

**TOWN OF ATHOL, MA
CRESCENT STREET OVER SLUICE WAY
BRIDGE A-15-036
PROPOSED SUPERSTRUCTURE REPLACEMENT**

March 2025

TOWN OF ATHOL

SHAUN SUHOSKI – Town Manager

DICK KILHART – Superintendent of Public Works

FUSS & O'NEILL

**600 UNICORN PARK DRIVE
WOBURN, MA 01801**

TOWN OF ATHOL, MA
CRESCENT STREET OVER SLUICE WAY
Bridge No. A-15-036 (COE)
SUPERSTRUCTURE REPLACEMENT

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TOWN OF ATHOL, MASSACHUSETTS,
CRESCENT STREET OVER SLUICE WAY
A-15-036 (C0E)

INVITATION TO BID

Sealed Bids for a deck replacement of on the Crescent Street over Sluice Way, Bridge A-15-036(C0E) will be received by the Town Manager at Town Hall, Room 21; 584 Main Street, Athol MA 01331 on Wednesday, April 2, 2025 until 11:00 A.M., and at that time and place bids will be publicly opened and read aloud.

The existing Bridge No. A-15-036 is located at Crescent Street over Sluiceway in Athol, MA. The bridge was constructed around 1900 originally. There are no available Plans for this bridge structure. The roadway width measured curb to curb varies and has an average width of 40'. The superstructure consists of steel stringers fully encased in a 14" deep concrete slab. The bottom flanges of steel beams are only visible at a few locations where the encasement has deteriorated. There is approximately 14" of fill, which consists of 3" hot mix asphalt, 6" cobblestone and 5" soil borrow on top of the structure. At the west sidewalk, the bottom of deck steps-up exposing one of the encased steel stringers which is severely deteriorated. At the southwest corner and along the east edge, the bridge deck abuts the Starrett Manufacturing Company. The company utilizes an underground tunnel which travels from their building at the southwest corner to their building at the northeast corner. The tunnel roof is approximately 2.5' underneath the roadway as it approaches the back of abutments. There is an opening, 8'-6" wide x 9'-6" tall, in each abutment which allows for the tunnel to span between abutments. The tunnel walls are supported by concrete encased steel beams and the walls extend to the underside of the existing bridge deck. The tunnel is considered to be an independent structure with no visible connections between the tunnel and concrete deck. There are no available plans for the tunnel structure.

Granite stone masonry gravity abutments support the superstructure. The span measured face to face of abutment varies and is 18.7' on average. The sluiceway serves as a discharge channel for the Starrett Company. There is no typical flow from the upstream end. The channel under the bridge contains several different types of utilities, including two steam pipes and several electrical conduits, serving the Starrett Company in addition to Town owned water and sewer.

The work to be done under this contract includes but is not limited to removal approximately 12" to 14" of fill from on top of existing deck slab and replacement with a 12" thick reinforced concrete deck slab. The slab will contain an integral wearing surface so there will be no asphalt on the bridge. A CM-MTL3 Bridge Railing will be installed along the east edge of slab to make the east sidewalk unmountable. The west sidewalk and encased beams will be demolished and replaced with a 12" precast concrete beam and cast-in place reinforced concrete sidewalk. A CT-MTL2 Bridge Railing will be installed on top of the sidewalk and continue to be supported by a reinforced concrete moment slab at the northwest corner. The work also includes removal and replacement of an existing water line under the bridge and any other items as set forth in the contract documents. Payment for materials shown on the Plans as being part of the work to the bridge or which may be incidental to its construction and are not specifically included for payment under the Contract shall be considered incidental to the work performed.

The bridge will be closed during construction. The date of the road closure will be coordinated by the Engineer and the Town of Athol. The Contractor will be responsible for all associated traffic management Items of work per the Contract Documents. The Contractor will maintain responsibility for securing and protecting the site. A copy of the contract documents for the work may be obtained from Fuss & O'Neill by contacting rose.difrancesco@fando.com, on or after March 12, 2025.

Massachusetts DOT pre-qualification certification is required for this project as indicated in the Instructions to Bidders and by MassDOT.

Each Bid shall be submitted in accordance with the Instructions to Bidders and be accompanied by a Bid

Security in the amount of 5 percent of the Bid.

No Bidder may withdraw his/her Bid for a period of thirty days, excluding Saturdays, Sundays, and legal holidays, after the actual date of the opening of the Bids.

The Successful Bidder must furnish a 100 percent Construction Performance Bond and a 100 percent Construction Payment Bond with a surety company acceptable to the Owner.

Complete instructions for filing Bids are included in the Instructions to Bidders.

Wage rates for this Project are subject to the minimum wage rates as per M.G.L., Chapter 149, Section 26 to 27D inclusive.

Bidding and award of this Contract will be in accordance with the provisions of M.G.L., Chapter 30, Section 39M.

The Owner reserves the right to waive any informality in or to reject any or all Bids if deemed to be in their best interest.

TOWN OF ATHOL, MASSACHUSETTS,
CRESCENT STREET OVER SLUICE WAY
A-15-036 (C0E)

INSTRUCTIONS TO BIDDERS

ARTICLE 1. QUALIFICATIONS OF BIDDERS

1.1 MassDOT contractor pre-qualification certification is required for this project.

1.2 In evaluating Bids, OWNER will consider the qualifications of only those Bidders whose Bids are in compliance with the prescribed requirements.

1.3 OWNER reserves the right to reject any Bid if the evidence submitted by, or the investigation of, such Bidder fails to satisfy OWNER that such Bidder is properly qualified to carry out the obligations of the Contract Documents and to complete the Work contemplated therein.

ARTICLE 2. COPIES OF CONTRACT DOCUMENTS

2.1 Complete sets of Contract Documents shall be used in preparing Bids; neither OWNER nor ENGINEER assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.

2.2 OWNER and ENGINEER in making copies of Contract Documents available do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

ARTICLE 3. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

3.1 Before submitting a Bid, each Bidder must (a) examine the Contract Documents thoroughly, (b) visit the site to familiarize himself with local conditions that may in any manner affect cost, progress or performance of the Work, (c) familiarize himself with Federal, State and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work; and (d) study and carefully correlate Bidder's observations with the requirements of the Contract Documents.

3.2 Before submitting his/her Bid each Bidder may, at his/her own expense, make such additional investigations and tests as the Bidder may deem necessary to determine his/her Bid for performance of the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

3.3 The submission of a Bid will constitute an incontrovertible representation by the Bidder that he/she has complied with every requirement of this Article 3 and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

ARTICLE 4. INTERPRETATIONS

4.1 All questions about the meaning or intent of the Contract Documents shall be received in writing or by email to Fuss & O'Neill 600 Unicorn Park Drive; Woburn, MA 01801 Attn: John Kelleher, P.E., john.kelleher@fando.com, at least eight calendar days before the date herein set for the opening of bids.

4.2 Written clarifications or interpretations will be issued by Addenda not later than five days before the bid opening date. Only questions answered by formal written Addenda will be binding. Oral and other clarifications or interpretations will be without legal effect. Addenda will be delivered via email or certified mail, with return receipt requested, to all parties recorded as having received the Contract Documents.

4.3 Each Bidder shall be responsible for determining that he/she has received all Addenda issued.

4.4 The OWNER considers any information, which may have been released either orally or in writing prior to the issuance of this Project Manual, to be preliminary in nature and shall not be bound by such information.

ARTICLE 5. PRE-BID CONFERENCE

5.1 A non-mandatory pre-bid meeting will take place on March 19, 2025, at 11:00 a.m. at the Project site. All prospective bidders are encouraged to have a representative in attendance.

ARTICLE 6. BID SECURITY

6.1 Each Bid must be accompanied by cash, bid bond, or a certified check on, or a treasurer's or cashier's check issued by, a responsible bank or trust company, payable to OWNER. The Bid Security shall be in the amount stated in the Invitation To Bid. Bid Security shall be sealed in a separate envelope from the Bid and then attached to the envelope containing the Bid. All Bid Securities except those of the three lowest responsible and eligible Bidders will be returned within five days, Saturdays, Sundays, and legal holidays excluded, after opening of the Bids. All Bid Securities will be returned on the execution of the Agreement or if no award is made, within thirty days, excluding Saturdays, Sundays and legal holidays after the actual date of opening of the Bids, unless forfeited under the conditions herein stipulated.

