advance by the Engineer.

At the time of application, surfaces should be damp (saturated surface dry) with no glistening water. Mortar must be worked into the substrate filling all pores and voids. Force the material against the edge of the repair, working towards the center. After filling, consolidate, then screed.

The maximum thickness of application in one pass shall be 1". If the depth of patch exceeds 1", the mortar shall be placed in two passes of approximately equal thickness. Before the first pass has achieved an initial set, the surface shall be prepared for the second pass by scratching with a trowel to form a grid of deformation on the surface.

Curing

Use a fine mist spray of water, wet burlap, or a non-solvent approved curing compound if ambient conditions might cause premature surface drying (high temperature, low humidity, strong winds, etc.). If necessary, protect the newly applied mortar from rain. To prevent freezing, cover with insulating material.

Manufacturer's Field Representative

The Contractor shall arrange with the material's manufacturer or distributor to have the services of a competent certified field representative at the work site prior to any mixing of components to instruct the work crews in the proper mixing and application procedures.

ITEM 909.2

The manufacturer's field representative must be fully qualified to instruct artisans or perform the work and shall be subject to the approval of the Engineer.

The Contractor shall be completely responsible for the expense and services of the required field representative, and the bid contract price shall be full compensation for all cost in connection therewith.

Method of Measurement

Item 909.2 will be measured for payment by the Square Foot of patch area, complete in place.

Basis of Payment

Item 909.2 will be paid for at the contract unit price per Square Foot. This price shall include all labor, materials, equipment, manufacturer's field representative, and all incidental costs required to complete the work.

ITEM 912.**DRILLING AND GROUTING DOWELS****EACH**

The work under this Item shall conform to the relevant provisions of Subsection 901 of the Standard Specifications and the following:

The work includes drilling holes, furnishing, installing, and grouting steel dowel reinforcement at the locations shown on the drawings and as required by the Engineer.

The dowel embedment must be adequate to fully develop 125% of the yield strength of the bar.

The embedment length, the method and equipment used to drill the dowel holes, and the diameter of the drilled hole shall at a minimum conform to the recommendations of the manufacturer and be submitted to the Engineer for approval.

MATERIALS

The grout to be used for these dowels shall be selected from the MassDOT Qualified Construction Materials List for its specific application.

Reinforcing steel dowels shall meet the requirements of AASHTO M31 Grade 60. All reinforcing steel dowels shall be epoxy coated in accordance with ASTM A775. Reinforcing steel dowels shall be incidental to the work under this Item.

Reinforcing Steel Manufacturer shall be listed on the QCML

ITEM 912. (Continued)**CONSTRUCTION METHODS**

All dowel holes shall be air drilled provided that the minimum edge distance of 6 inches is observed.

If the Engineer determines that air drilling would be inappropriate due to questionable strength of the existing /concrete or insufficient edge distance, then the dowel holes shall be diamond core drilled.

The inner surfaces of the diamond core drilled dowel hole's inner surfaces shall be subject to the approval of the Engineer.

The diameter of the drilled dowel holes shall be in accordance with the recommendations of the grout manufacturer.

The holes shall be blown clear of any debris and shall have the approval of the Engineer prior to the placement of any grout material.

The drilling operation shall be performed without damage to any portion of the existing structure that is to remain in place.

Any damage to any portion of the existing structure that is to remain in place shall be repaired to a condition equal to or better than that existing prior to the beginning of the Contractor's operations and shall be repaired at the Contractor's expense.

The Contractor shall strictly follow the recommendations of the manufacturer for mixing and placing the grout material prior to the placement of the dowel. The Contractor shall adhere to the recommendations of the manufacturer regarding minimum and maximum temperatures while placing the grout. Any excessive grout around the hole after placement of the dowel shall be struck off smooth while the grout is still fresh.

The Contractor shall perform on site a minimum of two (2) tests of the dowels (one test for each side of stage construction) for capacity in tension in each location or component. The test shall be performed in the presence of and to the satisfaction of the Engineer. The testing, including the necessary material and equipment to perform the test, is incidental to the work under this Item. The pullout force shall correspond to 90% of the yield strength of the bar. If the test bar pulls out or if the concrete utilized in the test shows signs of fracture, the Contractor shall adjust the hole diameter, embedment length, and/or grout material to meet this requirement. The method of applying the tension load to the dowels shall conform to ASTM E488. Details of the test procedure, materials, and equipment shall be submitted to the Engineer for review and approval prior to commencement of the test. Dowels shall not be ordered until the embedment lengths have been approved by the Engineer.

ITEM 912. (Continued)

The Contractor shall arrange with the material's manufacturer or distributor to have the services of a competent field representative at the work site prior to any drilling of the proposed dowel holes to instruct the work crews in proper dowel installation procedures. The field representative shall remain at the job site after work commences and continue to instruct until the representative, the Contractor, and Engineer are satisfied that the crew has mastered the technique of installing the dowels successfully. The representative shall make periodic visits to the project as the work progresses and shall confer on each visit with the Contractor, Inspector and/or Engineer. The manufacturer's field representative must be fully qualified to perform the work and shall be subject to the approval of the Engineer.

Method of Measurement

Item 912. will be measured for payment by the Each dowel installed, complete in place.

Basis of Payment

Item 912. will be paid for at the Contract unit price per Each. This price shall include all labor, materials, equipment, furnishing dowels, drilling holes, grouting the dowels regardless of the diameter or depth of the hole, and all incidental costs required to complete the work.

The Contractor shall be completely responsible for the expense of the service of the required field representative and the contract unit price shall be considered full compensation for all costs in connection therewith.

ITEM 964.60 PENETRATING SEALER FOR EXPOSED DECK SQUARE YARD

The work to be done under this Item shall consist of providing all labor, materials, and equipment required to prepare, clean, and apply a penetrating polymer (epoxy or methyl methacrylate) sealer system with sand aggregate to entire surface of exposed concrete bridge deck as directed by the Engineer.

This application shall follow placement of the overlay and allowing a minimum of thirty (30) days for curing.

MATERIALS

The sealer system shall be one of the following:

- Bridge Seal 75% by Dayton/Unitex
- Dural 335 or Dural 50 LM by Euclid Chemical
- Mark 127 or Mark-135 Safe-T-Seal by Poly-Carb
- SikaPronto 19 or SikaPronto 19 TF (Tack Free) by Sika Corporation
- An approved equal

The sealer system shall be selected with cure time in mind and in consideration of the overall deck sealing operation schedule.

ITEM 964.60 (Continued)

The sealer system that requires long cure time and work that impacts the project's requirement that all lanes be re-opened to traffic during daily high-volume hours will be rejected by the Engineer.

The sand aggregate used in conjunction with the sealer system shall be pre-bagged dry silica and meet the requirements of Sand Borrow, M1.04.0 and be poorly graded with grain size between U.S. sieve size 20 and 40. The aggregate must be angular, with less than 0.2 percent moisture, and free of dirt, clay, asphalt, and other foreign or organic materials.

EQUIPMENT

For the sealer, the mixing and application systems must be capable of accurately blending the epoxy or methacrylate resin and hardening agent and must uniformly and accurately apply the sealer materials at the specified rate to the bridge deck in such a manner as to cover 100 percent of the work area including 1 inch of the vertical face of the curb/barrier.

The fine aggregate spreader must be propelled in such a manner as to uniformly and accurately apply dry aggregate onto the applied sealer material.

Self-propelled vacuum truck shall be used to remove excess debris and aggregate.

For hand applications, equipment must consist of calibrated containers, a paddle type mixer, squeegees, and stiff bristle brooms suitable for mixing and applying the sealer and aggregate.

SUBMITTALS

The Contractor shall submit for review and approval by the Engineer the Bridge Deck Penetrating Sealer Installation Plan, which shall include the following:

1. Material list and corresponding cut sheets.
2. Equipment list and corresponding cut sheets (for surface preparation, mixing, and aggregate broadcasting).
3. A copy of International Concrete Repair Institute Guideline No. 03732.
4. Application procedure, production rates, and sequence of application.
5. Method to protect bridge joint, and areas not to be sealed.
6. Method to protect existing lane markings.
7. Temporary Traffic Control and Management Plan
8. Work schedule (Including curing time for the sealer).

The Contractor shall not begin the work until written approval of the above submittals has been received from the Engineer.

ITEM 964.60 (Continued)**CONSTRUCTION****Surface Preparation**

Immediately prior to application of the healer sealer, clean the entire deck surface by shot blasting to remove asphaltic material, oils, dirt, rubber curing compounds, paint carbonation, laitance, weak surface mortar, and other materials that may interfere with the bonding or curing of the healer sealer.

The prepared deck surface must conform to requirements described in the International Concrete Repair Institute Guideline No. 03732 (Link: <https://www.scribd.com/document/659224737/ICRI-Guideline-No-03732>), Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays, concrete surface profile 3 (CSP 3).

A vacuum cleaner or an oil-free moisture-free air blast should be used to remove all dust and other loose material.

Patching and cleaning operations must be inspected and approved prior to placing the sealer. Any contamination of the deck, or to intermediate courses, after initial cleaning, must be removed.

There must be no visible moisture present on the surface of the concrete at the time the sealer is applied. Conduct moisture testing in accordance with ASTM D4263.

A transparent polyethylene sheet (4 mil) must be taped to the deck. The edges shall be sealed with tape that will stick to the concrete substrate and leave the plastic sheet in place for a minimum of 16 hours to detect the presence of moisture in the deck concrete.

There must be no moisture visible on the polyethylene sheet. Alternate methods to detect moisture must be approved by the Engineer. Compressed air may be used to dry the deck surface, providing it is moisture and oil free.

The bridge joints, drainage structures, and any other areas not to be sealed, shall be protected from damage during preparation of the surface. The protection shall be removed once the sealer and aggregate have been applied, but prior to initial set of the sealer material. The protection must meet the approval of the Engineer.

Application

A representative of the sealer system manufacturer must be on site prior to and during the installation to ensure all preparation and application is performed according to their requirements.

Unless otherwise recommended by the manufacturer, the mixed sealer product shall be applied by pouring or spraying on the deck surface.

The sealer material shall be applied evenly with a squeegee, roller or stiff bristle broom.

A liquid head shall be maintained over cracks until refusal. This may need to be done several times with larger cracks to completely seal them. Any excess material shall be removed with squeegee or

boom.

ITEM 964.60 (Continued)

The fine aggregate shall be applied in such a manner as to cover the mixture completely within 5 minutes. The sealer system shall be applied to the entire bridge deck surface and the areas within 1 inch of the vertical face of the curb/barrier.

The fine aggregate (sand) shall be applied to excess and provide a dry appearance to the deck after placement, unless otherwise recommended by the manufacturers or its on site representative. No bleed through, or wet spots should be visible in the overlay. If the surface appears wet additional sand will need to be placed immediately. The sand should be spread at a rate of at least 0.5 pound per square foot. The Contractor should use an air compressor connected to a venturi system to effectively broadcast the aggregate.

All foot traffic on the uncured sealer material shall be minimized and shall only be done with steel spiked shoes approved by the Engineer.

The minimum curing periods must be according to the manufacturer's recommendations, or as directed by the Engineer. The sealer overlay shall also be cured until loose aggregate can be removed by vacuuming or brooming without tearing or damaging the surface. No traffic or equipment is allowed on the overlay surface during the curing period. Remove and replace any areas damaged or marred by the Contractor's operations in accordance with this special provision at no additional cost to the Department.

Provide the Engineer with all records including the following for each batch:

- Batch numbers and sizes
- Location of batches as placed on deck, referenced by stations
- Batch time
- Temperature of air, deck surface, sealer system components, including aggregates
- Loose aggregate removal time
- Time open to traffic

The work shall be performed when the ambient temperature is expected to be not less than 73 and not greater than 95 degrees Fahrenheit.

Manufacturer's Field Representative

The Contractor shall arrange with the sealer system's manufacturer or distributor to have the services of a competent field representative at the work site prior to any installation to instruct the work crews in the proper installation procedures.

The field representative shall remain at the job site after work commences and continue to instruct until the representative and the Contractor, Inspector, and/or Engineer are satisfied that the crew has mastered the technique of installing the system successfully.

The representative shall make periodic visits to the project as the work progresses and shall confer on each visit with the Contractor, Inspector, and/or Engineer.

ITEM 964.60 (Continued)

The manufacturer's field representative must be fully qualified to perform the work and shall be subject to the approval of the Engineer.

The Contractor shall be completely responsible for the expense of the service of the required field representative and the bid contract price shall be full compensation for all costs in connection therewith.

Method of Measurement

Item 964.60 will be measured for payment by the Square Yard of penetrating sealer system installed.

Basis of Payment

Item 964.60 will be paid for at the contract unit price per Square Yard. This price shall include all labor, materials, equipment, cleaning, preparing, protection and/or removal of the pavement markings from the bridge deck, the manufacturer's field support, and miscellaneous clean-up application, and all incidental costs required to complete the work.

ITEM 973.2**PRE-COMPRESSED JOINT SEAL****FOOT**

The work under this item includes furnishing and installing a bridge joint system consisting of a pre-compressed joint seal set in concrete block-out in accordance with this specification and as shown on the contract drawings or directed by the Engineer.

The reconstruction of the existing deck slab and backwalls and construction of the block-outs for the joint will be compensated for under other pay contract items.

MATERIALS

The pre-compressed joint seal system assembly shall consist of a preformed (pre-compressed) seal made of silicone-and-impregnated-foam hybrid, installed into field applied highway-grade, low-modulus, fuel resistant silicone epoxy adhesive on the joint faces reinforced with **injection** of silicone sealant band, all combined in manner to form a continuous watertight seal.

ITEM 973.2 (Continued)

The material of the pre-compressed seal joint system shall be capable of accommodating movements of +50%, -50% (Total 100%) of nominal material size.

The foam shall have the following properties:

Property	Value	Test Method
Base Material	Cellular, high density, polyurethane foam	N/A
Temperature Service Range: High Low	185°F -40°F	ASTM C711
UV Resistance	No changes – 2000 hours	ASTM G155-00A
Accelerated Weatherometer Resistance to Aging	No changes – 2000 hours	ASTM G155-00A
Bleeding: -40°F to 180°F	No bleeding when compressed to minimum of movement, i.e. -50% of nominal size when simultaneously heated to 180°F for 3 hours.	
Compression Set	Material recovers to +50% of nominal size within 24 hours of compression to -50% of nominal size and simultaneous heating to 180°F for 3 hours.	

The silicone coating applied in the field to achieve joint continuity, and the factory applied silicone coating shall both have the following properties:

Property	Value
Color	Black
Percent Solids (min.)	96
Specific Gravity	1.26 – 1.34
Tests Conducted on Cured Sealant after 21 days at 77°F and 50% Relative Humidity:	
Elongation Percent (min.)	1400
Joint Modulus at 50% Elongation, PSI (max.)	7
Joint Modulus at 100% Elongation, PSI (max.)	8
Joint Modulus at 150% Elongation, PSI (max.)	9
Adhesion to Concrete, Percent Elongation (min.)	+600
Adhesion to Asphalt, Percent Elongation (min.)	+600
Joint Movement Capability, +100/-50 Percent, 10 Cycles	No Failure
Weatherability	Unaffected by Climatic Extremes
Flexibility	Cured sealant stays rubbery from -50°F to 300°F

ITEM 973.2 (Continued)**SUBMITTALS**

At least 30 days prior to start of the work, the Contractor shall submit to the Engineer for review and approval a detailed plan for the installation of the pre-compressed joint seal. No work shall be performed until this submittal has been approved.

The submittals shall include:

1. Sequence of construction, material and method to create joint block-outs. The sequence of constructing the backwall and concrete slab including methods and material for forming the joint block-out shall be submitted for the approval of the Engineer.
2. A list of all manufactured materials and their properties to be incorporated in the joint system, including, but not limited to the pre-compressed joint seal and method of packaging.
3. A detailed step by step installation procedure and a list of the specific equipment to be used for the installation. The plan must fully comply with the specifications and address all anticipated field conditions, including periods of inclement weather.

Materials Certificates and Certified Test Reports shall be submitted by the Contractor certifying that the pre-compressed joint seal satisfies the specification requirements.

CONSTRUCTION

The Contractor shall produce uniform and parallel surfaces in the forming within the reinforced concrete deck slabs and backwall as detailed on the plans.

The construction of this joint requires producing joint block-outs in a way that eliminates waviness ensuring the joint is straight between the roadway curbs and in alignment with the joint through the sidewalk and safety curbs.

The alignment of the joint must be carefully considered and accounted for when forming the backwalls and deck slabs.

The joint opening shall be protected by the Contractor to prevent any edge damage by any site equipment throughout the on-going construction process. Grinding and cutting the decks shall be completed prior to installation of the deck seal which shall occur as a continuous operation.

The pre-compressed seal profile shall be shipped to the job site in nominal 6.5 feet standard lengths in the manufacturer's standard shipping cartons.

The seals shall be cut to length on the jobsite where required for straight lengths.

Seal for directional change transitions at curbs shall be prefabricated to fit existing conditions. The appropriate tools, saws and miter boxes shall be utilized. All cuts shall be accurately measured and completed in a neat and workmanlike manner to ensure quality work.

ITEM 973.2 (Continued)

Prior to installation of the pre-compressed seal, the joint opening shall be abrasive blast cleaned, blown clean using compressed air that is free of moisture and oil, and then solvent cleaned to remove any remaining dust or debris.

The solvent used shall be either acetone or xylene. Water shall not be used as the solvent and only clean cloths shall be used.

The surfaces shall be abrasive blast and solvent cleaned so that the surface profile meets ICRI CSP 2 (minimum) or CSP 3 (preferred).

The depth of cleaning shall extend to the depth of the bottom of the pre-compressed seal material plus one inch (1") to remove any dust remaining.

The joint gap shall be inspected for cleanliness by the Engineer.

If any contaminates remain, then the joint must be re-cleaned to the depth of the bottom of the pre-compressed seal material plus one inch (1") to remove any dust remaining. The joint gap shall be inspected for cleanliness by the Engineer. If any contamination remains, then the joint must be re-cleaned.

The pre-compressed seal, epoxy adhesive, and injected silicone sealant band shall be installed in accordance with the Contract drawings.

The pre-compressed seal joint system shall be continuous through sidewalks, curbs, medians, and parapets as appropriate to the conditions at hand.