6.2 In case a party to whom a Contract is awarded shall fail or neglect to execute the Agreement and furnish the satisfactory bonds within the time specified, OWNER may determine that the Bidder has abandoned the Contract, and thereupon the Bid Forms and acceptance shall be null and void and the Bid Security accompanying the Bid Form shall be forfeited to OWNER as liquidated damages for such failure or neglect and to indemnify said OWNER for any loss which may be sustained by failure of the Bidder to execute the Agreement and furnish the bonds as aforesaid, provided that the amount forfeited to OWNER shall not exceed the difference between the Bid Price of said Bidder and that of the next lowest responsible and eligible bidder and provided further that, in case of death, disability, or other unforeseen circumstances affecting the Bidder, such Bid Security may be returned to him. After execution of the Agreement and acceptance of the bonds by OWNER, the Bid Security accompanying the Bid Form of the Successful Bidder will be returned.

ARTICLE 7. PERFORMANCE, PAYMENT AND OTHER BONDS

7.1 Performance, Payment and other Bonds shall be provided in accordance with Article 5 of the Conditions of the Contract.

7.2 All Bonds required as Contract Security shall be furnished with the executed Agreement.

ARTICLE 8. BID FORM

8.1 Each Bid shall be submitted on the Bid Form included in these Specifications. The Bid Form shall be removed and submitted separately. All blank spaces for Bid prices must be filled in with the unit price for the item or the lump sum for which the Bid is made.

8.2 Bid Forms shall be completed in ink or by typewriter. The Bid price of each item on the form shall be stated in words, and figures. If unit prices are required on the Bid Form, discrepancies between unit prices and their respective total amounts will be resolved in favor of the unit prices. Discrepancies between words and figures will be resolved in favor of words. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

8.3 Bids by corporations shall be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

8.4 Bids by partnerships shall be executed in the partnership name and signed by a partner, whose title shall appear under the signature. The official address of the partnership shall be shown below the signature.

8.5 All names shall be typed or printed below the signature.

8.6 The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).

8.7 The address to which communications regarding the Bid are to be directed shall be shown.

8.8 One copy of each Bid shall be submitted in a sealed opaque envelope bearing on the outside the name of Bidder, his/her address, and the Project Title for which the Bid is submitted. If forwarded by mail, Bid and sealed envelope marked as described above shall be enclosed in another envelope with the notation "BID ENCLOSED" on the face and addressed as indicated in the Invitation to Bid. The Bid Security shall be submitted in a separate envelope from the Bid and attached to the envelope containing the Bid.

8.9 The estimated cost of construction is **\$692,225.00**

ARTICLE 9. RECEIPT OF BIDS

9.1 Sealed Bids for the work of this Contract will be received at the time and place indicated in the Invitation to Bid.

9.2 OWNER may consider informal any Bid not prepared and submitted in accordance with the provisions hereof.

9.3 Bidders are cautioned that it is the responsibility of each individual bidder to assure that his/her bid is in the possession of the responsible official or his/her designated alternate prior to the stated time and at the place of the Bid Opening. Owner is not responsible for bids delayed by mail and/or delivery services, of any nature.

ARTICLE 10. MODIFICATION AND WITHDRAWAL OF BIDS

10.1 Bids may be modified only by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

10.2 Bids may be withdrawn prior to the scheduled time (or authorized postponement thereof) for the opening of Bids.

10.3 Any Bid received after the time and date specified shall not be considered. No Bidder may withdraw his/her Bid for a period of thirty days, excluding Saturdays, Sundays, and legal holidays, after the actual date of the opening of the Bids.

ARTICLE 11. AWARD OF CONTRACT

11.1 The Contract will be awarded to the lowest responsible and eligible Bidder (Successful Bidder). Such a Bidder shall possess the skill, ability, and integrity necessary for the faithful performance of the work. The term "lowest responsible and eligible Bidder" as used herein shall mean the Bidder whose Bid is the lowest of those Bidders possessing the skill, ability and integrity necessary to the faithful performance of the Work.

11.2 OWNER reserves the right to reject any and all Bids, to waive any and all informalities if it is in Owner's best interest to do so, and the right to disregard all nonconforming, nonresponsive or conditional Bids.

11.3 A Bid, which includes for any item a Bid Price that is abnormally low or high may be rejected as unbalanced.

11.4 OWNER also reserves the right to reject the Bid of any Bidder that OWNER considers to be unqualified relative to Article 1 above.

11.5 If the Contract is to be awarded, OWNER will give the Successful Bidder a Notice of Award within thirty days, excluding Saturdays, Sundays, and legal holidays, after the actual date of the opening of the Bids. All bids shall remain open for thirty days, excluding Saturdays, Sundays, and legal holidays, after the actual date of the opening of the Bids but OWNER may, in his/her sole discretion, release any Bid and return the Bid Security prior to that date.

ARTICLE 12. EXECUTION OF AGREEMENT

12.1 When OWNER gives a Notice of Award to the Successful Bidder, it will be accompanied by at least six unsigned copies of the Agreement and all other applicable Contract Documents. Within five days, excluding Saturdays, Sundays and legal holidays, after the date of receipt of such notification CONTRACTOR shall execute and return all copies of the Agreement and all other applicable Contract Documents to OWNER. Within ten days thereafter OWNER will deliver one fully signed copy to CONTRACTOR.

ARTICLE 13. SAFETY AND HEALTH REGULATIONS

13.1 This Project is subject to all of the Safety and Health Regulations (CFR 29, Part 1926 and all subsequent amendments) as promulgated by the U.S. Department of Labor on June 24, 1974 and CFR 29, Part 1910, General Industry Safety and Health Regulations Identified as Applicable to Construction.

13.2 The Successful Bidder shall comply with the Department of Labor Safety and Health Regulations for Construction promulgated under the Occupational Safety and Health Act of 1970 (PL-91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL-91-54).

13.3 The Successful Bidder shall have a competent person or persons, as required under the Occupational Safety and Health Act on the Site to inspect the Work and to supervise the conformance of the Work with the regulations of the Act.

ARTICLE 14. SALES TAX

14.1 The material and supplies to be used in the Work will be subject to the requirements of Paragraph 6.10 of the Conditions of the Contract.

ARTICLE 15. UTILITY UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

15.1 All excavations within public or private ways are subject to the requirements of Massachusetts General Law, Chapter 82, Section 40 included in PART II of the Supplementary Conditions.

ARTICLE 16. WAGE RATES

16.1 Minimum Wage Rates as determined by the Commissioner of Department of Labor and Industries under the provision of the Massachusetts General Laws, Chapter 149, Section 26 to 27D, as amended, apply to this project. It is the responsibility of the contractor, before bid opening, to request if necessary, any additional information on Minimum Wage Rates for those tradespeople who may be employed for the proposed work under this contract.

16.2 State schedule for minimum wage rates is included in Part II of the Supplemental Conditions.

ARTICLE 17. MANUFACTURER'S EXPERIENCE

17.1 Wherever it is written that an equipment manufacturer must have a specified period of experience with its product, equipment which does not meet the specified experience period can be considered if the equipment supplier or manufacturer is willing to provide a bond or cash deposit for the duration of the specified time period which will guarantee replacement of that equipment in the event of a failure. Such bond shall be an Efficiency Guarantee Bond executed on a form to be approved by the OWNER.

ARTICLE 18. COMPETITIVE BIDDING

18.1 The bidding and award of the Contract shall be in full compliance with Section 39 M inclusive of Chapter 30 of the General Laws of the Commonwealth of Massachusetts as last revised.

ARTICLE 19. GUARANTEE

19.1 The CONTRACTOR shall guarantee all materials and equipment furnished and WORK performed for a period of one year from the date of SUBSTANTIAL COMPLETION except where a longer guarantee period is required in the Project Manual. The CONTRACTOR warrants and guarantees for a period of one year, or for the longer guarantee period, from the date of SUBSTANTIAL COMPLETION of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs, adjustments, or other WORK that may be made necessary by such defects, to the satisfaction of the OWNER within ten days from the date of receipt of such notice, or having commenced fails to prosecute such WORK with diligence, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period.

Shaun A. Suhoski
Town Manager
Town of Athol

BID
FORM
TO
TOWN OF ATHOL, MASSACHUSETTS,
CRESCENT STREET OVER SLUICE WAY
A-15-036 (C0E)

The undersigned declares that the only persons or parties interested in this Bid as principals are as stated; that the Bid is made without any collusion with other persons, firms, or corporations; that he/she has carefully examined all the Contract Documents as defined in these specifications, that he/she has informed himself/herself fully in regard to all conditions pertaining to the Work and the place where it is to be done, and from them the undersigned makes this Bid. These prices shall cover all expenses incurred in performing the Work required under the Contract Documents, of which this Bid Form is a part.

If a Notice of Award accompanied by at least six unsigned copies of the Agreement and all other applicable Contract Documents is delivered to the undersigned within thirty days, excluding Saturdays, Sundays, and legal holidays, after the actual date of the opening of the Bids, the undersigned will within five days, excluding Saturdays, Sundays, and legal holidays, after the date of receipt of such notification, execute and return all copies of the Agreement and all other applicable Contract Documents to OWNER. The premiums for all Bonds required shall be paid by CONTRACTOR and shall be included in the Contract Price. The undersigned further agrees that the Bid Security accompanying this Bid shall become the property of OWNER if the Bidder fails to execute the Agreement as stated above.

The Bid Security of 5% of the bid shall be sealed in a separate envelope from the Bid and then attached to the envelope containing the Bid.

The undersigned hereby agrees to fully complete the Work by September 1, 2025, and in accordance with the terms as stated in the Agreement. The undersigned further agrees to pay OWNER, as liquidated damages, \$750.00 per day for each calendar day beyond the Contract Time Limit or extension thereof that the Work remains incomplete, in accordance with the terms of the Agreement.

The undersigned acknowledges receipt of addenda numbered:

In accordance with the above understanding, the undersigned proposes to perform the Work, furnish all materials and complete the Work in its entirety in the manner and under the conditions required at the prices listed as follows.

ITEM NO.	QTY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
114.1	1	DEMOLITION OF SUPERSTRUCTURE OF BRIDEG NO. A-15-036 (COE) AT PER LUMP SUM				
120.1	150	UNCLASSIFIED EXCAVATION AT PER CUBIC YARD				
151	45	GRAVEL BORROW AT PER CUBIC YARD				
156	25	CRUSHED STONE AT PER TON				
313.11	75	10 INCH WATER MAIN PRE-INSULATED AT PER FOOT				
415.2	120	PAVEMENT FINE MILLING AT PER SQUARE YARD				
450.23	52	SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5) AT PER TON				
450.31	18	SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC-12.5) AT PER TON				
450.42	20	SUPERPAVE BASE COURSE - 37.5 (SBC-37.5) AT PER TON				
482.3	155	SAWCUTTING ASPHALT PAVEMENT AT PER FOOT				
657	110	TEMPORARY FENCE AT PER FOOT				
701	25	CEMENT CONCRETE SIDEWALK AT PER SQUARE YARD				
852	325	SAFETY SIGNING FOR TRAFFIC MANAGEMENT AT PER SQUARE FOOT				

853.1	4	PORTABLE BREAKAWAY BARRICADE TYPE III AT	PER EACH		
866.106	220	6 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) AT	PER FOOT		
866.112	200	12 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) AT	PER FOOT		
867.106	225	6 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC) AT	PER FOOT		
905.2	2	5000 PSI, 3/8 IN., 710 HP CEMENT CONCRETE AT	PER CUBIC YARD		
909.2	65	CEMENTITIOUS MORTAR FOR PATCHING AT	PER SQUARE FOOT		
913.3	16	CORING AND GROUTING DOWELS AT	PER EACH		
992.1	1	ALTERATION TO BRIDGE SUPERSTRUCTURE, BRIDGE NO. A-15-036 AT	PER LUMP SUM		
994.01	1	TEMPORARY PROTECTIVE SHIELDING, BRIDGE NO. A-15-036 AT	PER LUMP SUM		

TOTAL BID PRICE \$ _____

Total Bid Price (in words):

_____ Dollars _____ Cents

The undersigned declares he understands that the quantities shown are approximate only and are subject to either increase or decrease and that should the quantities of any of the items of work be increased, the undersigned proposes to do the additional work at the unit prices set forth herein, and should the quantities be decreased, undersigned also understands that payment will be made on actual quantities installed at the unit bid price, and the undersigned will make no claims for anticipated profits for any decrease in the quantities. Actual quantities will be determined upon completion of the job.

The undersigned agrees that extra work, if any, will be performed in accordance with Article 10 of the Conditions of the Contract and will be paid for in accordance with Article 11 of the Conditions of the Contract.

Amounts shall be shown in both words and figures, where indicated. In case of discrepancy, the amount shown in words will govern.

The above price shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance and incidentals required to complete the Work.

The bidding and award of this Contract will be in accordance with the provisions of M.G.L., Chapter 30, Section 39M.

The names and residences of all persons and parties interested in the foregoing Bid as principals are as follows:

(Give first and last names in full. In the case of a corporation, see Article 8.3 of the Instructions to Bidders, in the case of a partnership, see Article 8.4 of the Instructions to Bidders.)

Pursuant to M.G.L. Ch. 62C, sec. 49A, I certify under the penalties of perjury that I, to my best knowledge and belief, have filed all state tax returns and paid all state taxes required under law.

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work.

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

Social Security Number or

Signature of Individual or Corporate Name

TOWN OF ATHOL, MASSACHUSETTS,
CRESCENT STREET OVER SLUICE WAY
A-15-036 (C0E)

AGREEMENT

THIS AGREEMENT made as of the _____ day of _____ in the year _____ by and between the Town of Athol, Massachusetts acting through its Town Manager hereinafter called OWNER and _____ with legal address and principal place of business at _____ hereinafter called CONTRACTOR. OWNER and CONTRACTOR in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1. WORK

1.1 CONTRACTOR shall perform the Work as specified or indicated in the Contract Documents.

ARTICLE 2. ENGINEER

2.1 The Project has been designed by Fuss & O'Neill, Inc. 600 Unicorn Park Drive, Woburn, MA 01801, who will act as ENGINEER in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 3. CONTRACT TIME

3.1 Contract Time shall commence ten days following the Effective Date of this Agreement. Work shall be completed within the contract time terminating on September 1, 2025, with all activities necessary to fully complete the Work executed within that time in accordance with the agreement.

3.2 Construction activity can begin upon notice to proceed. The road will be closed during construction.

3.3 CONTRACTOR agrees that the Work shall be prosecuted regularly, diligently and uninterruptedly and at such rate of progress as will insure full completion thereof within the Contract Time stated above. It is expressly understood and agreed, by and between CONTRACTOR and OWNER that the Contract Time is reasonable for the completion of the Work, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

ARTICLE 4. CONTRACT PRICE

4.1 OWNER will pay CONTRACTOR for performance of the Work in accordance with the Contract Documents in current funds at the unit prices agreed upon in the CONTRACTOR's Bid Form attached to this Agreement.

ARTICLE 5. APPLICATIONS FOR PAYMENT

5.1 CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the Conditions of the Contract. Applications for Payment will be processed by ENGINEER as provided in the Conditions of the Contract.

ARTICLE 6. PROGRESS AND FINAL PAYMENTS

6.1 OWNER will make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment as recommended by ENGINEER, monthly during construction as provided below. All progress payments will be on the basis of the progress of the Work measured by the schedule of values provided for in Paragraph 14.01 of the Conditions of the Contract.

6.2 OWNER reserves the right to a 5% general retainage from each progress payment, which retainage shall be released to the Contractor upon substantial completion, less amounts properly allocated to punch list work and potential claims of the OWNER.