Continuity of the seal shall be achieved using factory-fabricated universal or custom transitions supplied by the pre-compressed joint seal manufacturer. Changes in plane and direction at locations, such as gutter line and face of barriers, shall be executed using factory-fabricated "universal 90" or custom transition assemblies supplied by the manufacturer of the pre-compressed seal. Transitions shall be warranted to be watertight at inside and outside corners through the full movement capabilities of the product.

Pre-compressed Seal Manufacturer's Field Representative

The Contractor shall arrange with the pre-compressed seal joint system's manufacturer or distributor to have the services of a competent field representative at the work site prior to any installation to instruct the work crews in the proper installation procedures.

The field representative shall remain at the job site after work commences and continue to instruct until the representative and the Contractor, Inspector and/or Engineer are satisfied that the crew has mastered the technique of installing the system successfully.

The representative shall make periodic visits to the project as the work progresses and shall confer on each visit with the Contractor, Inspector, and/or Engineer.

ITEM 973.2 (Continued)

The manufacturer's field representative must be fully qualified to perform the work and shall be subject to the approval of the Engineer.

Method of Measurement

Item 973.2 will be measured for payment by the Foot, as measured along the joint centerline and between curb lines, complete in place.

Basis of Payment

Item 973.2 will be paid for at the contract unit price per Foot. This price shall include all labor, materials, preparation and installation of pre-compressed seal at the safety curb and sidewalk, equipment, manufacturer's representative, and all incidental costs required to complete the work.

Any reconstruction of the existing deck concrete, including forming of the block-outs, will be paid for under the applicable contract items.

ITEM 994.1 **TEMPORARY PROTECTIVE SHIELDING** **SQUARE FOOT**

The work under this item includes furnishing, installing, maintaining, removing and properly disposing of existing shielding system on and under bridge, at the locations required by the Engineer. This work shall provide for the protection of traffic, persons, and facilities on the roadway beneath bridges from falling debris during the removal of the unsound concrete from bridge decks, parapets, copings and sidewalks.

Item 994.1 will be used to compensate the Contractor for the temporary shielding installed during the first phase of work (refer to contract drawings for the proposed construction staging).

No portion of the bridge deck shall be removed until the protective shielding is in place and complete.

Any equipment necessary to erect forms will be considered incidental to Items 994.1 and 994.12.

Any existing formwork or shielding on the bridge shall also be removed and disposed by the Contractor away from the job area, at no additional expense.

All required shielding shall meet the following:

1. Temporary Protective Shielding must be used on bridges over roadways, railroads, and waterways during full depth excavation and when, in the opinion of the Engineer, there is the possibility of dislodging concrete from the bottom of the deck, parapets or coping. In some cases, the Contractor may be able to utilize the bottom flanges of existing steel beams as support for protective shielding. However, the Contractor will not be permitted to weld onto, drill into, or cut any existing structural steel beams.

ITEM 994.1(Continued)

2. The Contractor shall submit drawings and calculations stamped by a Professional Engineer of the appropriate discipline registered in Massachusetts of the proposed temporary shielding to the Engineer for approval prior to its installation. The drawings shall include details of all connections, brackets, and fasteners. However, when the spacing between existing steel beams is 70 inches or less, the Contractor may utilize a wood plank shielding scheme.
3. Shielding shall be designed to safely withstand all loads that it will be subjected to. The allowable design stresses shall be in accordance with AASHTO Standard Specifications for Highway Bridges, 17th Edition. The design shall also include a description of the equipment and construction methods proposed for the deck, parapet, or coping excavation and the maximum size of the area being excavated. The shielding shall also be designed to withstand the maximum size of the excavated area should it fall during excavation or removal. No debris shall be swung over traffic, on or below the bridge.
4. Shielding shall be designed such that impact on traffic during installation and removal shall be minimal.
5. The shielding shall extend a sufficient distance above and beyond the deck overhang at the fascia where concrete excavation is required outside the fascia beams. The shielding shall extend the length of the damaged or distressed portion of the deck a length of sufficient distance to do the required deck demolition. Also, the width of shielding shall completely extend over the travel lanes and shoulders of the highway below and shall extend a minimum of one beam width in the transverse direction beyond the limits of the excavation.
6. The area for shielding shall be approved by the Engineer prior to any installation of any shielding. All spaces along the perimeter of the shielding and at the seams shall be sealed to prevent dust, water, and debris from escaping and falling onto traffic below the bridge.
7. The Engineer may request that the shielding be designed so that it may also serve as false work (forms) for all areas of full-depth concrete replacement/repair.
8. The shielding shall not decrease the minimum vertical bridge clearance to the roadway unless otherwise approved by the Engineer.
9. The shielding shall be maintained and remain in place until the strength of the concrete used to repair the deck has cured and reached the design strength requirement, except where shielding needs to be removed and reset to install formwork for the areas of full depth repair. The shielding shall remain the property of the Contractor and shall be removed by the Contractor from the site when no longer needed.

If the Contractor's operations damage any existing portions of the bridge that are to remain, then all repairs will be at the Contractor's expense.

All materials used in the temporary shielding system shall become the property of the Contractor and shall be removed from the site upon the completion of the project.

Method of Measurement

Item 994.1 will be measured for payment by the Square Foot of shielding installed, maintained, and removed upon completion of repair work as required by the Engineer.

ITEM 994.1(Continued)

Basis of Payment

Item 994.1 will be paid for at the Contract unit price per Square Foot. This price shall include all labor, materials, equipment, removing and properly disposing of all debris, shielding installation, maintenance, final removal upon completion of repair work, and all incidental costs required to complete the work.

Payment of 60% of the Square Foot of this item will be made upon complete installation.

40% of the Square Foot of this Item will be paid following complete removal.

Compensation to provide Engineering Services, as required, will be separately reimbursed as a Non-Bid Item.

<u>ITEM 994.12</u>	<u>TEMPORARY PROTECTIVE SHIELDING REMOVED AND RESET</u>	<u>SQUARE FOOT</u>
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The work under this Item shall consist of removing and resetting any previously installed protective shielding that may interfere with operations of the concrete deck repairs.

Note: Previously installed protective shielding may interfere with the Contractor's operations for full depth concrete deck repairs. Prior to commencing work, the Contractor shall submit to the Engineer for approval all proposed construction methods for removing and resetting the protective shielding.

Any debris that falls on the shielding shall be completely cleaned off from the protective shielding and disposed of offsite by the Contractor. Removal and disposal of materials will be subject to the regulations and requirements of local authorities governing the disposal of such materials. The disposal shall be done at no additional charge.

Any shielding damaged by the Contractor shall be replaced at the Contractor's expense. Any existing locations where protective netting has become damaged beyond the control of the Contractor, (in the opinion of the Engineer), may be replaced at the Engineer's discretion.

Compensation to provide new replacement protective netting will be made under Payment for Materials (Non-Bid Items).

Method of Measurement

Item 994.12 will be measured for payment by the Square Foot of the temporary protective shielding removed and reset.

Basis of Payment

Item 994.12 will be paid at the Contract unit price per Square Foot. This price shall include all labor, materials, tools, equipment, and all incidentals required to complete the work.

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DRAWINGS AND SKETCHES

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TABLE OF CONTENTS

TABLE OF CONTENTS	1
LOCUS MAP	2
GENERAL NOTES	3
PROJECT LIMITS PLAN	4
EXISTING JOINT DETAIL AT ABUTMENTS 1 AND 3	5
PROPOSED JOINT DETAIL AT ABUTMENTS 1 AND 3	6
EXISTING JOINT DETAIL AT ABUTMENTS 2 AND 4	7
PROPOSED JOINT DETAIL AT ABUTMENTS 2 AND 4	8
POLYMER MODIFIED CONCRETE REPAIR – SEQUENCE OF CONSTRUCTION AND NOTES	9
FULL/PARTIAL DECK REPAIRS NOTES (AFTER MECHANICAL SCARIFICATION)	10
BRIDGE GRANITE CURB REMOVED AND RESET DETAIL	11
POLYMER MODIFIED CONCRETE REPAIR DETAILS	12
SIDEWALK PROTECTION BARRIER – SUGGESTED CONCEPT	13
MISCELLANEOUS DETAIL	14 – 15
SUGGESTED CONSTRUCTION SEQUENCE AND STAGING	16 – 19
SUGGESTED DETOUR PLAN	20
TEMPORARY TRAFFIC CONTROL PLAN	21 – 22
CONSTRUCTION SIGN SUMMARY	23 – 24
CUSTOM SIGN LETTERING DIMENSIONS/SPACING	25

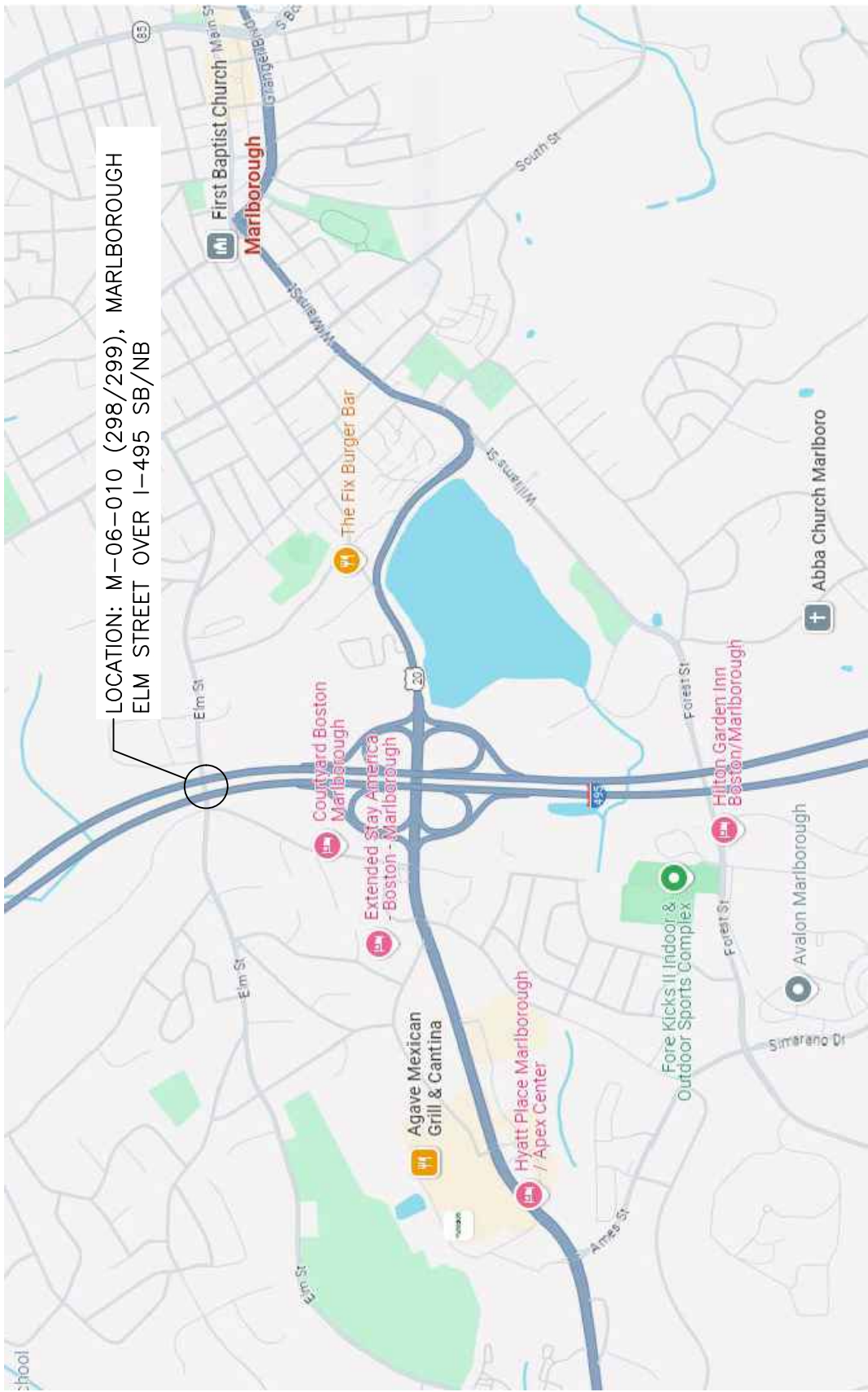


DISTRICT 3
BRIDGE SECTION

PROJECT: MARLBOROUGH– BRIDGE PRESERVATION, M-06-010, ELM STREET
OVER I-495

SUBJECT: TABLE OF CONTENTS

SHEET: 1	OF 25
DRAWN BY: ME	
DATE: 5/19/2025	
CHECKED BY: MN	
DATE: 5/19/2025	



LOCUS MAP
SCALE: N.T.S.

GENERAL NOTES:

1. THE WORK SHALL BE DONE IN ACCORDANCE WITH THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION "2025 STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES".
2. THE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER DOCUMENTATION AVAILABLE AT THE TIME OF DESIGN, INCLUDING ORIGINAL BRIDGE DESIGN PLANS. THE CONTRACTOR SHALL FIELD VERIFY ACTUAL FIELD CONDITIONS THAT MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH THESE DRAWINGS. ALL MODIFICATIONS TO ADDRESS FIELD CONDITIONS SHALL BE APPROVED BY THE ENGINEER.
3. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE ACCURACY AND FIT OF THE WORK AND THUS SHALL DETERMINE WHAT MEASUREMENTS ARE REQUIRED. WHERE REQUIRED, THE CONTRACTOR SHALL DEVELOP SHOP DRAWINGS UTILIZING THE FIELD MEASUREMENTS OF THE REPLACEMENT AND REPAIR AREAS TO CONFORM THE BRIDGE COMPONENTS AND ALL OTHER REPAIR DIMENSIONS. THE CONTRACTOR SHALL NOT ORDER ANY MATERIALS OR BEGIN FABRICATIONS UNTIL THE SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED BY THE ENGINEER.
4. AREAS OUTSIDE THE LIMITS OF THE PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
5. TEMPORARY TRAFFIC CONTROLS PLANS (TTCP) FOR THIS WORK SHALL CONFORM TO APPLICABLE MASSDOT CONSTRUCTION STANDARD DETAILS, WORK ZONE STANDARD DETAILS, AND SUBSECTION 7.10 – TRAFFIC MANAGEMENT PLAN, OF THE STANDARD SPECIFICATION. THE CONTRACTOR WILL BE REQUIRED TO COMPLY WITH THE DEPARTMENT'S SOP CSD-23-17-1-000 FOR COORDINATION, REVIEW, AND APPROVAL OF PROJECT'S TTCPS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DISPOSAL OF ALL EXISTING MATERIALS TO BE REMOVED FROM THE STRUCTURE AS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH THE SPECIFICATIONS.
7. THE EXISTING BRIDGE PLANS ARE AVAILABLE FOR REVIEW AT THE DISTRICT OFFICE OF THE BRIDGE DESIGN SECTION. PLANS SHOULD BE MADE AVAILABLE VIA BIDX OR THROUGH ELECTRONIC TRANSMISSION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES DURING THE COURSE OF THE PROPOSED REPAIRS. THE CONTRACTOR SHALL ALSO COORDINATE WITH THE APPROPRIATE UTILITY COMPANIES AS NECESSARY.



DISTRICT 3
BRIDGE SECTION

PROJECT: MARLBOROUGH– BRIDGE PRESERVATION, M-06-010, ELM STREET
OVER I-495

SUBJECT: GENERAL NOTES

SHEET: 3 OF 25

DRAWN BY: ME

DATE: 5/19/2025

CHECKED BY: MN

DATE: 5/19/2025



PROJECT LIMITS PLAN

SCALE: N.T.S.