ARTICLE 7. LIQUIDATED DAMAGES

7.1 OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the Contract Time specified in Article 3 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER \$750.00 per day for each calendar day of delay until the Work is complete.

7.2 Provided, that CONTRACTOR shall not be charged with liquidated damages or any excess cost when the delay in completion of the Work is for reasons included in Paragraph 12.03 of the General Conditions.

7.3 Provided, further, that CONTRACTOR shall, furnish OWNER the required notification of such delays in accordance with Paragraph 12.02 of the General Conditions.

ARTICLE 8. ASSURANCE

8.1 CONTRACTOR has familiarized himself with the nature and extent of the Contract Documents, Work, locality, and with all local conditions and Federal, State and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the Work.

8.2 CONTRACTOR has studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which were relied upon by ENGINEER in the preparation of the Drawings and Specifications and which have been identified in Article 4 of the Supplementary Conditions.

8.3 CONTRACTOR has made or caused to be made examinations, investigations and tests and studies of such reports and related data in addition to those referred to in the above paragraph as he deems necessary for the performance of the Work at the Contract Price within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are or will be required by him for such purposes.

8.4 CONTRACTOR has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.

8.5 CONTRACTOR has given ENGINEER written notice of any conflict, error or discrepancy that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

8.6 CONTRACTOR agrees that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

ARTICLE 9. CONTRACT DOCUMENTS

9.1 The Contract Documents which comprise the Contract between OWNER and CONTRACTOR are attached hereto and made a part hereof and consist of the following:

9.1.1 Invitation To Bid.

9.1.2 Instructions To Bidders.

9.1.3 Bid Form.

9.1.4 This Agreement.

9.1.5 Performance Bond, EJCDC Document C-610, 2007 edition, Payment Bond, EJCDC Document C-615A, 2008 edition, and other required Bonds.

9.1.6 General Conditions, EJCDC Document C-700, 2002 edition.

9.1.7 Supplementary Conditions Parts I and II.

9.1.8 Special Provisions (as listed in Table of Contents).

9.1.9 Project Plans entitled “*Superstructure Replacement , Crescent Street over Sluice Way*” by Fuss & O’Neill, Inc. dated February 3, 2025 – 15 sheets.

9.1.10 Addenda numbers _____ to _____, inclusive.

9.1.11 Any modification, including Change Orders, duly delivered after execution of Agreement.

ARTICLE 10. MISCELLANEOUS

10.1 Terms used in this Agreement, which are defined in Article 1 of the Conditions of the Contract shall have the meanings assigned in the Conditions of the Contract.

10.2 Neither OWNER nor CONTRACTOR shall, without the prior written consent of the other, assign or sublet in whole or in part his interest under any of the Contract Documents; and, specifically but without limitation, CONTRACTOR shall not assign any monies due or to become due without the prior written consent of OWNER. In case CONTRACTOR assigns all or any part of any monies due or to become due under this Contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to CONTRACTOR shall be subject to prior claims of all persons, firms and corporations for services rendered or materials supplied for the performance of the Work called for in this Contract.

10.3 OWNER and CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

10.4 The Contract Documents constitute the entire agreement between OWNER and CONTRACTOR and may only be altered, amended or repealed by a Modification.

10.5 This agreement shall be governed by and constructed in accordance with Massachusetts' law.

10.6 If any provisions of this Agreement is determined to be invalid or unenforceable by final judgement of a court of competent jurisdiction, the remaining provisions shall continue in effect to the extent permitted by law.

IN WITNESS WHEREOF, the parties hereto have signed this Agreement in sextuple. Four copies each have been delivered to OWNER and one copy each to CONTRACTOR and ENGINEER. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or by ENGINEER on their behalf.

This Agreement shall become effective on _____ . _____
(year)

IN WITNESS WHEREOF, the parties hereto have executed this Agreement to be effective as of the date first above written.

OWNER:

CONTRACTOR:

By: Shaun A. Suhoski
Title: Town Manager
Date: _____

By:
Title:
Date: _____

Address for giving notices:

Address for giving notices:

Town of Athol
584 Main Street
Athol, Massachusetts 01331

(CORPORATE SEAL)

(CORPORATE SEAL)

AFFIDAVIT OF COMPLIANCE WITH G.L. c.44, §31C,
CERTIFICATE OF APPROPRIATION FOR THE CONTRACT

The undersigned, Town Accountant, Town of Athol, hereby certifies, pursuant to G.L. c.44, §31C, that an appropriation in the amount equal to the contract price for the contract entitled: ***Crescent Street over Sluice Way (A-15-036)*** is available for payment for services rendered under said contract and that Shaun A. Suhoski, Town Manager of the Town of Athol, has been authorized to execute said contract, approve all requisitions and change orders thereto: Article _____

ATM_ACCOUNT CODE _____ FY _____

Approved as to Form Only:

Town Counsel
Town of Athol

Town Accountant
Town of Athol

Note: If CONTRACTOR is a corporation, an affidavit giving the principal the right to sign the Agreement must accompany the executed Agreement

Federal Identification Number

By: _____
Corporate Officer (if applicable)

Notice of acceptance should be mailed, telegraphed, or delivered to the undersigned Bidder at the following address following:

(Name)

By: _____
(Title)

(Business Address)

(City and State)

Date _____

Note: If the Bidder is a corporation, indicate State of incorporation under signature, and affix corporate seal; if a partnership, give full names and residential addresses, if different from business address.



PERFORMANCE BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address):*

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):*

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form: None See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal *(seal)*

Surety's Name and Corporate Seal *(seal)*

By: _____
Signature

By: _____
Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a

qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Definitions

14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by

the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

PAYMENT BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address):*

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):*

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form: None See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal *(seal)*

Surety's Name and Corporate Seal *(seal)*

By: _____
Signature

By: _____
Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
 - 5.1 Claimants who do not have a direct contract with the Contractor,
 - 5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - 7.2 Pay or arrange for payment of any undisputed amounts.
 - 7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or

(2) on which the last labor or service was performed by anyone, or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. Definitions

16.1 **Claim:** A written statement by the Claimant including at a minimum:

1. The name of the Claimant;
2. The name of the person for whom the labor was done, or materials or equipment furnished;
3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
4. A brief description of the labor, materials, or equipment furnished;
5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
7. The total amount of previous payments received by the Claimant; and
8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's

lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

16.4 **Owner Default:** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.

17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

18. Modifications to this Bond are as follows:

Town of Athol, Massachusetts
Department of Public Works

NON-COLLUSION FORM

THE UNDERSIGNED CERTIFIED UNDER PENALTIES OF PERJURY THAT THIS TRANSACTION IS IN ALL RESPECTS, BONA FIDE, FAIR AND MADE WITHOUT COLLUSION OR FRAUD WITH ANY OTHER PERSON. "PERSON" SHALL MEAN ANY NATURAL PERSON, BUSINESS, PARTNERSHIP, CORPORATION, UNION, COMMITTEE, CLUB, OR OTHER ORGANIZATION, ENTITY OR GROUP OF INDIVIDUALS.

SIGNATURE OF CORPORATE OR COMPANY OFFICER

NAME OF BUSINESS

DATE

TAX COMPLIANCE FORM

PURSUANT TO MASSACHUSETTS GENERAL LAWS CHAPTER 62C, S49A, I HEREBY CERTIFY UNDER THE PAINS AND PENALTIES OF PERJURY THAT

(NAME OF COMPANY)

HAS COMPLIED WITH ALL FEDERAL LAWS AND LAWS OF THE COMMONWEALTH OF MASSACHUSETTS RELATING TO TAXES, REPORTING OF EMPLOYEES AND CONTRACTORS, AND WITHHOLDING AND REMITTING CHILD SUPPORT, INCLUDING CHAPTER 62C, S49A OF THE MASSACHUSETTS GENERAL LAWS.

SOCIAL SECURITY OR FEDERAL
IDENTIFICATION NUMBER

SIGNATURE OF INDIVIDUAL
OR CORPORATE NAME

BY:

CORPORATE OFFICER
(IF APPLICABLE)

AS DIRECTED BY THE DEPARTMENT OF REVENUE, ANY PERSON OR CORPORATION THAT FAILS TO EXECUTE THE ATTESTATION CLAUSE SHALL NOT BE ABLE TO DO BUSINESS WITH THE TOWN OF ATHOL.