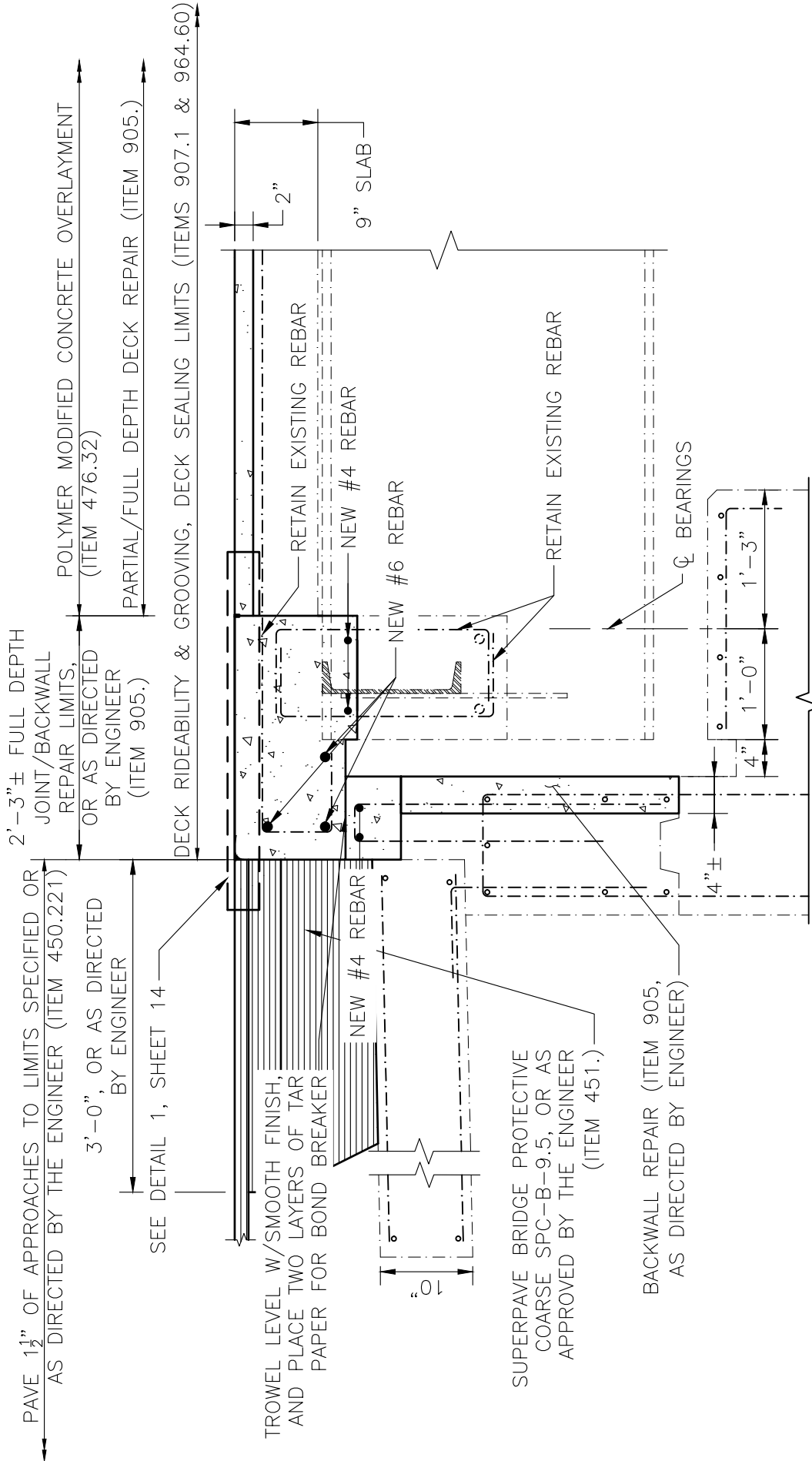
DISTRICT 3
BRIDGE SECTION

PROJECT: MARLBOROUGH— BRIDGE PRESERVATION, M-06-010, ELM STREET OVER I-495	SHEET: 4 OF 25	
	DRAWN BY: ME	
	DATE: 5/19/2025	
	CHECKED BY: MN	
SUBJECT: PROJECT LIMITS PLAN		DATE: 5/19/2025



SCALE: $\frac{3}{4}$ " = 1'-0"

 massDOT <small>Massachusetts Department of Transportation</small> Highway Division DISTRICT 3 BRIDGE SECTION	PROJECT: MARLBOROUGH— BRIDGE PRESERVATION, M-06-010, ELM STREET OVER I-495	SHEET: 5 OF 25 DRAWN BY: ME DATE: 5/19/2025
	SUBJECT: EXISTING JOINT DETAIL AT ABUTMENTS 1 & 3	CHECKED BY: MN DATE: 5/19/2025



PROPOSED JOINT DETAIL AT ABUTMENTS 1 & 3

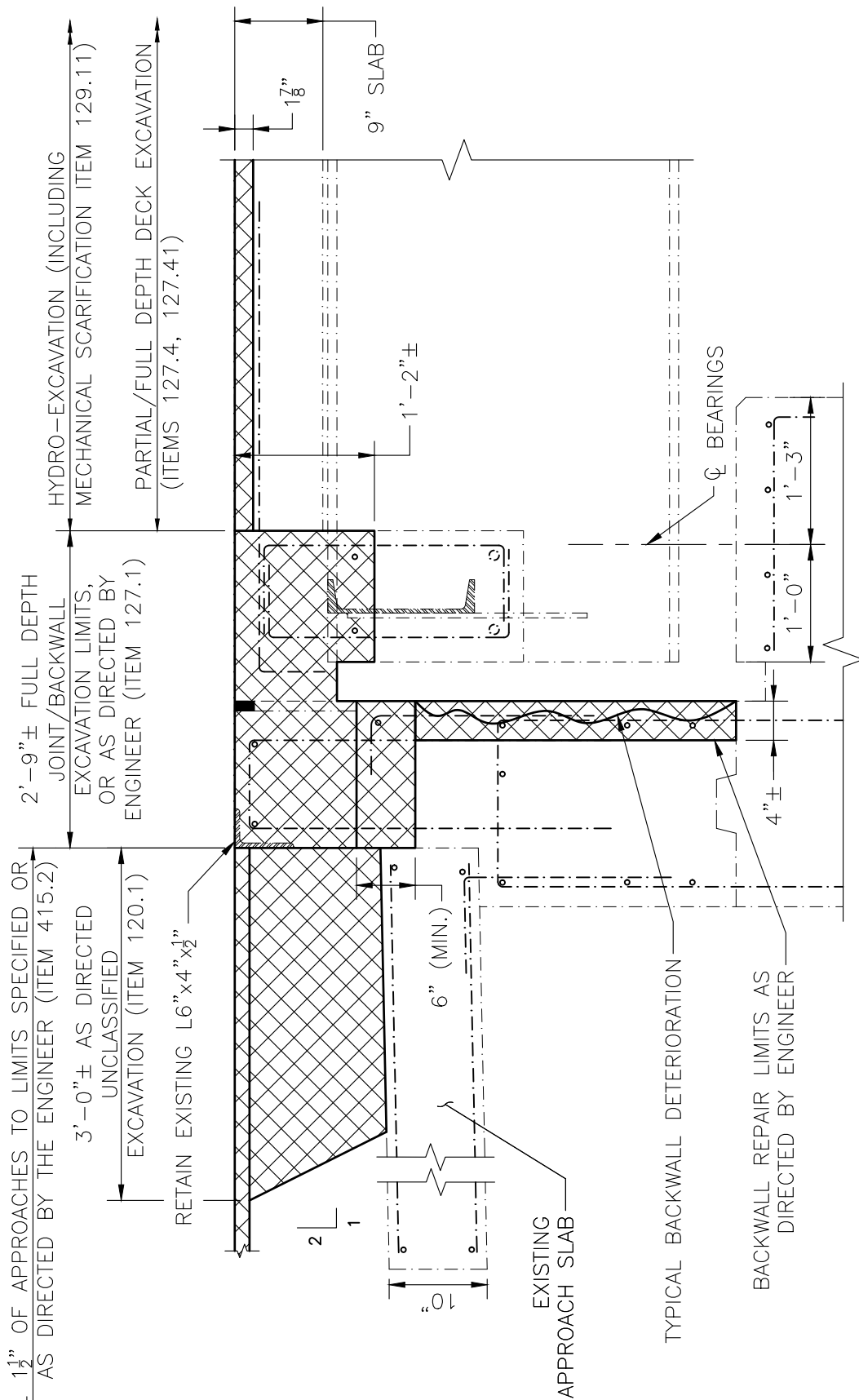
SCALE: $\frac{3}{4}$ " = 1'-0"

massDOT
Massachusetts Department of Transportation
DISTRICT 3
BRIDGE SECTION

PROJECT: MARLBOROUGH— BRIDGE PRESERVATION, M-06-010, ELM STREET
 OVER I-495


SUBJECT: PROPOSED JOINT DETAIL AT ABUTMENTS 1 & 3

SHEET: 6 OF 25
 DRAWN BY: ME
 DATE: 5/19/2025
 CHECKED BY: MN
 DATE: 5/19/2025



EXISTING JOINT DETAIL AT ABUTMENTS 2 & 4

SCALE: $\frac{3}{4}" = 1'-0"$

 massDOT <small>Massachusetts Department of Transportation</small> DISTRICT 3 BRIDGE SECTION	PROJECT: MARLBOROUGH— BRIDGE PRESERVATION, M-06-010, ELM STREET OVER I-495	SHEET: 7 OF 25 DRAWN BY: ME DATE: 5/19/2025
	SUBJECT: EXISTING JOINT DETAIL AT ABUTMENTS 2 & 4	CHECKED BY: MN DATE: 5/19/2025



SCALE: $\frac{3}{4}$ " = 1'-0"

massDOT
 Massachusetts Department of Transportation
 Highway Division
 DISTRICT 3
 BRIDGE SECTION

PROJECT: MARLBOROUGH- BRIDGE PRESERVATION, M-06-010, ELM STREET
OVER I-495

SUBJECT: PROPOSED JOINT DETAIL AT ABUTMENTS 2 & 4

SHEET: 8
OF 25

DRAWN BY: ME

DATE: 5/19/2025

CHECKED BY: MN

DATE: 5/19/2025

POLYMER MODIFIED CONCRETE REPAIR – SEQUENCE OF CONSTRUCTION AND NOTES:

1. IMPLEMENT THE DETOUR AS PER APPROVED WORK ZONE SAFETY PLAN, TRAFFIC CONTROL PLAN AND CONTRACT REQUIREMENTS.
2. CLOSE EASTBOUND LANE AND SHOULDER ON THE BRIDGE FOR PHASE 1.
3. SCARIFY TO REMOVE THE TOP $1\frac{3}{8}$ " OF THE CEMENT CONCRETE DECK (ITEM 129.11). ALL CONSTRUCTION DEBRIS, AND RESIDUAL MATERIALS FROM THE SCARIFICATION PROCESS SHALL BE COMPLETELY REMOVED FROM THE BRIDGE DECK PRIOR TO THE COMMENCEMENT OF DECK HYDRO-EXCAVATION.
4. IDENTIFY AREAS OF THE DECK THAT WILL REQUIRE PARTIAL OR FULL DEPTH REPAIRS. PERFORM DECK REPAIRS AND WET CURE REPAIRED AREAS FOR A MINIMUM OF 7 DAYS (ITEM 127.4, 127.41, 905., AND 910.1). DECK REPAIRS ARE TO BE PERFORMED UNDER THE DIRECTION OF THE ENGINEER, SEE SHEET 10 FOR DECK REPAIR NOTES.
5. USE THE HYDRO-EXCAVATOR TO REMOVE AN ADDITIONAL $\frac{1}{2}$ " (MINIMUM), AS WELL AS ALL REMAINING UNSOUND CONCRETE (129.11). THE EXISTING DECK SHALL BE REMOVED TO A UNIFORM DEPTH OF $1\frac{7}{8}$ " ACROSS ITS ENTIRE SURFACE. THE UNIFORM REMOVAL DEPTH WILL BE EXCEEDED WHERE UNSOUND CONCRETE IS ENCOUNTERED. REMOVAL OF UNSOUND CONCRETE LEFT BEHIND AFTER THE HYDRO-EXCAVATION OPERATION IS CONSIDERED INCIDENTAL TO WORK PERFORMED UNDER ITEM 129.11.
6. AFTER THE INITIAL PASS OF THE HYDRO-EXCAVATION AND APPROPRIATE CLEANING, INSPECT AND SOUND THE CONCRETE DECK AFTER IT IS COMPLETELY DRY. ANY UNSOUND DECK CONCRETE THAT REMAINS SHALL BE REMOVED WITH THE USE OF PNEUMATIC CHIPPING (15 IBS) HAMMERS. THIS WORK IS CONSIDERED INCIDENTAL TO ITEM 129.11.
7. PREPARE THE SURFACE FOR THE NEW CONCRETE OVERLAY FOLLOWING REQUIREMENTS IN THE SPECIAL PROVISIONS.
8. INSTALL AND CURE THE 2" ($1\frac{7}{8}$ " PLUS $1\frac{1}{8}$ " SACRIFICIAL) POLYMER MODIFIED OVERLAY (ITEM 476.32).
9. PERFORM BRIDGE DECK RIDEABILITY AND GROOVING (ITEM 907.1) AND SEAL THE DECK (ITEM 964.60).
10. REPEAT STEPS FOR REMAINING PORTION OF BRIDGE.
11. OPEN THE BRIDGE TO TRAFFIC.



DISTRICT 3
BRIDGE SECTION

PROJECT: MARLBOROUGH– BRIDGE PRESERVATION, M-06-010, ELM STREET
OVER I-495

SUBJECT: POLYMER MODIFIED CONCRETE REPAIR – SEQUENCE OF
CONSTRUCTION AND NOTES

SHEET: 9 OF 25

DRAWN BY: ME

DATE: 5/19/2025

CHECKED BY: MN

DATE: 5/19/2025

FULL/PARTIAL DEPTH DECK REPAIR NOTES (AFTER MECHANICAL SCARIFICATION):

1. REPLACE DETERIORATED DECK CONCRETE AND EXISTING TEMPORARY CONCRETE PATCHES, SUCH AS DURACAL PATCHES, WITH NEW CONCRETE, AS DIRECTED BY ENGINEER.
2. INSPECT THE DECK TO IDENTIFY ADDITIONAL AREAS FOR FULL AND PARTIAL DEPTH DECK REPAIRS. THE FINAL LIMITS OF DECK REPAIRS TO BE DETERMINED BY THE ENGINEER.
2. CONCRETE EXCAVATION ASSOCIATED WITH THE BRIDGE DECK REPAIRS SHALL BE PAID FOR UNDER ITEM 127.4, REINFORCED CONCRETE DECK EXCAVATION (FULL DEPTH), AND/OR ITEM 127.41, REINFORCED CONCRETE DECK EXCAVATION (PARTIAL DEPTH).
3. ALL CONCRETE USED IN THE DECK REPAIRS SHALL BE 4000 PSI, $\frac{3}{8}$ IN. 660 CEMENT CONCRETE (ITEM 905.).
4. ANY DETERIORATED REINFORCEMENT WITH MORE THAN 25% SECTION LOSS SHALL BE REPLACED IN KIND WITH #5 REBAR (ITEM 910.1).
5. THE LAP LENGTH FOR THE NEW #5 TRANSVERSE DECK REINFORCEMENT SHALL BE 30". ALL OTHER REPLACEMENT BARS SHALL BE LAPPED TO EXISTING REINFORCEMENT WITH A MINIMUM LAP LENGTH OF 30 BAR DIAMETERS.
6. ALL NEW REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 GRADE 60, UNLESS OTHERWISE NOTED ON THE PLANS. ALL NEW REINFORCING STEEL SHALL BE EPOXY COATED.
7. ALL BRIDGE DECK REPAIRS SHALL BE COMPLETED PRIOR TO HYDRO-EXCAVATION UNDER ITEM 129.11.



DISTRICT 3
BRIDGE SECTION

PROJECT: MARLBOROUGH— BRIDGE PRESERVATION, M-06-010, ELM STREET
OVER I-495

SUBJECT: FULL/PARTIAL DECK REPAIRS NOTES (AFTER MECHANICAL
SCARIFICATION)