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS
OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by



AMERICAN COUNCIL OF ENGINEERING COMPANIES

ASSOCIATED GENERAL CONTRACTORS OF AMERICA

AMERICAN SOCIETY OF CIVIL ENGINEERS

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
A Practice Division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Endorsed by



CONSTRUCTION SPECIFICATIONS INSTITUTE

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor (EJCDC C-520 or C-525, 2007 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the Narrative Guide to the EJCDC Construction Documents (EJCDC C-001, 2007 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (EJCDC C-800, 2007 Edition).

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STANDARD GENERAL CONDITIONS OF THE
CONSTRUCTION CONTRACT

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ARTICLE I—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*— *Written* or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
3. *Application for Payment*— *The* form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
4. *Asbestos*—*Any* material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
5. *Bid*—*The* offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
6. *Bidder*— The individual or entity who submits a Bid directly to Owner.
7. *Bidding Documents*— *The* Bidding Requirements and the proposed Contract Documents (including all Addenda).
8. *Bidding Requirements*— The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
9. *Change Order*— *A* document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
11. *Contract*— The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supercedes prior negotiations, representations, or agreements, whether written or oral.
12. *Contract Documents*— Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*— *The* moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be

- performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of Agreement*— The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
 19. *Engineer*— The individual or entity named as such in the Agreement.
 20. *Field Order*— A Written order issued by Engineer which requires minor changes in the Work, but which does not involve a change in the Contract Price or the Contract Times.
 21. *General Requirements*— Sections of Division I of the Specifications.
 22. *Hazardous Environmental Condition*— The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
 23. *Hazardous Waste*— The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
 24. *Laws and Regulations; Laws or Regulations*— Any and all applicable laws, rules, regulations, ordinances, codes and orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.
 25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
 26. *Milestone*— A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.
 27. *Notice of Award*— The written notice by Owner to Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
 28. *Notice to Proceed*— A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
 29. *Owner*— The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
 30. *PCBs*— Polychlorinated biphenyls.
 31. *Petroleum*— Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
 32. *Progress Schedule*— A schedule, prepared and maintained by Contractor, describing the sequence and duration of activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
 33. *Project*— The total construction of which the Work to be performed under Contract Documents may be the whole or a part.
 34. *Project Manual*— The bound documentary information prepared for bidding and constructing work. A listing of contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
 35. *Radioactive Material*— Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
 36. *Resident Project Representative*— The authorized representative of Engineer who may be assigned to Site or any part thereof.
 37. *Samples-Physical* examples of materials, equipment, or workmanship that are representative of some portion of the Work

- and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*— A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
 39. *Schedule of Values*— A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
 40. *Shop Drawings*— All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
 41. *Site*— Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
 42. *Specifications*— That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
 43. *Subcontractor*— An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
 44. *Substantial Completion*— The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.
 45. *Successful Bidder*— The Bidder submitting a responsive Bid to whom Owner makes an award.
 46. *Supplemental Conditions*— That part of the Contract Documents which amends or supplements these General Conditions.
 47. *Supplier*— A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
 48. *Underground Facilities*— All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
 49. *Unit Price Work*— Work to be paid for on the basis of unit prices.
 50. *Work*— The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
 51. *Work Change Directive*— A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its

effect, if any, on the Contract Price or Contract Times.

test, or approval referred to in the Contract Documents; or

1.02 Terminology

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. Intent of Certain Terms or Adjectives:

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. Day:

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. Defective:

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactorily, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard,

- c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. Furnish, install, Perform, Provide:

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.

- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 Delivery of Bonds and Evidence of Insurance

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional

insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient

detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 - 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a

workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

- A. Standards, Specifications, Codes, Laws, and Regulations
 1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or

employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

- I. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

- a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
- b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
 - 1. A Field Order;
 - 2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
 - 3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
 - 2. reuse any such Drawings, Specifications, other documents, or copies thereof on

extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.

- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

Electronic Data

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. **If** there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4- AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to

use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

- 1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
- 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

- I. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of

the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

- 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
- 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

- 1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
- 2. is of such a nature as to require a change in the Contract Documents; or
- 3. differs materially from that shown or indicated in the Contract Documents; or
- 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefore as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or

arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

- A. *Shown or indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
 1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.
- B. *Not Shown or indicated:*
 1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the

extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. [f Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall permit to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.

- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action,

if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.

- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by

Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.0 shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by

an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.

- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.

- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
- t. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
 5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a

certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;
 2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
 3. include expenses incurred in the repair or replacement of any insured property

- (including but not limited to fees and charges of engineers and architects);
4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
 5. allow for partial utilization of the Work by Owner;
 6. include testing and startup; and
 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.
- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible

- amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.
- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

Waiver of Rights

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.8. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's

exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-compliance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.8. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

- A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6—CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be

submitted to Engineer for review under the circumstances described below.

1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

- a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
 - 3) it has a proven record of performance and availability of responsive service.
- b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

- a) perform adequately the functions and achieve the results called for by the general design,
- b) be similar in substance to that specified, and
- c) be suited to the same use as that specified;

2) will state:

- a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
- b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

- c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
- 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and
- 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

B. *Substitute Construction Methods or Procedures:*

If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

Concerning Subcontractors, Suppliers, and Others

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement,

shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor. Supplier or other individual or entity; nor

2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and

all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses,

and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the

Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.1.2 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.1.3 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;
2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.

- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or

entity directly or indirectly employed by any of them).

- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.8 that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

- A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

- a. Submit number of Samples specified in the Specifications.
- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

- B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

- 1. Before submitting each Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials offered with respect to the

indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation. 6.18

D. Engineer's Review:

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. 6.19

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate

approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.I.

E. Resubmittal Procedures:

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

Continuing the Work

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

Contractor's General Warranty and Guarantee

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

I. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other

individual or entity for whom Contractor is responsible; or

2. nominal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;
2. recommendation by Engineer or payment by Owner of any progress or final payment;
3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
4. use or occupancy of the Work or any part thereof by Owner;
5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
6. any inspection, test, or approval by others; or
7. any correction of defective Work by Owner.

6.20 *indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the

Work or anyone for whose acts any of them may be liable.

B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or

certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7—OTHER WORK AT THE SITE

7.0 ■ *Related Work at Site*

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefore as provided in Paragraph 10.05.

- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
 - 1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 - 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 - 3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.

C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

8.06 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

ARTICLE 8—OWNER'S RESPONSIBILITIES

8.09 *Limitations on Owner's Responsibilities*

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.10 *Undisclosed Hazardous Environmental Condition*

8.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

A. Owner's responsibility with respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to

8.12 *Compliance with Safety Program*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9-ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of

any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a

delegation of professional design services, if any, see Paragraph 6.21.

- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show

partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. [f Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
 - 1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

- 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
- 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional

or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.8. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
 - 1. deny the Claim in whole or in part;
 - 2. approve the Claim; or
 - 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.0 will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B. and shall include only the following items:

- I. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
- 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
- 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and

- subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
 5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
 - g. The cost of utilities, fuel, and sanitary facilities at the Site.
 - h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.
- B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:
- I. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for

general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by

such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances:*

1. Contractor agrees that:

- a. the cash allowances include full cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
- b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance:*

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

- 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.8.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

- I. a mutually acceptable fixed fee; or
- 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

**ARTICLE 12-CHANGE OF CONTRACT PRICE;
CHANGE OF CONTRACT TIMES**

12.01 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
 - 1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.0 I.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the

control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

**ARTICLE 13- TESTS AND INSPECTIONS;
CORRECTION, REMOVAL OR ACCEPTANCE OF
DEFECTIVE WORK**

13.01 *Notice of Defects*

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, *mix* designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. **If** any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and

Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment
- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop

the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or
2. correct such defective Work; or
3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to

Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after Written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work;

and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14-PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

- A. *Applications for Payments:*
 - I. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month). Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to

protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, in light of the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the

representations to Owner slated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Change Orders;
- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due:*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events

enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

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

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to

make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
- I. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and

substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and
 - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Payment Becomes Due:*

- I. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and

accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the tenor of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15-SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established

under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's repeated disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.8, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- D. Notwithstanding Paragraphs 15.02.B and 15.02.C. Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.0 I.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
 3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
 4. reasonable expenses directly attributable to termination.

- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
2. agrees with the other party to submit the Claim to another dispute resolution process; or
3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies

available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

SUPPLEMENTARY CONDITIONS

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PART II – FEDERAL, STATE AND LOCAL GOVERNMENT PROVISIONS

- 1.0 FEDERAL GOVERNMENT PROVISIONS
- 2.0 COMMONWEALTH OF MASSACHUSETTS PROVISIONS
 - 2.1. Owner and Contractor agree that the following Commonwealth of Massachusetts Provisions apply to the work to be performed under this Contract and that these provisions supersede any conflicting provisions of this Contract.
 - 2.2. Applicable provisions of Massachusetts General Laws and Regulations and/or the United States Code and Code of Federal Regulations govern this Contract and any provision in violation of the foregoing shall be deemed null, void and of no effect. Where conflict between Code of Federal Regulations and State Laws and Regulations exist, the more stringent requirement shall apply.
 - 2.3. Massachusetts General Laws (by reference only)
 - 2.3.1. Chapter 30, Section 39F
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- 2.3.3. Chapter 30, Section 39I
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SUPPLEMENTARY CONDITIONS

PART I - AMENDMENTS TO GENERAL CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (EJCDC Document No. C-700, 2007 edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

SC-1.01A.42.

Delete paragraph 1.01A.42. of the General Conditions in its entirety and replace with the following:

42. Specifications - Sections included under Divisions 1 through 15 of the Project Manual.

SC-1.01A.45.

Insert the following at the beginning of the definition before the words "The time at."

The Work required by the Contract has been completed except for work having a Contract Price of less than one per cent of the then adjusted total contract price, or

ARTICLE 2 - PRELIMINARY MATTERS

SC-2.01B.

Delete paragraph 2.01B. of the General Conditions in its entirety and replace with the following:

B. Before any Work at the site is started, Contractor shall deliver to Owner, with copies to Engineer and each additional insured identified in Article 5 of the Supplementary Conditions, certificates of insurance (and other evidence requested by Owner) which Contractor is required to purchase and maintain in accordance with the requirements of Article 5.

SC-2.03A.

Delete paragraph 2.03A of the General Conditions in its entirety and replace with the following:

A. The Contract Time will commence to run on the twentieth day following the Effective Date of the Agreement.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

SC-3.01C.

Add the following new paragraph immediately after Paragraph 3.01C. of the General Conditions which is to read as follows:

D. Each and every provision of law and clause required by law to be inserted in these Contract Documents shall be deemed to be inserted herein, and they shall be read and enforced as though it were included herein, and if through mistake or otherwise, any such provision is not inserted, or if not correctly inserted, then upon the application of either party, the Contract Documents shall forthwith be physically amended to make such insertion.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS;
HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

SC-4.01A.

Add the following new paragraph immediately after paragraph 4.01A. of the General Conditions which is to read as follows:

1. If all lands and rights-of-way are not obtained as herein contemplated before construction begins, Contractor shall begin the Work upon such land and rights-of-way as Owner has previously acquired.

SC-4.02A.2.

Add the following new paragraph immediately after paragraph 4.02A.2 of the General Conditions which is to read as follows:

a. In the preparation of Drawings and Specifications, the Engineer has relied upon internal television inspection logs and videos of the existing sewer system at the site. These videos may be examined by appointment at the Engineer's office during regular business hours.

SC-4.03C.3.

Add the following new paragraph immediately after paragraph 4.03C.3. of the General Conditions which is to read as follows:

D. Adjustments resulting from subsurface or latent physical conditions will be in accordance with Massachusetts General Law Chapter 30, Section 39N included in PART II of the Supplementary Conditions.

SC-4.05A.

Add the following new paragraph immediately after paragraph 4.05A of the General Conditions which is to read as follows:

B. Engineer may check the lines, elevations, reference marks, batter boards, etc., set by Contractor, and Contractor shall correct any errors disclosed by such check. Such a check shall not be considered as approval of Contractor's work and shall not relieve Contractor of the responsibility for accurate construction of the entire Work. Contractor shall furnish personnel to assist Engineer in checking lines and grades.

ARTICLE 5 - BONDS AND INSURANCE

SC-5.03B

Add 2 new paragraphs immediately after paragraph 5.03E of the General Conditions which are to read as follows:

F. Contractor shall provide evidence of its insurance coverage on the ACORD certificate of insurance form and shall include the following statement in its entirety in the section of the form entitled "Description of Operations/Locations/Vehicles/Special Items".

The Town of Athol and Fuss & O'Neill Inc., and their officers, directors, partners, employees and other consultants and subcontractors are named as additional insureds with respect to the insured's Commercial General Liability and Automobile Liability Insurance Policies. All insurers waive all rights of subrogation against the Town of Athol and Fuss & O'Neill Inc., their officers, directors, partners, employees and other consultants and subcontractors. All insurance is primary for all claims covered thereby. Commercial General Liability Insurance includes contractual liability coverage.

SC-5.04A.

The limits of liability for the insurance required by paragraph 5.04A. of the General Conditions shall provide coverage for not less than the following amounts or greater where required by law:

5.04.A.1 and 5.04.A.2 Workers' Compensation and Employer's Liability Insurance

- | | | |
|---------------------------|---|----------------------|
| (1) Worker's Compensation | in accordance with M.G.L. c.149, Sect. 34A. | |
| (2) Employer's Liability | \$500,000 | Each Occurrence |
| | \$500,000 | Disease per employee |

5.04A.3., 5.04A.4., and 5.04A.5. Commercial General Liability including Premise/Operations; Explosion, Collapse and Underground Property Damage; Products/Completed Operations, Broad Form Contractual, Independent Contractors; Broad Form Property Damage; and Personal Injury liabilities:

- | | | |
|----------------------|-------------|------------------|
| (1) Bodily Injury: | \$1,000,000 | Each Occurrence |
| | \$1,000,000 | Annual Aggregate |
| (2) Property Damage: | \$1,000,000 | Each Occurrence |
| | \$1,000,000 | Annual Aggregate |
| (3) Personal Injury: | \$1,000,000 | Annual Aggregate |

5.04A.6. Comprehensive Automobile Liability including all owned (private and others), hired and non-owned vehicles:

- | | | |
|---------------------|-------------|-----------------|
| (1) Bodily Injury | \$1,000,000 | Each Person |
| | \$1,000,000 | Each Accident |
| (2) Property Damage | \$1,000,000 | Each Occurrence |

SC 5.04B.1.

Delete paragraph 5.04B.1. of the General Conditions in its entirety and replace with the following:

1. The insurance required by paragraph 5.04A.3 through 5.04A.6 inclusive will provide primary coverage for all claims covered thereby. With respect to insurance required by Paragraph 5.04.A.6 include as additional insured Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds and include coverage for the respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of all such additional insureds

SC-5.04B.6.

Add two new paragraphs immediately after paragraph 5.04.B.6.b. of the General Conditions which is to read as follows:

7. Contractor may purchase and maintain excess liability insurance in the umbrella form in order to satisfy the minimum amounts required for the insurance to be purchased and maintained in accordance with paragraph 5.04. Evidence of such excess liability insurance shall be delivered to Owner in accordance with paragraph 2.01B. in the form of a certificate indicating the policy numbers and minimum coverage amounts of all underlying insurance. The umbrella liability insurance shall have a combined single limit of not less than \$5,000,000.

8. All policies required by this paragraph 5.04 shall contain provisions to the effect that the insurer(s) waive all right of subrogation against the Owner, Engineer and their officers, directors, partners, employees and other consultants and subcontractors of each and any of them.

SC-5.05A.