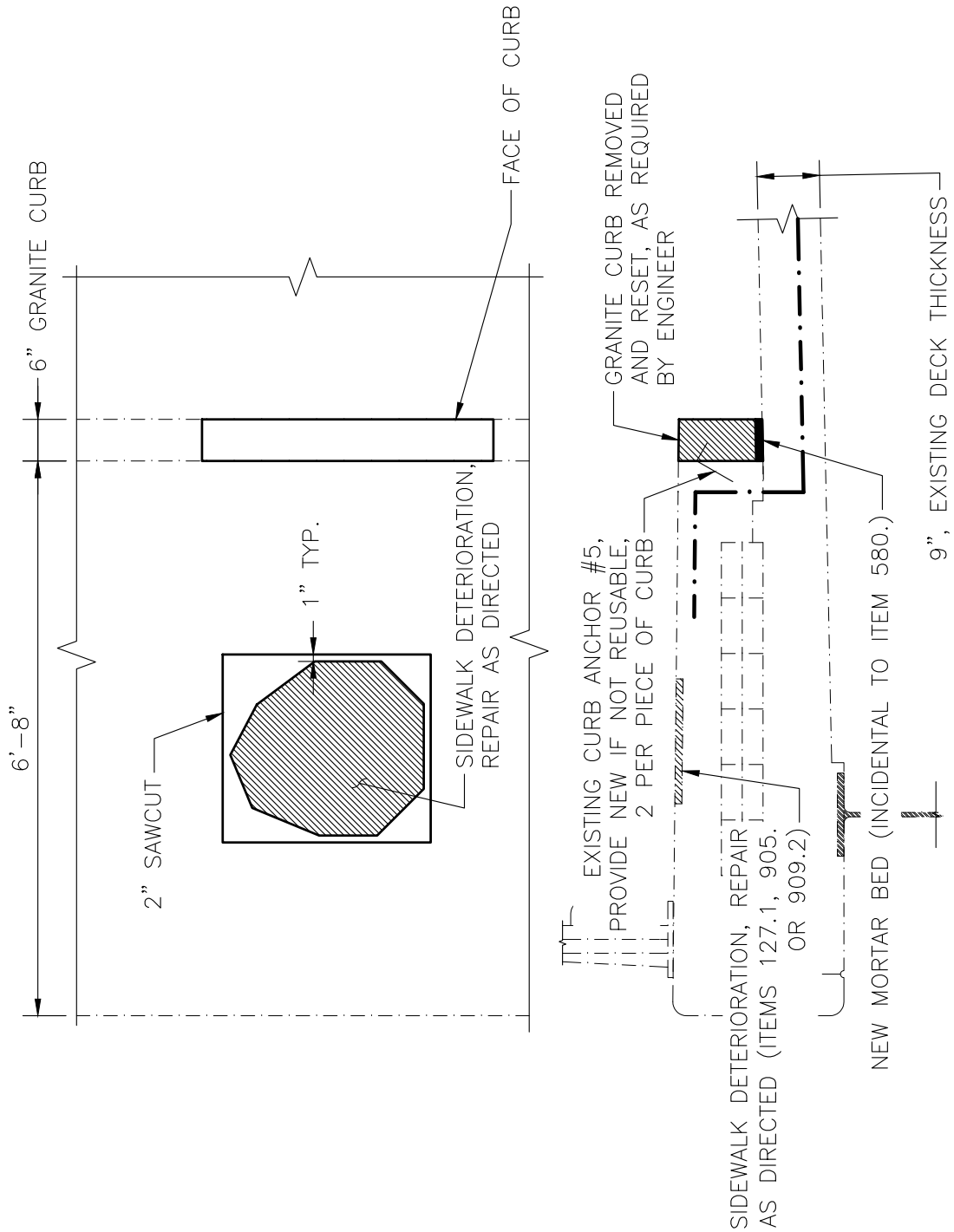
SHEET: 10 OF 25

DRAWN BY: ME

DATE: 5/19/2025

CHECKED BY: MN

DATE: 5/19/2025




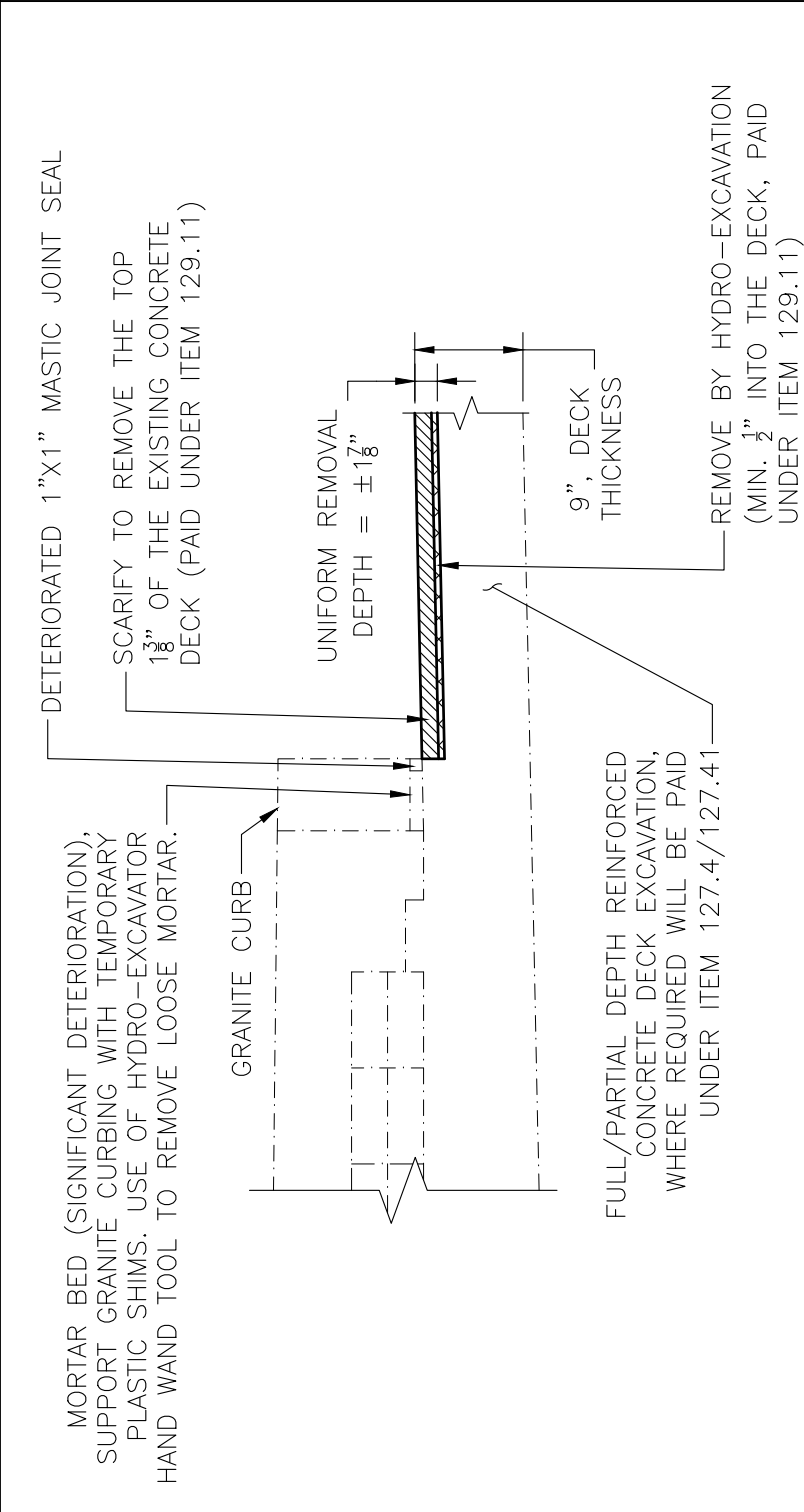
NOTES:

1. IF DIRECTED BY ENGINEER, BRIDGE GRANITE CURB REMOVED AND RESET WILL BE PAID UNDER ITEM 580. THE COST OF CURB ANCHORS SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.
2. ANY CONCRETE REPAIR BEHIND THE CURB WILL BE PAID UNDER ITEM 127.1 (REINFORCED CONCRETE EXCAVATION) AND ITEM 905. (4000 PSI, $\frac{3}{8}$ IN., 660 CEMENT CONCRETE).
3. CONCRETE DETERIORATION AT BRIDGE SIDEWALK SHALL BE PAID FOR UNDER ITEM 127.1 (REINFORCED CONCRETE EXCAVATION) AND ITEM 905. (4000 PSI, $\frac{3}{8}$ IN., 660 CEMENT CONCRETE) OR 909.2 (CEMENTITIOUS MORTAR FOR PATCHING).

BRIDGE GRANITE CURB REMOVED AND RESET DETAIL

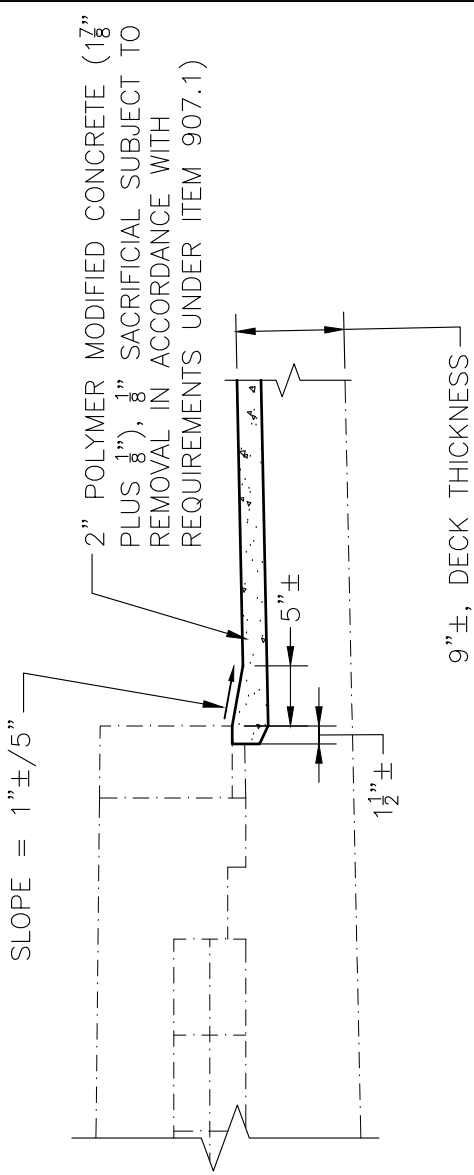
SCALE: $\frac{1}{2}$ " = 1'-0"

 DISTRICT 3 BRIDGE SECTION	PROJECT: 613216, MARLBOROUGH – BRIDGE PRESERVATION, M-06-010 (298 & 299), ELM STREET OVER I-495		SHEET: 11 OF 25
	SUBJECT: BRIDGE GRANITE CURB REMOVED AND RESET DETAIL		DRAWN BY: ME
			DATE: 5/19/2025
			CHECKED BY: MN
			DATE: 5/19/2025




EXPOSED CONCRETE DECK REPAIR REMOVAL DETAIL

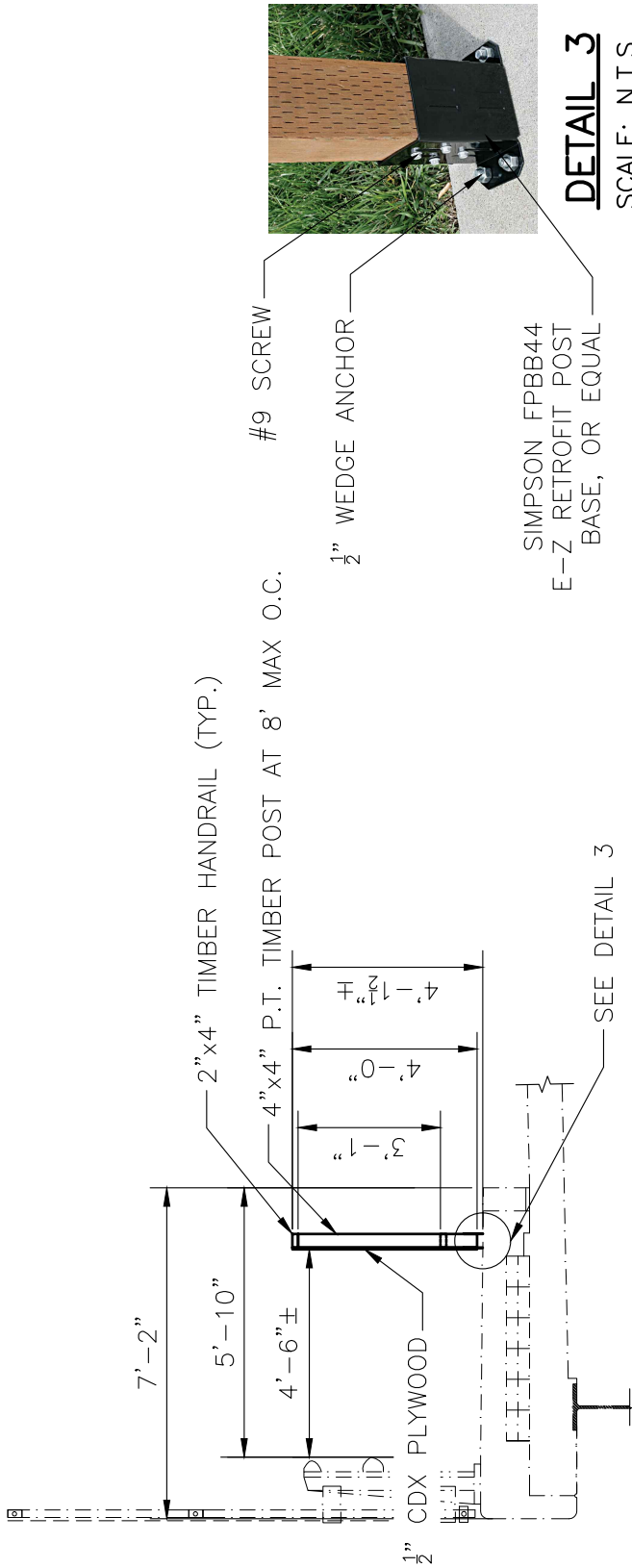
SCALE: $\frac{3}{4}" = 1'-0"$



POLYMER MODIFIED CONCRETE PLACEMENT DETAIL

SCALE: $\frac{3}{4}" = 1'-0"$

 DISTRICT 3 BRIDGE SECTION	PROJECT: 613216, MARLBOROUGH – BRIDGE PRESERVATION, M-06-010 (298 & 299), ELM STREET OVER I-495		SHEET: 12 OF 25
	SUBJECT: POLYMER MODIFIED CONCRETE REPAIR DETAILS		DRAWN BY: ME
			DATE: 5/19/2025
			CHECKED BY: MN DATE: 5/19/2025



DETAIL 3
SCALE: N.T.S.

NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL DESIGN AND DETAILING OF SIDEWALK PROTECTION BARRIER. A SUBMITTAL PREPARED BY MASSACHUSETTS REGISTERED PROFESSIONAL ENGINEER SHALL BE PROVIDED FOR THE APPROVAL OF THE ENGINEER.
2. ALL POST BASE ANCHORS SHALL BE REMOVED AND DRILL HOLES GROUTED UPON COMPLETION OF WORK.
3. DESIGN, INSTALLATION AND SUBSEQUENT REMOVAL OF SIDEWALK PROTECTION BARRIER IS INCIDENTAL TO ITEM 129.11.
4. SIDEWALK PROTECTION BARRIER SHALL BE IN PLACE PRIOR TO COMMENCING ANY WORK ON PHASE 2.

SIDEWALK PROTECTION BARRIER

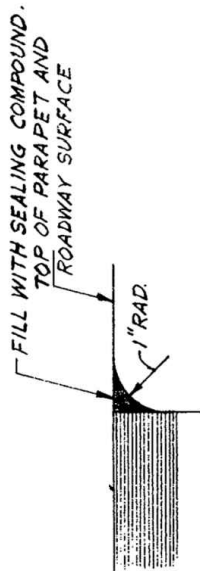
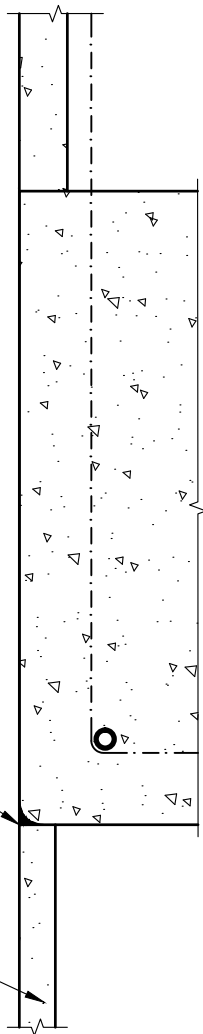
SCALE: $\frac{1}{4}" = 1'-0"$

massDOT
Highway Division
DISTRICT 3
BRIDGE SECTION

PROJECT: MARLBOROUGH— BRIDGE PRESERVATION, M-06-010, ELM STREET OVER I-495		SHEET: 13 OF 25
SUBJECT: SIDEWALK PROTECTION BARRIER – SUGGESTED CONCEPT		DRAWN BY: ME
		DATE: 5/19/2025
		CHECKED BY: MN
		DATE: 5/19/2025

1 1/2" SUPERPAVE SURFACE COURSE 9.5 - POLYMER (SSC-9.5-P) (ITEM 450.221)

TOOLED EDGE, 1" RADIUS



PAVEMENT JOINT DETAIL

SCALE: N.T.S.

DETAIL 1

SCALE: N.T.S.

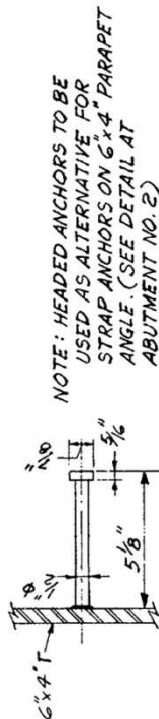
INJECT FIELD-APPLIED SILICONE CORNER BEADS AND SILICONE BAND FORCED DOWN ALONG THE SIDES
FACTORY-APPLIED AND CURED TRAFFIC GRADE SILICONE FACING

CL OF EXISTING JOINT

1 1/2" D x 1/4" W SAWCUT FILL WITH SEALER (INCIDENTAL TO ITEM 964.60)

1 1/2" JOINT GAP

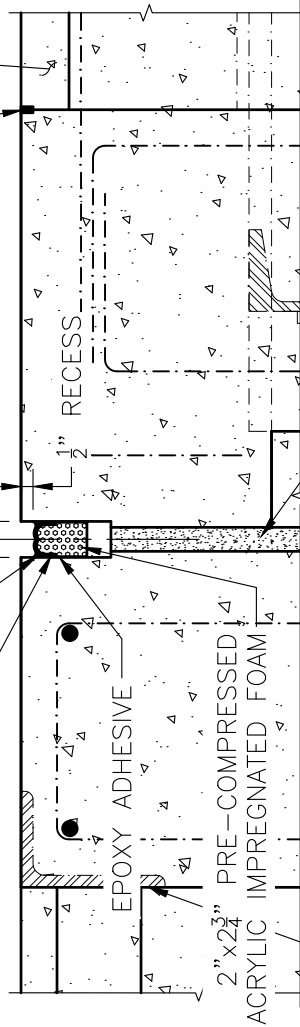
POLYMER MODIFIED OVERLAY



NOTE: HEADED ANCHORS TO BE USED AS ALTERNATIVE FOR STRAP ANCHORS ON 6'x4' PARAPET ANGLE (SEE DETAIL AT ABUTMENT NO. 2)

HEADED ANCHOR DETAIL

SCALE: N.T.S.



DETAIL 2

SCALE: N.T.S.

1" PREMOULDED FILLER, 1" BACK FROM FACE OF COPING

2" x 24" PRE-COMPRESSED ACRYLIC IMPREGNATED FOAM

NOTES:

1. FORM THE PRE-COMPRESSED JOINT BLOCKOUT USING MATERIAL THAT MAINTAINS STRAIGHT JOINT ALIGNMENT, ENSURING NO WAVINESS OR DEVIATION BEYOND THE ACCEPTED TOLERANCE OF $\pm 1/2$ " FROM THE CENTERLINE OF THE JOINT.
2. GRIND THE BLOCKOUT SURFACE AND WIPE IT WITH SOLVENT PRIOR TO INSTALLING THE PRE-COMPRESSED SEAL. FOLLOW THE MANUFACTURER'S INSTALLATION PROCEDURE, AND ENSURE A MANUFACTURER REPRESENTATIVE IS PRESENT DURING INSTALLATION.
3. MAINTAIN THE CONTINUITY OF THE PRE-COMPRESSED SEAL THROUGH SIDEWALK AND CURB USING WATERTIGHT CUSTOM TRANSITIONS SUCH AS A PREFABRICATED UNIVERSAL 90'S.



DISTRICT 3
BRIDGE SECTION

PROJECT: MARLBOROUGH- BRIDGE PRESERVATION, M-06-010, ELM STREET
OVER I-495

SUBJECT: MISCELLANEOUS DETAIL - 1

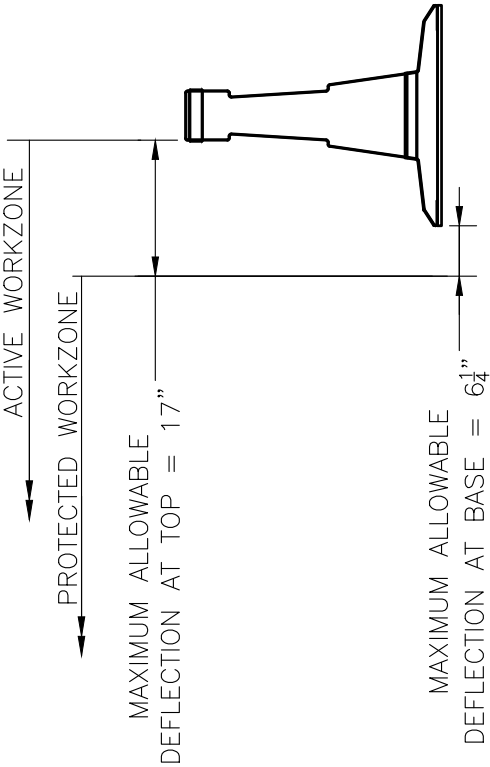
SHEET: 14 OF 25

DRAWN BY: ME

DATE: 5/19/2025

CHECKED BY: MN

DATE: 5/19/2025



LIMITED DEFLECTION BARRIER
MAXIMUM ALLOWABLE DEFLECTION

SCALE: $\frac{1}{2}$ " = 1'-0"

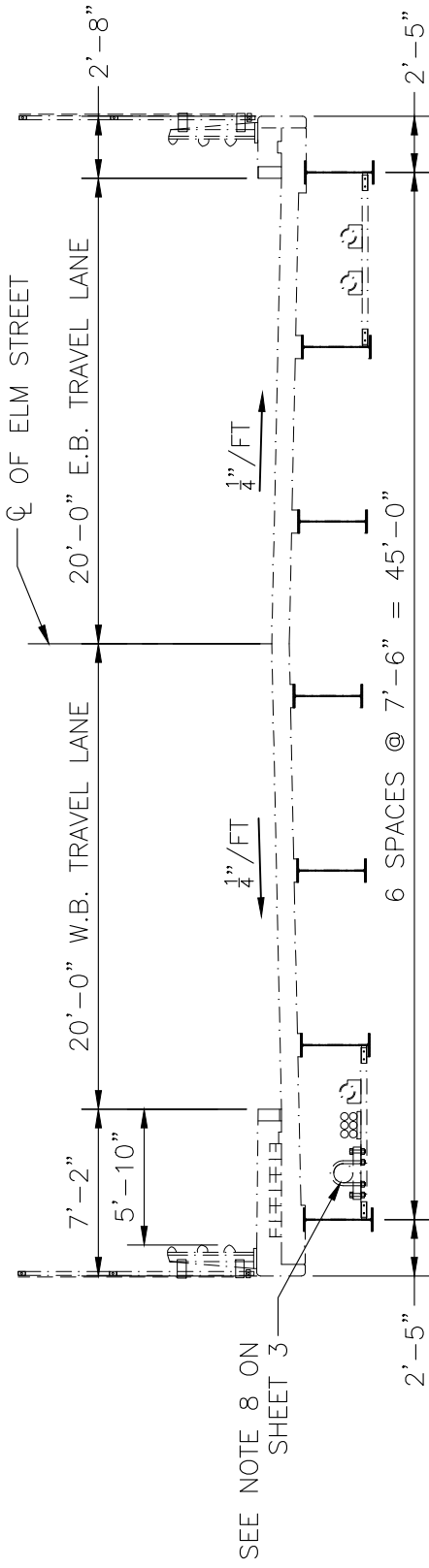
NOTES:

- 1. FOR LIMITED DEFLECTION TEMPORARY SYSTEMS THAT REQUIRE ANCHORAGE, THE COST FOR FURNISHING AND INSTALLING THE ANCHORAGE AND HARDWARE AND RESTORATION OF PAVEMENT/CONCRETE SURFACES SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE ITEM.
- 2. LIMITED DEFLECTION TEMPORARY BARRIER SHALL HAVE A MAXIMUM ALLOWABLE DEFLECTION AT BASE OF 6 $\frac{1}{4}$ ".



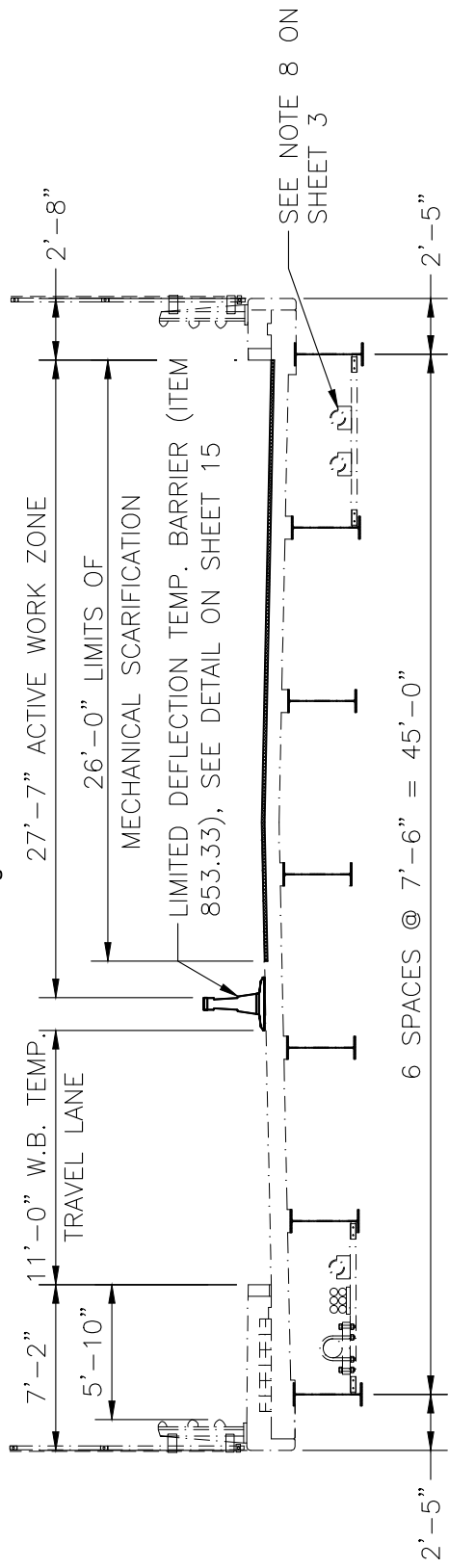
DISTRICT 3
BRIDGE SECTION

PROJECT: MARLBOROUGH- BRIDGE PRESERVATION, M-06-010, ELM STREET OVER I-495		SHEET: 15 OF 25
SUBJECT: MISCELLANEOUS DETAIL - 2		DRAWN BY: ME
		DATE: 5/19/2025
		CHECKED BY: MN
		DATE: 5/19/2025



EXISTING CROSS SECTION

SCALE: 1" = 1'-0"




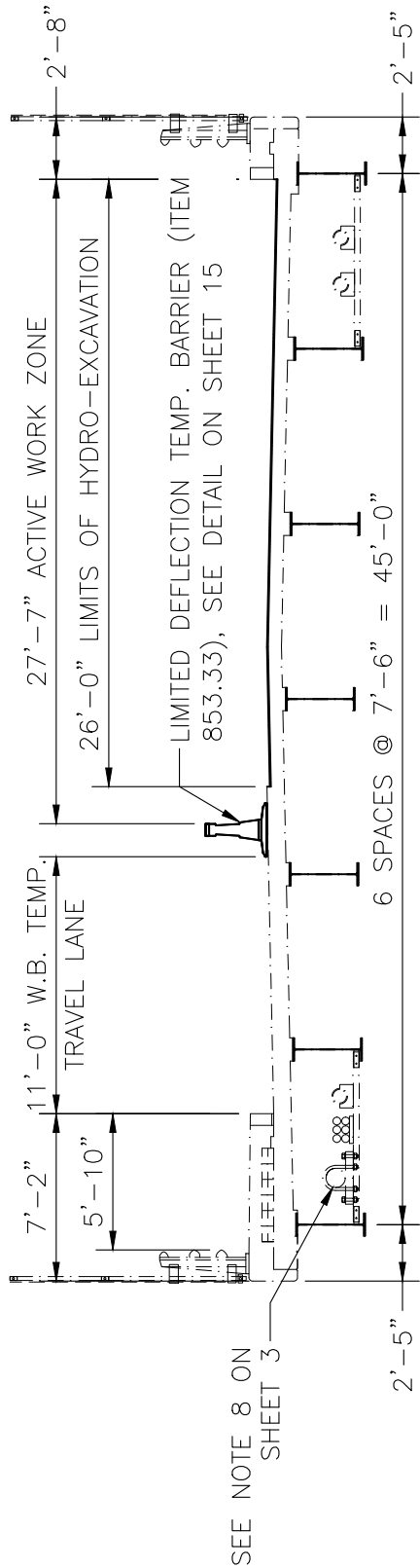
NOTES:

- 1. SIDEWALK IS TO REMAIN OPEN AT BOTH PHASES.
- 2. THE UTILITIES IN BAY 1 CONSIST OF A 12" DIAMETER INSULATED WATER MAIN, SIX 4" DIAMETER UTILITY CONDUITS, AND AN 8" DIAMETER GAS MAIN. THE UTILITIES IN BAY 6 CONSIST OF TWO 6" DIAMETER INSULATED UTILITY PIPES.

PHASE 1 - STAGE 1 WORK ZONE (OPEN FOR WESTBOUND TRAVEL ONLY)

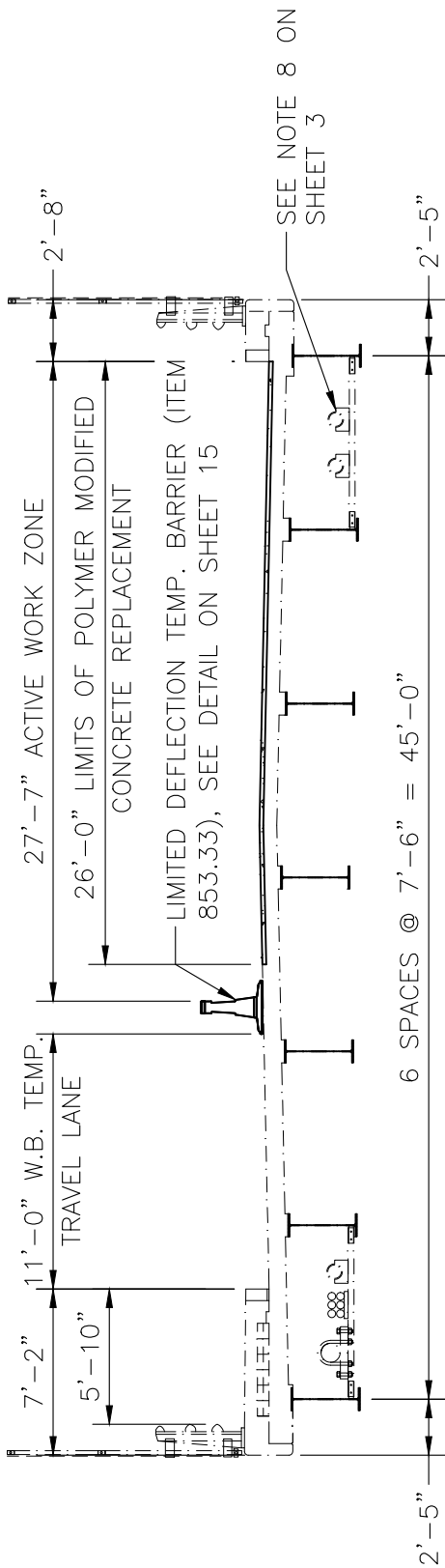
SCALE: 1" = 1'-0"

 DISTRICT 3 BRIDGE SECTION	PROJECT: MARLBOROUGH- BRIDGE PRESERVATION, M-06-010, ELM STREET OVER I-495	SHEET: 16 OF 25
	SUBJECT: SUGGESTED CONSTRUCTION SEQUENCE AND STAGING - 1	DRAWN BY: ME DATE: 5/19/2025 CHECKED BY: MN DATE: 5/19/2025



PHASE 1 – STAGE 2 WORK ZONE (OPEN FOR WESTBOUND TRAVEL ONLY)

SCALE: $\frac{1}{8}'' = 1'-0''$




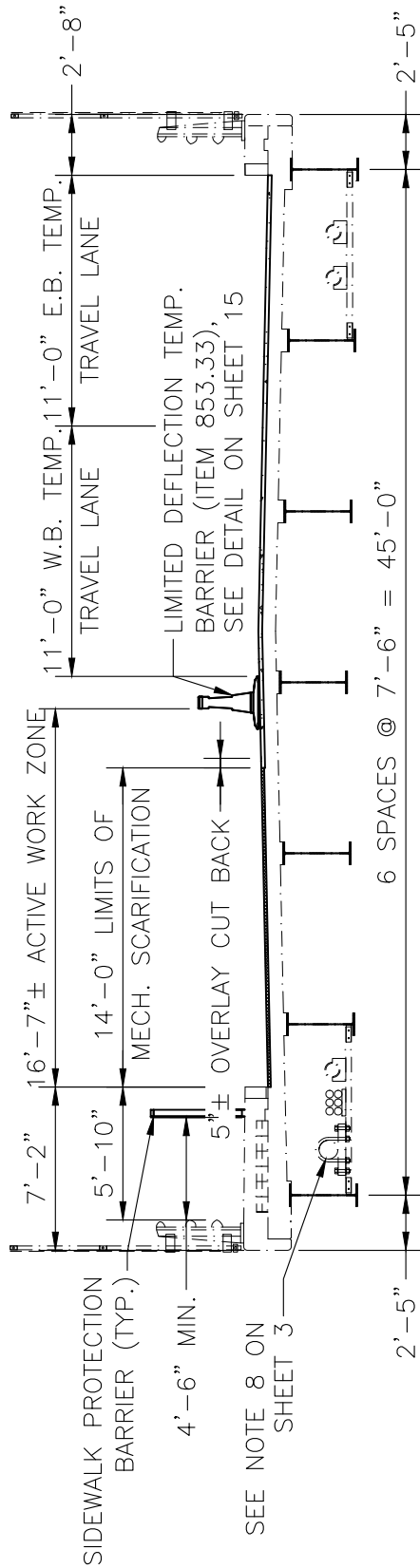
NOTES:

1. SIDEWALK IS TO REMAIN OPEN AT BOTH PHASES.
2. THE UTILITIES IN BAY 1 CONSIST OF A 12" DIAMETER INSULATED WATER MAIN, SIX 4" DIAMETER UTILITY CONDUITS, AND AN 8" DIAMETER GAS MAIN. THE UTILITIES IN BAY 6 CONSIST OF TWO 6" DIAMETER INSULATED UTILITY PIPES.

PHASE 1 – STAGE 3 WORK ZONE (OPEN FOR WESTBOUND TRAVEL ONLY)

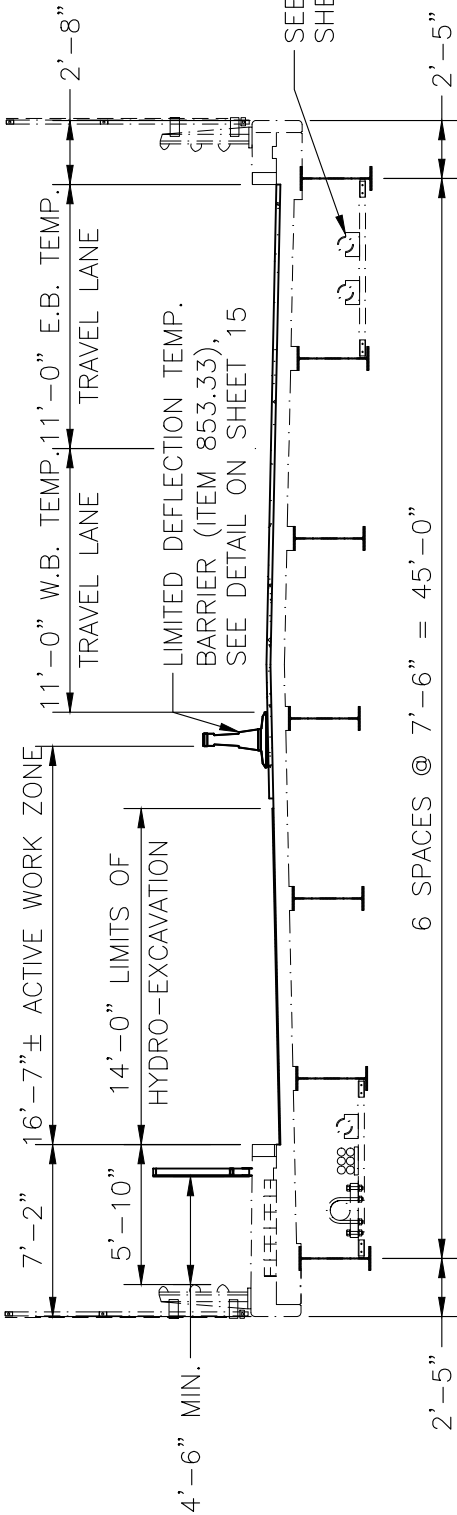
SCALE: $\frac{1}{8}'' = 1'-0''$

 DISTRICT 3 BRIDGE SECTION	PROJECT: MARLBOROUGH– BRIDGE PRESERVATION, M-06-010, ELM STREET OVER I-495	SHEET: 17 OF 25
	SUBJECT: SUGGESTED CONSTRUCTION SEQUENCE AND STAGING – 2	DRAWN BY: ME DATE: 5/19/2025 CHECKED BY: MN DATE: 5/19/2025



PHASE 2 - STAGE 1 WORK ZONE

SCALE: $\frac{1}{8}$ " = 1'-0"



NOTES:

1. SIDEWALK IS TO REMAIN OPEN AT BOTH PHASES, SEE SHEET 13 FOR SUGGESTED PEDESTRIAN PROTECTION DETAIL.
2. THE UTILITIES IN BAY 1 CONSIST OF A 12" DIAMETER INSULATED WATER MAIN, SIX 4" DIAMETER UTILITY CONDUITS, AND AN 8" DIAMETER GAS MAIN. THE UTILITIES IN BAY 6 CONSIST OF TWO 6" DIAMETER INSULATED UTILITY PIPES.