Delete paragraph 5.05A. of the General Conditions in its entirety and replace with the following:

A. Contractor shall purchase and maintain a separate Owner's Protective Liability policy, issued to Owner at the expense of Contractor, including Owner and Engineer as named insured. This insurance shall provide coverage for not less than the following amounts:

5.05A.1. Bodily Injury	\$1,000,000	Each Occurrence
5.05A.2. Property Damage	\$1,000,000	Each Occurrence
	\$1,000,000	Annual Aggregate

SC-5.05A

Add the following new paragraph immediately after paragraph 5.05.A.2 of the General Conditions which is to read as follows:

B. All policies required by this paragraph 5.05 shall contain provisions to the effect that the insurer(s) waive all rights of subrogation against the Owner, Engineer and their officers, directors, partners, employees and other consultants and subcontractors of each and any of them.

SC-5.06A.

Delete paragraphs 5.06A. and A1 thru A7 of the General Conditions in their entirety.

SC-5.06B.

Delete paragraph 5.06B. of the General Conditions in its entirety.
SC-5.06C.

Delete Paragraph 5.06C. of the General Conditions in its entirety.
SC-5.06D.

Delete paragraph 5.06D. of the General Conditions in its entirety.
SC-5.06E.

Delete paragraph 5.06E. of the General Conditions in its entirety.
SC-5.07A.

Delete paragraph 5.07A. of the General Conditions in its entirety and replace with the following.

A. All insurance policies provided by the Contractor shall contain provisions to the effect that the insurer waives all rights of subrogation against any of the insured, loss payee, (and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them) Owner and the Engineer.

SC-5.08A.

Delete paragraph 5.08A. of the General Conditions in its entirety.
SC-5.08B.

Delete paragraph 5.08B. of the General Conditions in its entirety.
SC-5.09A.

Delete paragraph 5.09A. of the General Conditions in its entirety and replace with the following:

A. If Owner has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by Contractor in accordance with this Article 5 on the basis of its not complying with the Contract Documents, Owner will notify Contractor in writing thereof within ten days of the date of delivery of such certificates to Owner in accordance with paragraph 2.01. Contractor will provide such additional information in respect of insurance provided by Contractor as Owner may reasonably request.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

SC-6.02

Add the following 2 new paragraphs immediately after paragraph 6.02B. of the General Conditions which are to read as follows:

C. Regular working hours are defined as 8 hours per day, Monday through Friday, excluding holidays, between the hours of 7:00 AM and 7:00 PM. Requests to work other than regular working hours shall be submitted to Engineer not less than 48 hours prior to any proposed weekend work or scheduled extended work weeks. Occasional unscheduled overtime on weekdays may be permitted provided prior notice is given to Engineer.

D. Contractor shall reimburse the Owner for additional engineering and/or inspection costs incurred as a result of overtime work in excess of the regular working hours stipulated in Article SC-6.02C. At Owner's option, overtime costs may either be deducted from the Contractor's monthly payment request or deducted from the Contractor's retention prior to release of final payment. Overtime costs for the Owner's personnel shall be based on the individual's current overtime wage rate. Overtime costs for personnel employed by the Engineer or Owner's independent testing laboratory shall be calculated in accordance with the terms of their respective contracts with the Owner.

SC-6.02B.

Add the following new paragraphs immediately after paragraph 6.02B. of the General Conditions which are to read as follows:

C. This Agreement is subject to the applicable provisions of the Contract Work Hours and Safety Standards Act, Public Law 87-581, 87th Congress. No Contractor or Subcontractor contracting for any part of the Work shall require or permit any laborer or mechanic to be employed on the Work in excess of forty hours in any work week unless such laborer or mechanic receives compensation at a rate not less than one and one-half times that person's basic rate of pay for all hours worked in excess of forty hours in such work week.

D. Contractor shall employ only competent persons to do the work and whenever Owner shall notify Contractor, in writing, that any person on the Work appears to be incompetent, disorderly, or otherwise unsatisfactory, such person shall be removed from the Project and shall not again be employed on it except with the consent of Owner.

E. Contractor and Subcontractors shall, insofar as practicable, give preference in the hiring of workers for the Project to qualified local residents with first preference being given to citizens of the United States who have served in the armed forces of the United States and have been honorably discharged therefrom or released from active duty therein.

F. Contractor and all Subcontractors shall pay to all laborers and mechanics employed for the construction covered by this Contract the minimum rates of pay as determined by the Secretary of Labor in accordance with the Act of March 3, 1931, as amended, known as the Davis Bacon Act (40 U.S.C. 276a through 276a 7). Furthermore, Contractor and Subcontractors shall adhere to the stipulations and provisions published by the Secretary of Health, Education, and Welfare in "Labor Standards (Federal Water Pollution Control Act)." The Wage Rate Schedule as prepared by the Secretary of Labor and the "Labor Standards" are part of this Contract and are included in PART II of these Supplementary Conditions.

G. Except as may be otherwise required by law, all claims and disputes pertaining to the classification of labor employed on the project under this Contract shall be decided by the governing body having jurisdiction.

H. Contractor and all Subcontractors shall comply with the Regulations of the Secretary of Labor made pursuant to the Anti-Kickback Act of June 30, 1940 (40 U.S.C. 276c) and all amendments or modifications thereto. Contractor and all Subcontractors shall furnish Owner with weekly Statements of Compliance. In case of Subcontracts, Contractor shall cause appropriate provision to be inserted in all subcontracts for the Work which Contractor may let to ensure compliance with said Anti-Kickback Act by all Subcontractors subject thereto, and Contractor shall be responsible for the submission of all Statements of Compliance required of Subcontractors by said Anti-Kickback Act except as the Secretary of Labor may specifically provide for reasonable limitations, variations, and exemptions from the requirements thereof. These Regulations are part of this Contract and are included in PART II of these Supplementary Conditions.

I. Contractor and all subcontractors shall comply with the Massachusetts Prevailing Wage law as contained in M.G.L. chapter 149 sections 26-27 which are included in Part II of these Supplementary Conditions.

SC-6.06A.

Delete Paragraphs 6.06A. and 6.06B. of the General Conditions in their entirety and replace with the following:

A. Contractor shall not employ any Subcontractor, Supplier or other person or organization, (including those who are to furnish the principal items of materials or equipment), whether initially or as a substitute, against whom Owner may have reasonable objection. Acceptance of any Subcontractor, other person or organization by Owner shall not constitute a waiver of any right of Owner to reject defective Work. Contractor shall not be required to employ any Subcontractor, other person or organization against whom Contractor has reasonable objection.

B. Not Used.

SC-6.06C.

Add the following new sentence at the end of paragraph 6.06C. of the General Conditions to read as follows:

Contractor shall make payments to Subcontractors in accordance with Massachusetts General Law Chapter 30, Section 39F which is included in PART II of these Supplementary Conditions.

SC-6.06E.

Add the following new sentence at the end of paragraph 6.06E of the General Conditions to read as follows:

Owner or Engineer may furnish to any such Subcontractor, Supplier or other person or organization, to the extent practicable, information about amounts paid on their behalf to Contractor in accordance with Contractor's Applications for Payment.

SC-6.07B

Delete paragraph 6.07B of the General Conditions in its entirety.

SC-6.08A

Delete the first and second sentences of Paragraph 6.08A of the General Conditions in their entirety and replace with the following:

Contractor shall comply with the guidelines established in the Division of Municipal Services (DMS) Construction Grants Policy Memorandum No. CG-2 (Permits) included in Part II of the Supplementary Conditions.

SC-6.10A

Add the following new sentences at the end of paragraph 6.10A of the General Conditions to read as follows:

The materials and supplies to be used in the Work of this Contract are exempt from the Sales and Use Tax of the Commonwealth of Massachusetts. Contractor shall obtain the proper certificates, maintain the necessary records and otherwise comply with the requirements of Chapter 14 of the Acts of 1966 and any amendments thereto.

SC-6.16A.

Delete the last sentence in paragraph 6.16A. of the General Conditions in its entirety and replace with the following:

If Engineer determines that the incident giving rise to the emergency action was not the responsibility of the Contractor and that a change in the Contract Document is required because of the action taken by the Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

SC-6.17D.1.