PHASE 2 - STAGE 2 WORK ZONE

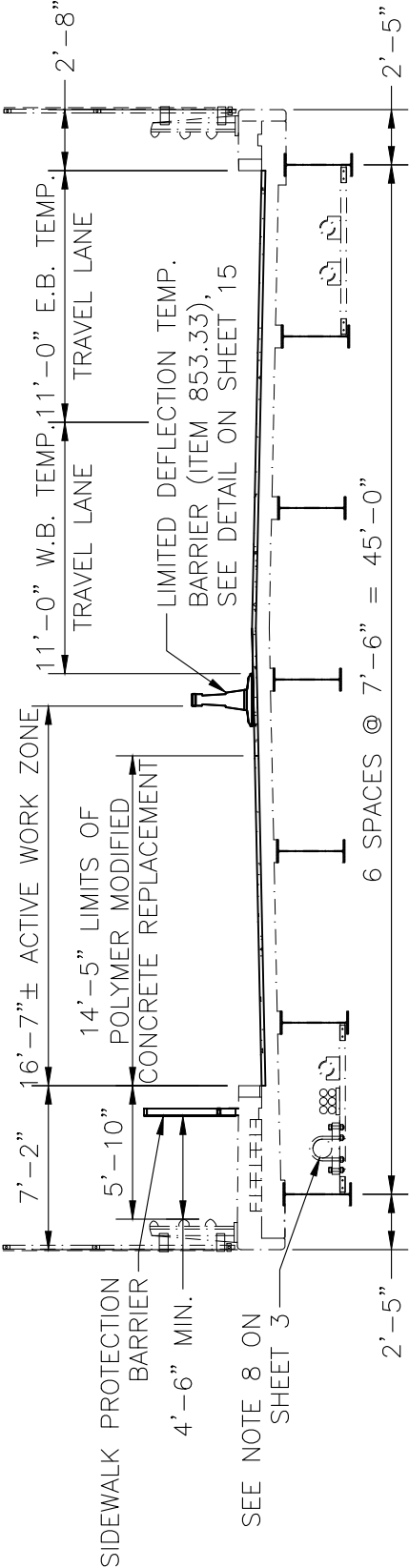
SCALE: $\frac{1}{8}$ " = 1'-0"

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DISTRICT 3
BRIDGE SECTION

PROJECT: MARLBOROUGH- BRIDGE PRESERVATION, M-06-010, ELM STREET
OVER I-495

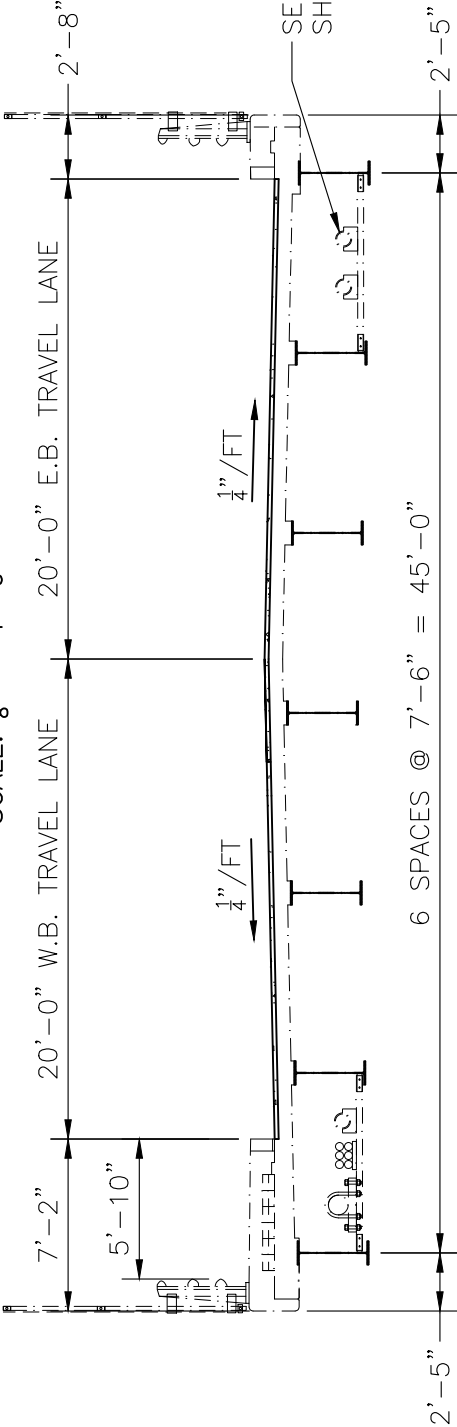
SUBJECT: SUGGESTED CONSTRUCTION SEQUENCE AND STAGING - 3

SHEET: 18 OF 25
DRAWN BY: ME
DATE: 5/19/2025
CHECKED BY: MN
DATE: 5/19/2025



PHASE 2 - STAGE 3 WORK ZONE

SCALE: $\frac{1}{8}" = 1'-0"$



NOTES:

1. SIDEWALK IS TO REMAIN OPEN AT BOTH PHASES, SEE SHEET 13 FOR SUGGESTED PEDESTRIAN PROTECTION DETAIL.
2. THE UTILITIES IN BAY 1 CONSIST OF A 12" DIAMETER INSULATED WATER MAIN, SIX 4" DIAMETER UTILITY CONDUITS, AND AN 8" DIAMETER GAS MAIN. THE UTILITIES IN BAY 6 CONSIST OF TWO 6" DIAMETER INSULATED UTILITY PIPES.

PROPOSED CROSS SECTION

SCALE: $\frac{1}{8}" = 1'-0"$



DISTRICT 3

BRIDGE SECTION

PROJECT: MARLBOROUGH- BRIDGE PRESERVATION, M-06-010, ELM STREET OVER I-495

SUBJECT: SUGGESTED CONSTRUCTION SEQUENCE AND STAGING - 4

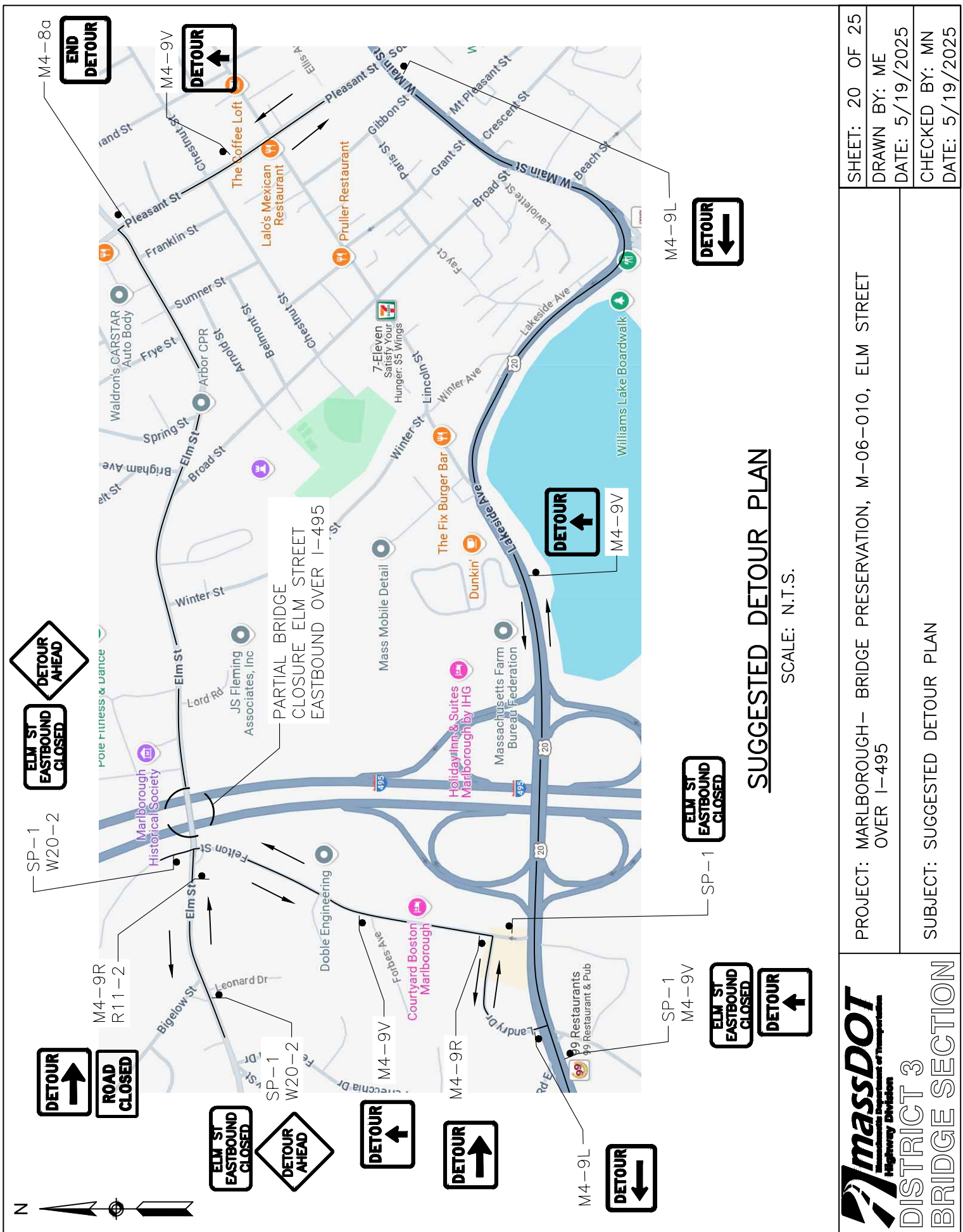
SHEET: 19 OF 25

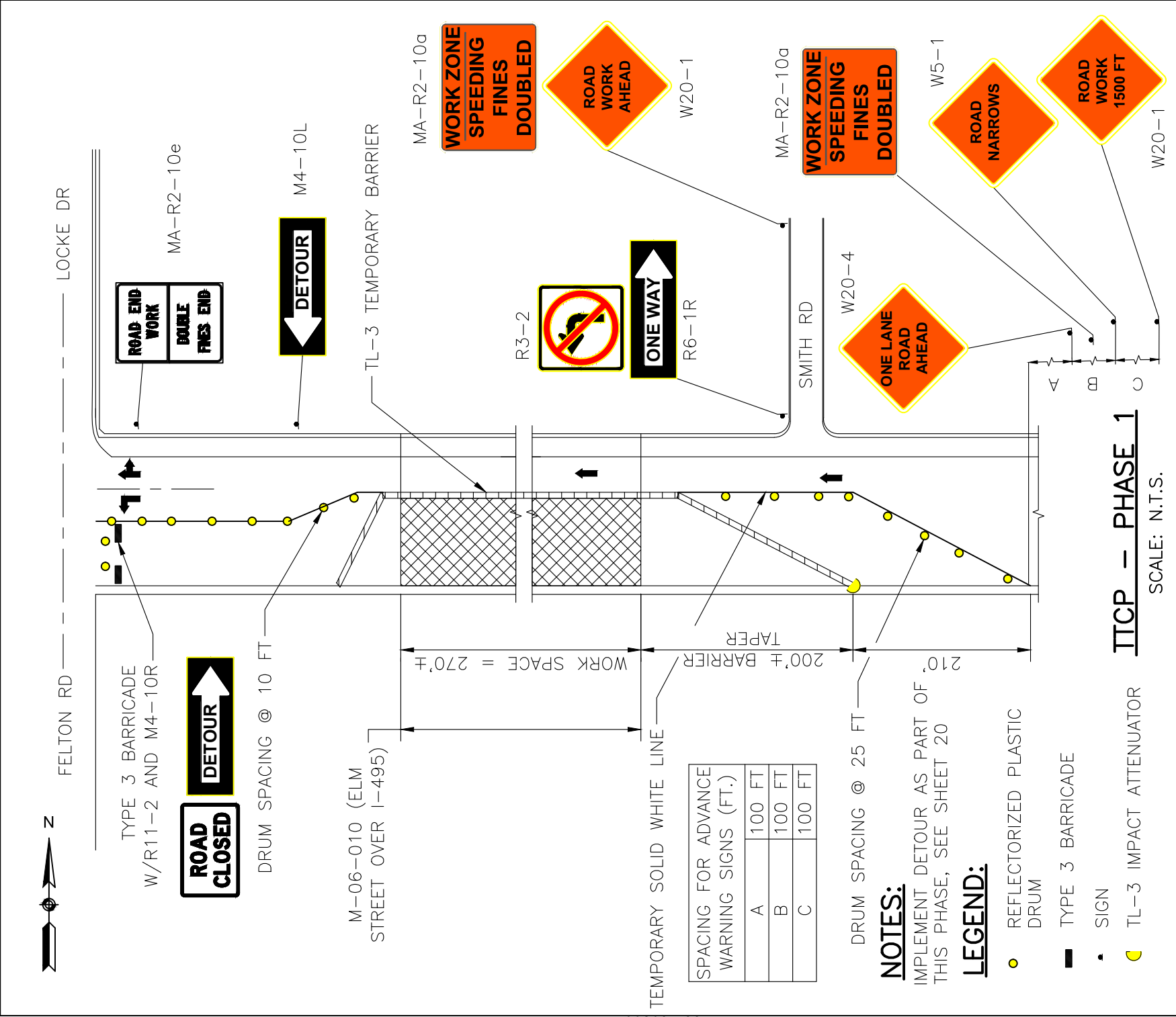
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DATE: 5/19/2025







DISTRICT 3
BRIDGE SECTION

PROJECT: 613216, MARLBOROUGH - BRIDGE PRESERVATION, M-06-010 (298 & 299), ELM STREET OVER I-495

SHEET: 21 OF 25
DRAWN BY: ME
DATE: 5/19/2025
CHECKED BY: MN
DATE: 5/19/2025

SUBJECT: TEMPORARY TRAFFIC CONTROL PLAN - 1













SCALE: N.T.S.

DISTRICT 3
BRIDGE SECTION

SUBJECT: TEMPORARY TRAFFIC CONTROL PLAN - 2

SHEET: 22 OF 25
 DRAWN BY: ME
 DATE: 5/19/2025
 CHECKED BY: MN
 DATE: 5/19/2025

TRAFFIC SIGN SUMMARY													
IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			(1) POST SIZE AND NUMBER REQUIRED	UNIT AREA IN SQUARE FEET	TOTAL AREA IN SQUARE FEET
	WIDTH (IN.)	HEIGHT (IN.)		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR		BACK-- GROUND	LEGEND	BORDER			
SP-1*	30"	18"		3	2	—	4	WHITE	BLACK	BLACK	4	3.75	15
M4-8a	24"	18"		SEE STANDARDS (2)	SEE STANDARDS (2)	SEE STANDARDS (2)	1	SEE STANDARDS (2)			1	3	3
M4-9V	30"	24"					4				4	5	20
M4-9L	30"	24"					2				3	5	15
M4-9R	30"	24"					2				3	5	15
R11-2	48"	30"					2				1	10	10
W20-2c	36"	36"					2				1	9	9
W20-4	36"	36"					1				2	9	18
W5-1	36"	36"					2				2	9	18
W20-1	36"	36"					4				4	9	36

* SEE SHEET 25 FOR CUSTOM SIGN LETTERING DIMENSIONS/SPACING



DISTRICT 3
BRIDGE SECTION

PROJECT: MARLBOROUGH- BRIDGE PRESERVATION, M-06-010, ELM STREET
OVER I-495

SUBJECT: CONSTRUCTION SIGN SUMMARY - 1

SHEET: 23 OF 25



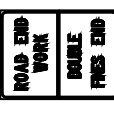




DRAWN BY: ME

DATE: 5/19/2025

CHECKED BY: MN

DATE: 5/19/2025

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH (IN.) HEIGHT (IN.)		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			(1) POST SIZE AND NUMBER REQUIRED	UNIT AREA IN SQUARE FEET	TOTAL AREA IN SQUARE FEET
				LETTER HEIGHT	VERTICAL SPACING	ARROW RTE MKR		BACK-GROUND	LEGEND	BORDER			
R6-1R	36"	12"		SEE STANDARDS (2)			1	SEE STANDARDS (2)			1	3	3
MA-R2-10A*	48"	36"					4				4	12	48
MA-R2-10E*	36"	48"					2				2	12	24
W1-4L	36"	36"					1				1	9	9
M4-10 R & L	48"	18"					2				2	6	12
R3-5R	30"	36"					1				1	7.5	7.5
R3-2	36"	36"					1				1	9	9

NOTES:

- SIGN SUPPORTS SHALL BE WOODEN BREAKAWAY POSTS PER MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT) STANDARD.
 - PER LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2009 EDITION AND MASSDOT STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TEMPORARY TRAFFIC CONTROL PLANS.
- * PER MASSDOT STANDARD SIGNS.

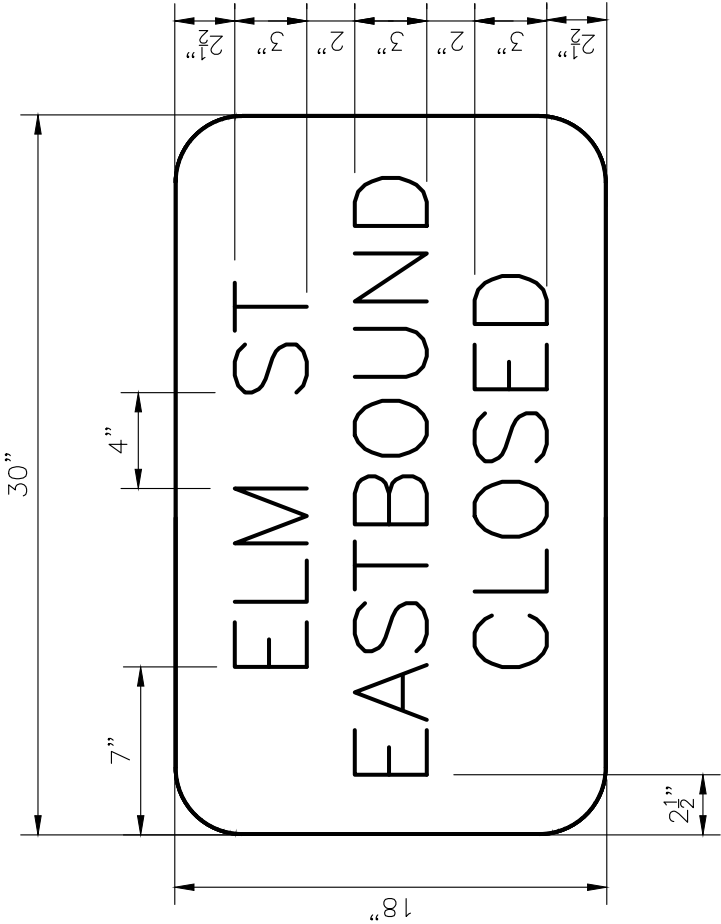


DISTRICT 3
BRIDGE SECTION

PROJECT: MARLBOROUGH- BRIDGE PRESERVATION, M-06-010, ELM STREET
OVER I-495

SUBJECT: CONSTRUCTION SIGN SUMMARY - 2

SHEET: 24 OF 25
DRAWN BY: ME
DATE: 5/19/2025
CHECKED BY: MN
DATE: 5/19/2025



CUSTOM SIGN 1
SCALE: 1 1/2" = 1'-0"



DISTRICT 3
BRIDGE SECTION

PROJECT: MARLBOROUGH— BRIDGE PRESERVATION, M-06-010, ELM STREET OVER I-495	SHEET: 25 OF 25
	DRAWN BY: ME
SUBJECT: CUSTOM SIGN LETTERING DIMENSIONS/SPACING	DATE: 5/19/2025
	CHECKED BY: MN DATE: 5/19/2025

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DOCUMENT A00820

**Massachusetts Department of Transportation
Conditions of Custody****REQUEST FOR RELEASE OF MASSDOT AUTOCAD FILES FORM**

(Only to be used following award of contract)

City/Town: MARLBOROUGHProject File Number: 613216Contract Number: 130745Project Description: Bridge Preservation, M-06-010, Elm Street over I-495

All AutoCAD files are provided solely as a courtesy to facilitate public access to information. MassDOT attempts to provide current and accurate information but cannot guarantee so. MassDOT provides such documents, files or other data "as is" without any warranty of any kind, either expressed or implied, including but not limited to, accuracy, reliability, omissions, completeness and currentness. The Commonwealth of Massachusetts and its Consultants shall not be liable for any claim for damages, including lost profits or other consequential, exemplary, incidental, indirect or special damages, relating in any way to the documents, files or other data accessible from this file, including, but not limited to, claims arising out of or related to electronic access or transmission of data or viruses. Because data stored on electronic media can deteriorate undetected or be modified without our knowledge, MassDOT cannot be held liable for its completeness or correctness. MassDOT makes no representation as to the compatibility of these files beyond the version of the stated CAD software.

By signing this form, I agree that it shall be my responsibility to reconcile this electronic data with the conformed contract documents, and that only the conformed contract documents shall be regarded as legal documents for this Project. I understand that this authorization does not give me the right to distribute the files. I agree to the terms above and wish to receive the AutoCAD files.

This signed form shall be emailed to the Highway Design Engineer at the MassDOT -Highway Division at the following email address:

DOTHighwayDesign@dot.state.ma.us

Attn: AutoCAD Files

Name of person requesting AutoCAD files: _____

Affiliation/Company: _____

Address: _____

Telephone number: _____

Email address: _____

Signature/Date: _____

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DOCUMENT A00844

U.S. FISH AND WILDLIFE SERVICE

NLAA CONCURRENCE VERIFICATION LETTER

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104



In Reply Refer To:

03/11/2025 22:05:10 UTC

Project code: 2025-0067614

Project Name: 613216 MARLBOROUGH- BRIDGE PRESERVATION, M-06-010, ELM STREET OVER I-495

Federal Nexus: yes

Federal Action Agency (if applicable): Federal Highway Administration

Subject: Federal agency coordination under the Endangered Species Act, Section 7 for '613216 MARLBOROUGH- BRIDGE PRESERVATION, M-06-010, ELM STREET OVER I-495'

Dear Trevor Burns:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on March 11, 2025, for '613216 MARLBOROUGH- BRIDGE PRESERVATION, M-06-010, ELM STREET OVER I-495' (here forward, Project). This project has been assigned Project Code 2025-0067614 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements may not be complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key (DKey), invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid. Note that conservation measures for northern long-eared bat and tricolored bat may differ. If both bat species are present in the action area and the key suggests more conservative measures for one of the species for your Project, the Project may need to apply***

the most conservative measures in order to avoid adverse effects. If unsure which conservation measures should be applied, please contact the appropriate Ecological Services Field Office.

Determination for the Northern Long-Eared Bat and Tricolored Bat

Based on your IPaC submission and a standing analysis completed by the Service, you determined the proposed Project will have the following effect determinations:

Species	Listing Status	Determination
Tricolored Bat (<i>Perimyotis subflavus</i>)	Proposed	NLAA
	Endangered	

Federal agencies must consult with U.S. Fish and Wildlife Service under section 7(a)(2) of the Endangered Species Act (ESA) when an action *may affect* a listed species. Tricolored bat is proposed for listing as endangered under the ESA, but not yet listed. For actions that may affect a proposed species, agencies cannot consult, but they can *confer* under the authority of section 7(a)(4) of the ESA. Such conferences can follow the procedures for a consultation and be adopted as such if and when the proposed species is listed. Should the tricolored bat be listed, agencies must review projects that are not yet complete, or projects with ongoing effects within the tricolored bat range that previously received a NE or NLAA determination from the key to confirm that the determination is still accurate.

Unless the Service advises you within 15 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that consultation on the Action is complete for northern long-eared bat and/or tricolored bat and no further action is necessary unless either of the following occurs:

- new information reveals effects of the action that may affect the northern long-eared bat or tricolored bat in a manner or to an extent not previously considered; or,
- the identified action is subsequently modified in a manner that causes an effect to the northern long-eared bat or tricolored bat that was not considered when completing the determination key.

15-Day Review Period

As indicated above, the Service will notify you within 15 calendar days if we determine that this proposed Action does not meet the criteria for a “may affect, not likely to adversely affect” (NLAA) determination for the northern long-eared bat and/or tricolored bat. If we do not notify you within that timeframe, you may proceed with the Action under the terms of the NLAA concurrence provided here. This verification period allows the identified Ecological Services Field Office to apply local knowledge to evaluation of the Action, as we may identify a small subset of actions having impacts that we did not anticipate when developing the key. In such cases, the identified Ecological Services Field Office may request additional information to verify the effects determination reached through the Northern Long-eared Bat and Tricolored Bat DKey.

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination key for the northern long-eared bat and tricolored bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Proposed Threatened

You may coordinate with our Office to determine whether the Action may affect the species and/or critical habitat listed above. Note that reinitiation of consultation would be necessary if a new species is listed or critical habitat designated that may be affected by the identified action before it is complete.

If you have any questions regarding this letter or need further assistance, please contact the New England Ecological Services Field Office and reference Project Code 2025-0067614 associated with this Project.

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

613216 MARLBOROUGH- BRIDGE PRESERVATION, M-06-010, ELM STREET OVER I-495

2. Description

The following description was provided for the project '613216 MARLBOROUGH- BRIDGE PRESERVATION, M-06-010, ELM STREET OVER I-495':

613216 MARLBOROUGH- BRIDGE PRESERVATION, M-06-010, ELM STREET OVER I-495

This project will consist of deck patching, replacement of joints, and replacement of the wearing surface.

Monarch Butterfly: Proposed Species only. The project action will not jeopardize the continued existence of a proposed species.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.3473424,-71.57557688019627,14z>



DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect, but not likely to adversely affect” for a least one species covered by this determination key.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed bats or any other listed species?

Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

No

2. Is the action area wholly within Zone 2 of the year-round active area for northern long-eared bat and/or tricolored bat?

Automatically answered

No

3. Does the action area intersect Zone 1 of the year-round active area for northern long-eared bat and/or tricolored bat?

Automatically answered

No

4. Does any component of the action involve leasing, construction or operation of wind turbines? Answer 'yes' if the activities considered are conducted with the intention of gathering survey information to inform the leasing, construction, or operation of wind turbines.

Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

No

5. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

Yes

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

Yes

7. FHWA, FRA, and FTA have completed a range-wide programmatic consultation for transportation- related actions within the range of the Indiana bat, northern long-eared bat and tricolored bat.

Does your proposed action fall within the scope of this programmatic consultation?

Note: If you are unsure, but your action is transportation related, please select "Yes" and use the FHWA, FRA, FTA Assisted Determination Key (FHWA DKey) in IPaC to determine if the programmatic consultation is applicable to your action. Return to this key and answer 'no' to this question if it is not.

No

8. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

Yes

9. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

No

10. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

No

11. [Semantic] Is the action area located within 0.5 miles of a known bat hibernaculum?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

12. Does the action area contain any winter roosts or caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating bats?

No

13. Does the action area contain (1) talus or (2) anthropogenic or naturally formed rock shelters or crevices in rocky outcrops, rock faces or cliffs?

No

14. Will the action cause effects to a bridge?

Note: Covered bridges should be considered as bridges in this question.

Yes

15. Has a site-specific bridge assessment following USFWS guidelines been completed?

Note: For information on conducting a bridge/structure assessment, please see Appendix K in the USFWS' Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines> Additional resources can be found at: <https://www.fws.gov/media/bats-and-transportation-structures-references-and-additional-resources> and a training video is located at: <https://www.youtube.com/watch?v=iuFwkT7q8Ws>.

Yes

16. Was evidence of bat use found during the bridge assessment?

No

SUBMITTED DOCUMENTS

- 613216_Marlborough_Bridge_Assessment.pdf <https://ipac.ecosphere.fws.gov/project/DCPSK3IGQFDVLLZDXLOFWSQZVE/projectDocuments/158731349>

17. Did you coordinate with your local Ecological Services Field Office (ESFO) and receive approval of the bridge assessment results? If NO, please contact the appropriate local ESFO before completing this determination key.

Yes

18. Will the action result in effects to a culvert or tunnel at any time of year?

No

19. Are trees present within 1000 feet of the action area?

Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

Yes

20. Does the action include the intentional exclusion of bats from a building or structure?

Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats or tricolored bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local Ecological Services Field Office to help assess whether northern long-eared bats or tricolored bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures.

No

21. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) **known or suspected to contain roosting bats**?

No

22. Will the action cause construction of one or more new roads open to the public?

For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

23. Will the action include or cause any construction or other activity that is reasonably certain to increase average daily traffic permanently or temporarily on one or more existing roads?

Note: For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

24. Will the action include or cause any construction or other activity that is reasonably certain to increase the number of travel lanes on an existing thoroughfare?

For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

25. Will the proposed Action involve the creation of a new water-borne contaminant source (e.g., leachate pond, pits containing chemicals that are not NSF/ANSI 60 compliant)?

Note: For information regarding NSF/ANSI 60 please visit <https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects>

No

26. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

No

27. Will the action include drilling or blasting?

No

28. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use)?

No

29. Will the proposed action involve the use of herbicides or other pesticides other than herbicides (e.g., fungicides, insecticides, or rodenticides)?

No

30. Will the action include or cause activities that are reasonably certain to cause chronic or intense nighttime noise (above current levels of ambient noise in the area) in suitable summer habitat for the northern long-eared bat or tricolored bat during the active season?

Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time. Sources of chronic or intense noise that could cause adverse effects to bats may include, but are not limited to: road traffic; trains; aircraft; industrial activities; gas compressor stations; loud music; crowds; oil and gas extraction; construction; and mining.

Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

No

31. Does the action include, or is it reasonably certain to cause, the use of permanent or temporary artificial lighting within 1000 feet of suitable northern long-eared bat or tricolored bat roosting habitat?

Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

Yes

32. Will the action cause an increase in the extent of suitable forested habitat exposed to artificial lighting?

No

33. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

No

34. Will the proposed action result in the use of prescribed fire?

Note: If the prescribed fire action includes other activities than application of fire (e.g., tree cutting, fire line preparation) please consider impacts from those activities within the previous representative questions in the key. This set of questions only considers impacts from flame and smoke.

No

35. Does the action area intersect the tricolored bat species list area?

Automatically answered

Yes

36. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

37. Is suitable summer habitat for the tricolored bat present within 1000 feet of project activities?

(If unsure, answer ""Yes."")

Note: If there are trees within the action area that may provide potential roosts for tricolored bats (e.g., clusters of leaves in live and dead deciduous trees, Spanish moss (*Tillandsia usneoides*), clusters of dead pine needles of large live pines) answer ""Yes."" For a complete definition of suitable summer habitat for the tricolored bat, please see Appendix A in the [Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines](#).

Yes

38. Do you have any documents that you want to include with this submission?

No

PROJECT QUESTIONNAIRE

IPAC USER CONTACT INFORMATION

Agency: Massachusetts Department of Transportation

Name: Trevor Burns

Address: 10 Park Plaza

City: Boston

State: MA

Zip: 02116

Email: trevor.b.burns@dot.state.ma.us

Phone: 8573010759

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

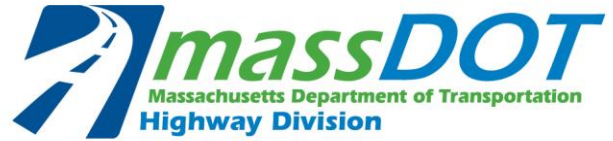
DOCUMENT A00845

BAT HABITAT INSPECTION REPORT

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Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbitts-Nutt, Secretary and CEO
Jonathan L. Gulliver, Highway Administrator



November 7, 2024

**Marlborough (DOT Project #613216) BRIDGE PRESERVATION, M-06-010, ELM STREET
OVER I-495
Bat Habitat Inspection**

The MassDOT Wildlife and Endangered Species Unit conducted a visual inspection for roosting bats and bat habitat at Bridge M-06-010 associated with MassDOT Project #613216 MARLBOROUGH-BRIDGE PRESERVATION, M-06-010, ELM STREET OVER I-495. The project will include deck patching, replacement of joints, and replacement of the wearing surface. During the inspection, WESU biologists used flashlights, binoculars, and a borescope to search gaps, crevices, and other locations on bridge structures that could potentially hold roosting bats. **No bats, guano, or staining were observed at the bridge during the inspection.**

Bridge M-06-010 is a steel I-Beam structure with concrete decking over I-495 (Figure 1). Inspection of gaps, open surfaces, and any small cracks/crevices of the bridge provided no indication of bat roosting (Figures 3-5). While suitable roosting habitat for several bat species may exist within gaps in concrete, many of the observed gaps are unlikely to provide thermal protection due to their shallow depths and/or large widths. Similarly, visual inspection of the bridge's metal guardrails indicated they are unlikely to provide suitable roosting habitat due to the lack of crevices.

In conclusion, while the MassDOT Wildlife and Endangered Species Unit did observe limited areas of potential roosting bat habitat within gaps and between the concrete decking, no roosting bats, or evidence of roosting bats, were observed during the inspection of Bridge M-06-010. A completed bridge assessment form is included as Appendix A.

Sincerely,

David Paulson
Wildlife and Endangered Species Unit Supervisor, MassDOT, Environmental Services



Figure 1. Bridge M-06-010 over I-495



Figure 2. Metal guardrails and chain-link fencing on Bridge M-06-010 over I-495



Figure 3. Concrete abutment and steel I-beams on Bridge M-06-010 over I-495



Figures 4-5. Concrete abutments on Bridge M-06-010 over I-495

Appendix A. Bridge Assessment Form

APPENDIX D: Bridge/Structure Bat Assessment Form

Bridge/Structure Bat Assessment Form Instructions

- This form will be completed to document bat occupancy or bat use of bridges, culverts, and other structures. This form shall be submitted to the appropriate personnel within the DOT and USFWS for recordkeeping (or uploaded into the Information, Planning, and Consultation (IPaC) Determination Key for use of the Programmatic Biological Opinion for Transportation Projects in the Range of the Indiana Bat and Northern Long-Eared Bat) prior to conducting: any activities below the deck surface either from the underside or from above the deck surface that bore down to the underside; any activities that could impact expansion joints; any activities involving deck removal on bridges; or any activities involving structure demolition for bridges, culverts, and/or other structures.
- Assessments must be completed within two (2) years of conducting any work (see the above bullet), regardless of whether assessments have been conducted in the past. Assessments must be completed in appropriate weather conditions, suitable for the assessor to observe common signs of bat use.
- Evidence of bat use may include visual observation (live and/or dead), presence of guano, presence of staining, audible observation, and/or odor observation. Presence of one or more indicators is sufficient evidence that bats may be using the bridge, culvert, and/or other structure.
- If bat use of a bridge, culvert, and/or other structure is noted, additional studies may be undertaken during bat active season to identify the specific bat species utilizing the structure, or protected bat species presence can be assumed, in order to comply with threatened and endangered species regulations. Bat active season dates, typically between April and November, vary regionally and by species, so assessors should consult with their local USFWS Field Office for more specific active season dates.
- For use of the Programmatic Biological Opinion for Transportation Projects in the Range of the Indiana Bat and Northern Long-Eared Bat – If the bridge/structure is 1,000 feet or more from suitable bat habitat¹ (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check the appropriate box and fill out the table below. **No further assessment is required.**








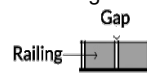
Date & Time of Assessment	DOT Project #	Route/Facility Carried	County
Federal Structure ID	Structure Coordinates (latitude and longitude)	<input type="checkbox"/> This bridge/structure is 1,000 feet or more from suitable bat habitat ² Name: _____ Signature: <i>Trevor Burns</i>	

- Any questions pertaining to assessments or this form should be directed to the local USFWS Field Office.

¹ Refer to the USFWS's summer survey guidance for the definition of suitable habitat (<http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>).

² This condition is only for use of the Programmatic Biological Opinion for Transportation Projects in the Range of the Indiana Bat and Northern Long-Eared Bat

Bridge/Structure Bat Assessment Form

Date & Time of Assessment		DOT Project Number		Route/Facility Carried		County	
Federal Structure ID		Structure Coordinates (latitude and longitude)		Structure Height (approximate)		Structure Length	
Structure Type (check one)				Structure Material (check all that apply)			
Bridge Construction Style				Deck Material		Beam Material	
<input type="checkbox"/> Cast-in-place 		<input type="checkbox"/> Pre-stressed Girder 		<input type="checkbox"/> Metal <input type="checkbox"/> Concrete <input type="checkbox"/> Timber <input type="checkbox"/> Open grid <input type="checkbox"/> Other:		<input type="checkbox"/> None <input type="checkbox"/> Concrete <input type="checkbox"/> Steel <input type="checkbox"/> Timber <input type="checkbox"/> Other:	
<input type="checkbox"/> Flat Slab/Box 		<input type="checkbox"/> Steel I-beam 				<input type="checkbox"/> Concrete <input type="checkbox"/> Timber <input type="checkbox"/> Stone/Masonry <input type="checkbox"/> Other:	
<input type="checkbox"/> Truss 		<input type="checkbox"/> Covered 				Creosote Evidence <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
<input type="checkbox"/> Parallel Box Beam 		<input type="checkbox"/> Other:		Culvert Material <input type="checkbox"/> Metal <input type="checkbox"/> Concrete <input type="checkbox"/> Plastic <input type="checkbox"/> Stone/Masonry <input type="checkbox"/> Other:		Notes:	
Culvert Type		Other Structure					
<input type="checkbox"/> Box <input type="checkbox"/> Pipe/Round <input type="checkbox"/> Other:							
Crossings Traversed (check all that apply)				Surrounding Habitat (check all that apply)			
<input type="checkbox"/> Bare ground <input type="checkbox"/> Rip-rap <input type="checkbox"/> Flowing water <input type="checkbox"/> Standing water <input type="checkbox"/> Seasonal water		<input type="checkbox"/> Open vegetation <input type="checkbox"/> Closed vegetation <input type="checkbox"/> Railroad <input type="checkbox"/> Road/trail - Type: <input type="checkbox"/> Other:		<input type="checkbox"/> Agricultural <input type="checkbox"/> Commercial <input type="checkbox"/> Residential-urban <input type="checkbox"/> Residential-rural <input type="checkbox"/> Woodland/forested		<input type="checkbox"/> Grassland <input type="checkbox"/> Ranching <input type="checkbox"/> Riparian/wetland <input type="checkbox"/> Mixed use <input type="checkbox"/> Other:	
Areas Assessed (check all that apply)							
Check all areas that apply. If an area is not present in the structure, check the "not present" box.							
Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.							
Area (check if assessed)		Assessment Notes		Evidence of Bats (include photos if present)			
<input type="checkbox"/> All crevices and cracks: Bridges/culverts: rough surfaces or imperfections in concrete Other structures: soffits, rafters, attic areas		<input type="checkbox"/> Not present		<input type="checkbox"/> Visual - live # dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Concrete surfaces (open roosting on concrete)		<input type="checkbox"/> Not present		<input type="checkbox"/> Visual - live # dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Spaces between concrete end walls and the bridge deck		<input type="checkbox"/> Not present		<input type="checkbox"/> Visual - live # dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Crack between concrete railings on top of the bridge deck 		<input type="checkbox"/> Not present		<input type="checkbox"/> Visual - live # dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Vertical surfaces on concrete I-beams		<input type="checkbox"/> Not present		<input type="checkbox"/> Visual - live # dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Spaces between walls, ceiling joists		<input type="checkbox"/> Not present		<input type="checkbox"/> Visual - live # dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Weep holes, scupper drains, and inlets/pipes		<input type="checkbox"/> Not present		<input type="checkbox"/> Visual - live # dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> All guiderails		<input type="checkbox"/> Not present		<input type="checkbox"/> Visual - live # dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> All expansion joints		<input type="checkbox"/> Not present		<input type="checkbox"/> Visual - live # dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
Name:				Signature: <i>Trevor Burns</i>			

DOCUMENT A00875

**POLICY DIRECTIVE P-22-001
AND
POLICY DIRECTIVE P-22-002**

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Number: P-22-001Date: 9/23/22

POLICY DIRECTIVE

Jonathan Gulliver (signature on original)

HIGHWAY ADMINISTRATOR

Off-Site Stockpiling of Soil from MassDOT Construction Projects

Purpose

The purpose of this Policy Directive is to formally establish a policy and procedures for managing and stockpiling soil generated and transported from MassDOT construction projects. This Policy Directive does not supersede any Federal, State, or Local regulations.

Date of Effect

This Policy Directive is effective immediately for all projects, including active construction projects.

For active construction projects and for other projects advertised prior to October 15, 2022, changes to the contract documents needed to implement the requirements of this Policy Directive will be considered on a case-by-case basis and shall be approved by the District Highway Director, as necessary.

For projects advertised on or after October 15, 2022, MassDOT will include the requirements and implementation procedures of this Policy Directive in the construction contract documents.

Policy Requirements

This policy is intended to prevent the off-site relocation of excavated soil generated from MassDOT projects to areas near residential receptors and to control potential fugitive dusts and/or contaminants. To that end, excavated soil may not be moved from the project site without knowledge of the content of the material. Knowledge may include visual field observations for presence of staining, odor, and/or debris, screening with a photoionization detector (PID), laboratory analysis, and/or site history. Pavement millings and other non-soil materials are not subject to the requirements of this Policy Directive.

Moving soil from a MassDOT project site to a temporary off-site storage location must be approved in writing by the District Highway Director.

The Contractor must select a storage location that is at least 500 feet away from residential receptors, as defined herein to include, but not be limited to, residential dwellings, residentially

zoned property, schools, daycare facilities, playgrounds, parks, recreational areas, hospitals, elderly housing and convalescent facilities.

Temporary off-site storage of excavated soil from a MassDOT project is only permissible at a location approved and permitted by MassDOT. The temporary storage location should be located within the same municipality where the soil was excavated, where possible. Stockpiled soil must be securely covered, and appropriate measures must be taken to minimize fugitive dust and erosion.

Signs indicating the source of the soil, the date the soil was generated, and contact information must be erected and maintained until the stockpiled soils are transported to a disposal facility or reused on the project site.

Implementation Procedures

To ensure that off-site storage of excavated soils is managed properly on MassDOT projects, this policy requires the following:

1. Off-Site Stockpile Storage Locations

- a. The Contractor shall provide proposed off-site storage locations to the Engineer for approval at least 30 days prior to transporting soil off site. Off-site storage locations should be in the same municipality as the work site.
- b. The Contractor shall keep excavated soil on site until adequately characterized to the satisfaction of the Engineer.
- c. The Contractor shall provide notification of the approved off-site storage location to the local Board of Health and the Town Manager's/Mayor's Office at least 7-days prior to transporting soil off site.
- d. The Contractor shall provide the Engineer with at least 3-days' notice prior to transporting soil off site.
- e. For off-site storage locations on MassDOT property, the Contractor is required to obtain an Access Permit through the District Permits Office prior to storage of soil or other materials. MassDOT will issue these permits at no cost to the Contractor. Information to be submitted by the Contractor as part of the permit application shall include:
 - i. A description of material to be stored off-site, including available analytical data;
 - ii. A figure of the location with distances to residences and residential receptors; and
 - iii. Anticipated duration of temporary storage.
- f. Stockpile locations should not be within 500 feet of residential receptors (e.g., residential dwellings, residentially zoned property, schools, daycare facilities, playgrounds, parks, recreational areas, hospitals, elderly housing and convalescent facilities).
 - i. If the stockpile location must be within 500 feet of residential receptors, then soil must be less than RCS-1 (per 310 CMR 40.1600) and free of potentially hazardous or regulated items.

- g. For off-site storage locations on non-MassDOT property, the Contractor must notify the property owner(s) at least 7 days prior to transporting material.
- h. Exceptions to these rules will be reviewed by MassDOT and may be approved by the District Highway Director on a case-by-case basis.

2. Off-Site Stockpile Management

- a. The Contractor shall keep soil stockpiles on impermeable surfaces (e.g., asphalt or concrete) or on 10-mil polyethylene sheeting.
- b. The Contractor shall cover soil stockpiles with 10-mil polyethylene sheeting and surround with a berm made of hay bales, straw wattles, or similar.
 - i. Piles that are actively being worked on must be covered and re-secured at the end of the work shift.
- c. The Contractor shall label stockpiles with signs, including:
 - i. Location of origin (including any Release Tracking Numbers)
 - ii. Stockpile ID number (including MassDOT District office-assigned tracking ID, if different)
 - iii. Date of initial accumulation
 - iv. Applicable telephone numbers for the Contractor and MassDOT.
- d. The Contractor shall mitigate fugitive dust at storage locations under the direction of an appropriately trained/certified environmental professional.
- e. The Contractor shall remedy noncompliance with this policy within 48 hours.
- f. The Contractor shall remedy noncompliance with this policy on the SAME DAY for potentially hazardous material, as determined by the Engineer.
- g. The Contractor shall handle excavated soil according to federal, state, and local regulations.
- h. The Contractor shall use appropriate shipping documents for all movements of excavated soil on public roadways (e.g., Bill of Lading, Material Shipping Record, Manifest, Asbestos Waste Shipment Record, etc.).

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Number: P-22-002Date: 9/23/22

POLICY DIRECTIVE

Jonathan Gulliver (signature on original)

HIGHWAY ADMINISTRATOR

Use of MassDOT Property for Staging and other Construction-Related Operations

Purpose

This Policy Directive is intended to address the use of MassDOT property by MassDOT Contractors for construction staging and other construction-related operations that are not specifically defined in the construction contract. Such use of MassDOT property will only be allowed if permitted by the District Office in accordance with 700 CMR 13.00, Approval of Access to MassDOT Highways and Other Property. This includes the use of MassDOT property for staging, laydown, and storage of equipment and materials, including soil excavated from a project site.

This Policy Directive requires the Contractor/applicant to obtain a Non-Vehicular Access Permit from MassDOT to use MassDOT property for these purposes.

This Policy Directive is effective immediately and applies to all MassDOT construction projects.

General Permit Considerations and Conditions

In addition to other normal MassDOT Access Permit procedures, MassDOT shall consider the following during the application, review, implementation and monitoring processes of Access Permits required by this Policy Directive:

- Storage and placement of the Contractor's equipment and materials should not be allowed within the clear zone of the roadway.
- Stockpiled soils should not be located within 500 feet of residential receptors, as defined herein to include, but not be limited to, residential dwellings, residentially zoned property, schools, daycare facilities, playgrounds, parks, recreational areas, hospitals, elderly housing and convalescent facilities.
- The Contractor/applicant shall identify the access/egress locations of the proposed storage areas. MassDOT will only approve locations determined to be safe for roadway users, construction workers and the general public.
- The Contractor may be required to submit a Traffic Management Plan and/or Lighting Plan for MassDOT review and approval as part of the permit application, depending on the proposed use of the area.

- The Contractor shall submit the permit application through MassDOT's online State Highway Access Permit System (SHAPS).
- MassDOT will waive the permit application fee for any application received from a MassDOT Contractor for any permit required by this Policy Directive and will waive any subsequent amendment and extension fees that may otherwise be required.
- MassDOT will review the permit application in accordance with applicable standard procedures and will apply standard permit terms and conditions, as necessary.
- The Resident Engineer will verify that the permit is approved before allowing the Contractor to use the affected area for the requested purpose.
- Areas permitted are for use by the approved applicant only and are not to be shared with or used by other vendors. Subcontractors specifically engaged with the applicant working on the specific MassDOT project will be allowed to use the area in accordance with the terms of the permit.
- Permits are issued on an annual basis and will require the Contractor to file for an extension each year to continue use.

Exemptions from Permit Requirements

Equipment and materials being used for active construction operations and located within the work zone of the construction contract are exempt from this permit requirement, provided they do not interfere with the safety or operation of the roadway or the work zone. Examples of these types of exempt uses are:

- Equipment and materials parked or stored within a protected (barriered) work zone.
- Materials placed in the work zone prior to same-day installation or use.
- Soils excavated temporarily and scheduled to be replaced, such as for trenching operations or for installation of drainage structures.

DOCUMENT B00420

PROPOSAL

MARLBOROUGH

For: **Bridge Preservation, M-06-010, Elm Street over I-495**

COMMONWEALTH OF MASSACHUSETTS

LOCATION

The work referred to herein is in the City of MARLBOROUGH in Middlesex County, in the Commonwealth of Massachusetts, and is shown by the locus map (Document 00331) in the Proposal Pamphlet, the work locations extend as follows:

Elm Street over I-495

Bridge M-06-010

The contract prices shall include the furnishing of all materials (except as otherwise herein specified), the performing of all the labor requisite or proper, the providing of all necessary machinery, tools, apparatus and other means of construction, the doing of all the abovementioned work in the manner set forth, described and shown in the specifications and on the drawings for the work, and in the form of contract, and the completion thereof within **??? CALENDAR DAYS** upon receipt of a Notice to Proceed, except that if the completion date falls between December 1 and March 15 then the same number of days beyond December 1st will be extended after March 15th.

The Work of this project is described by the following Items and quantities.

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Project # 613216		Contract # 130745		
Location : MARLBOROUGH				
Description : Bridge Preservation, M-06-010, Elm Street Over I-495				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
100.1	500	BASE LABOR RATE AT _____ PER HOUR		
106.12	50	BRIDGE CURB REMOVED AND RESET AT _____ PER FOOT		
120.1	30	UNCLASSIFIED EXCAVATION AT _____ PER CUBIC YARD		
127.1	25	REINFORCED CONCRETE EXCAVATION AT _____ PER CUBIC YARD		
127.4	150	REINFORCED CONCRETE DECK EXCAVATION (FULL DEPTH) AT _____ PER SQUARE YARD		
127.41	37	REINFORCED CONCRETE DECK EXCAVATION (PARTIAL DEPTH) AT _____ PER CUBIC YARD		
129.11	700	HYDRO-EXCAVATION OF BRIDGE DECK AT _____ PER SQUARE YARD		
129.2	40	OLD PAVEMENT EXCAVATION AT _____ PER SQUARE YARD		
151.	40	GRAVEL BORROW AT _____ PER CUBIC YARD		

Project # 613216		Contract # 130745		
Location : MARLBOROUGH				
Description : Bridge Preservation, M-06-010, Elm Street Over I-495				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
220.	4	DRAINAGE STRUCTURE ADJUSTED AT _____ EACH		
227.3	4	REMOVAL OF DRAINAGE STRUCTURE SEDIMENT AT _____ PER CUBIC YARD		
415.2	2,000	PAVEMENT FINE MILLING AT _____ PER SQUARE YARD		
450.221	200	SUPERPAVE SURFACE COURSE - 9.5 POLYMER (SSC - 9.5 - P) AT _____ PER TON		
451.	55	HMA FOR PATCHING AT _____ PER TON		
452.	250	ASPHALT EMULSION FOR TACK COAT AT _____ PER GALLON		
453.	2,100	HMA JOINT ADHESIVE AT _____ PER FOOT		
476.32	700	POLYMER MODIFIED CONCRETE OVERLAYMENT AT _____ PER SQUARE YARD		
476.322	12	POLYMER MODIFIED CONCRETE OVERLAYMENT (OVERAGE) AT _____ PER CUBIC YARD		

Project # 613216		Contract # 130745		
Location : MARLBOROUGH				
Description : Bridge Preservation, M-06-010, Elm Street Over I-495				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
482.33	85	SAWING AND SEALING JOINTS AT BRIDGES AT _____ PER FOOT		
580.	140	CURB REMOVED AND RESET AT _____ PER FOOT		
583.	140	EDGING REMOVED AND RESET AT _____ PER FOOT		
620.13	160	GUARDRAIL, TL-3 (SINGLE FACED) AT _____ PER FOOT		
628.315	2	TEMPORARY IMPACT ATTENUATOR, REDIRECTIVE, TL-3 AT _____ EACH		
628.4	2	TEMPORARY IMPACT ATTENUATOR, REMOVED AND RESET AT _____ EACH		
701.	80	CEMENT CONCRETE SIDEWALK AT _____ PER SQUARE YARD		
702.	30	HOT MIX ASPHALT SIDEWALK OR DRIVEWAY AT _____ PER TON		
722.3	1	SCHEDULE OF OPERATIONS (TYPE C) - FIXED PRICE \$10000 AT Ten Thousand Dollars LUMP SUM	\$10,000.00	\$10,000.00

Project # 613216		Contract # 130745		
Location : MARLBOROUGH				
Description : Bridge Preservation, M-06-010, Elm Street Over I-495				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
740.	15	ENGINEER'S FIELD OFFICE AND EQUIPMENT (TYPE A) AT _____ PER MONTH		
748.	1	MOBILIZATION AT _____ LUMP SUM		
816.811	10	TEMPORARY MODIFICATION TO TRAFFIC SIGNAL AT _____ PER DAY		
851.1	110	TRAFFIC CONES FOR TRAFFIC MANAGEMENT AT _____ PER DAY		
852.	500	SAFETY SIGNING FOR TRAFFIC MANAGEMENT AT _____ PER SQUARE FOOT		
853.1	5	PORTABLE BREAKAWAY BARRICADE TYPE III AT _____ EACH		
853.21	520	TEMPORARY BARRIER REMOVED AND RESET AT _____ PER FOOT		
853.33	520	TEMPORARY BARRIER - LIMITED DEFLECTION (TL-3) AT _____ PER FOOT		
853.403	120	TRUCK MOUNTED ATTENUATOR AT _____ PER DAY		

Project # 613216		Contract # 130745		
Location : MARLBOROUGH				
Description : Bridge Preservation, M-06-010, Elm Street Over I-495				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
853.8	120	TEMPORARY ILLUMINATION FOR WORK ZONE AT _____ PER DAY		
854.016	4,550	TEMPORARY PAVING MARKINGS - 6 INCH (PAINTED) AT _____ PER FOOT		
854.1	2,500	PAVEMENT MARKING REMOVAL AT _____ PER SQUARE FOOT		
856.	300	ARROW BOARD AT _____ PER DAY		
856.12	130	PORTABLE CHANGEABLE MESSAGE SIGN AT _____ PER DAY		
859.	12,500	REFLECTORIZED DRUM AT _____ PER DAY		
859.1	270	REFLECTORIZED DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS AT _____ PER DAY		
866.112	80	12 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) AT _____ PER FOOT		
866.706	1,800	6 INCH WHITE LINE WITH BLACK CONTRAST - RECESSED (PF, WR) AT _____ PER FOOT		

Project # 613216		Contract # 130745		
Location : MARLBOROUGH				
Description : Bridge Preservation, M-06-010, Elm Street Over I-495				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
867.706	1,800	6 INCH YELLOW LINE WITH BLACK CONTRAST - RECESSED (PF, WR) AT _____ PER FOOT		
905.	83	4000 PSI, 3/8 INCH, 660 CEMENT CONCRETE AT _____ PER CUBIC YARD		
907.1	700	BRIDGE DECK RIDEABILITY AND GROOVING AT _____ PER SQUARE YARD		
909.2	40	CEMENTITIOUS MORTAR FOR PATCHING AT _____ PER SQUARE FOOT		
910.1	8,000	STEEL REINFORCEMENT FOR STRUCTURES - EPOXY COATED AT _____ PER POUND		
912.	80	DRILLING AND GROUTING DOWELS AT _____ EACH		
964.60	700	PENETRATING SEALER FOR EXPOSED DECK AT _____ PER SQUARE YARD		
973.2	85	PRE-COMPRESSED JOINT SEAL AT _____ PER FOOT		
994.1	4,900	TEMPORARY PROTECTIVE SHIELDING AT _____ PER SQUARE FOOT		

Project # 613216		Contract # 130745		
Location : MARLBOROUGH				
Description : Bridge Preservation, M-06-010, Elm Street Over I-495				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
994.12	2,500	TEMPORARY PROTECTIVE SHIELDING REMOVED AND RESET AT _____ PER SQUARE FOOT		
Total Qty:		50,476		

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