Add the following new sentence at the end of paragraph 6.17.D.1 of the General Conditions to read as follows:

Approval of Shop Drawings for equipment requiring Efficiency Guarantee Bonds will be withheld until the receipt of such Bonds.

SC-6.19A.

Add the following new paragraph immediately after paragraph 6.19A. of the General Conditions which is to read as follow:

B. The Contractor guarantees that the Work and Services to be performed under the Contract, and all workmanship, materials and equipment performed, furnished, used or installed in the construction of the same shall be free from defects and flaws, and shall be performed and furnished in strict accordance with the Drawings, Specifications, and other Contract Documents, that the strength of all parts of all manufactured equipment shall be adequate and as specified and that the performance test requirements of the Contract shall be fulfilled. This guarantee shall be for a period of one year from and after the date of completion and acceptance of the Work as stated in the final estimate. If part of the Work is accepted in accordance with that subsection of this AGREEMENT titled "Partial Acceptance," the guarantee for that part of the Work shall be for a period of one year from the date fixed for such acceptance.

1. If at any time within the said period of guarantee any part of the Work requires repairing, correction or replacement, the Owner may notify the Contractor in writing to make the required repairs, correction or replacements. If the Contractor neglects to commence making such repairs, corrections or replacements to the satisfaction of the Owner within seven (7) days from the date of receipt of such notice, or having commenced fails to prosecute such Work with diligence, the Owner may employ other persons to make said repairs, correction or replacements, and charge the costs, including compensation for additional professional services, to the Contractor.

2. The Contractor's guarantee under this clause, 6.19B, is in addition to the Contractor's express or implied warranties under this Agreement and State law and in no way diminish any other rights that the Owner may have against the Contractor.

SC-16.19C. and D.

Renumber 6.19B. and 6.19C. of the General Conditions to read 6.19C. and 6.19D.

SC-6.19D.

Add the following new paragraph immediately after paragraph 6.19D. of the General Conditions which is to read as follows:

E. Manufacturer's Guaranty/Warranty

1. The Contractor shall obtain the following guaranty/warranty from the manufacturer of all major pieces of equipment furnished and installed on this Project. Such guaranty/warranty shall be for the benefit of Owner and be furnished in writing by the manufacturer. The Contractor's and manufacturer's obligations under this provision are in addition to other express or implied warranties under the Contract Documents and under the law and in no way diminish any other right that the Owner may have against the Contractor or manufacturer for faulty material, equipment or work. The warranty period shall not be interpreted as a limitation on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.

2. The manufacturer warrants and guarantees for a period of one year from the date of Substantial Completion, or such longer period that may be specified in the Contract Documents, that all materials and equipment furnished and installed shall be free from flaws, defects in material and workmanship and shall be in conformance with the Contract Documents.

SC-6.20A.

Delete paragraph 6.20A of the General Conditions in its entirety and replace with the following:

A. The contractor shall compensate the Owner for all damage to Town property of any nature arising out of the Contractor's work. To the fullest extent permitted by law, the Contractor shall indemnify, defend and hold harmless the Owner, the Engineer and all of their officers, employees, boards, commissions, committees, agents and representatives from and against all claims causes of actions, suits, costs, damages and liability of any kind which arise out of the breach by the Contractor of its obligation under this Contract, or the act or omission of the Contractor, its subcontractors, or their officers, employees, agents and representatives or anyone employees or indirectly employed by them, or anyone for whose acts or omissions they may be liable, regarding the work to be performed by the Contractor under this Contract, or which arise under any violation of any Federal, Massachusetts or local statute, by-law, rule, regulation, order or directive, or which relate to personal injury or property damage suffered by the Contractor or any of its officers or employees regarding the subject matter of this Contract. Said costs shall include, without limitation, reasonable legal costs, collections fees, and counsel fees incurred in defending any claim or suit that may be brought against the Owner or the Engineer and any judgement that may be obtained in any such claim or suit.

Neither the Owner, nor the Engineer, nor any of the Owner's or Engineer's officers, employees, boards, commissions, committees, agents and representatives, shall be under any personal obligation or incur and personal liability by reason of this Contract, the execution thereof or anything relating thereto which arises out of the breach or violation of any provision of this Contract, or the violation of any Federal, Massachusetts, or local by-law, rule, regulation, order or directive, or which relates to the personal injury or property damage suffered by the Contractor or its employees, regarding the subject matter of this Contract.

SC-6.20C.

Delete paragraphs 6.20C, C.1 and C.2 of the General Conditions in their entirety.

SC-6.21E

Delete paragraph 6.21E of the General Conditions in its entirety and replace with the following:

E. Contractor shall not be responsible for the adequacy of the performance criteria or design criteria contained in the Contract Documents.

SC-6.21E.

Add the following new paragraph immediately after paragraph 6.21E. of the General Conditions which is to read as follows:

SC-6.22 Definitions; Contract Provisions; Management and Financial Statements; Enforcement

A. Contractor shall comply with all applicable provisions of Chapter 30, Section 39R of the Massachusetts General Laws regarding Contractor's records which is included in Part II of the Supplementary Conditions.

ARTICLE 7. OTHER WORK

SC-7.03C.

Add the following new paragraph immediately after paragraph 7.03C. of the General Conditions which is to read as follows:

7.04 Damage to Other Contractor's Property

A. Should Contractor cause damage to the work or property of any separate contractor at the site, or should any claim arising out of Contractor's performance of the Work at the site be made by any separate contractor against Contractor, Owner, Engineer, Engineer's Consultants, the Construction Coordinator or any other person, Contractor shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by arbitration or at law. Contractor shall, to the fullest extent permitted by Laws and Regulations, defend, indemnify and hold Owner, Engineer, Engineer's Consultants and the Construction Coordinator harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals, and court and arbitration or mediation costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any separate contractor against Owner, Engineer, Engineer's Consultants or the Construction Coordinator to the extent based on a claim arising out of Contractor's performance of the Work. Should a separate contractor cause damage to the Work or property of Contractor or should the performance of work by any separate contractor at the site give rise to any other claim, Contractor shall not institute any action, legal or equitable, against Owner, Engineer, Engineer's Consultants or the Construction Coordinator or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from Owner, Engineer, Engineer's Consultants or the Construction Coordinator on account of any such damage or claim. If Contractor is delayed at any time in performing or furnishing Work by any act or neglect of a separate contractor and Owner and Contractor are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, Contractor may make a claim for an extension of times in accordance with Article 12. An extension of the Contract Times shall be Contractor's exclusive

remedy with respect to Owner, Engineer, Engineer's Consultants and Construction Coordinator for any delay, disruption, interference or hindrance caused by any separate contractor. This paragraph does not prevent recovery from Owner, Engineer, Engineer's Consultant or Construction Coordinator for activities that are their respective responsibilities.

ARTICLE 8. OWNER'S RESPONSIBILITIES

SC-8.06

Delete paragraph 8.06 of the General Conditions in its entirety.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

SC-9.03A.

Add the following new paragraph immediately after paragraph 9.03A of the General Conditions which is to read as follows:

B. Engineer will furnish a Resident Project Representative and assistants to assist Engineer in observing the performance of the Work.

ARTICLE 11 - COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

SC-11.01A.1.

Delete the second sentence in paragraph 11.01A.1. of the General Conditions in its entirety and replace with the following:

Such employees shall include foremen at the site.

SC-11.01A.1.

Add the following new paragraph immediately after paragraph 11.01A.1. of the General Conditions which is to read as follows:

a. Contractor shall establish, in the Agreement, the Direct Labor Cost percentage. This percentage, where approved by Owner, will be used in the determination of the Direct Labor Cost listed in the Change Order Form included in Part II of the Supplementary Conditions. The Direct Labor Costs are defined to include social security contributions, unemployment, excise and payroll taxes, workers' and workmen's compensation, health and retirement benefits, sick leave, vacation and holiday pay, and cost of premiums for all additional insurance required because of changes in the Work.

SC-11.02A.

Delete paragraphs 11.02A. thru D. of the General Conditions in their entirety.

SC-11.03D.

Delete paragraph 11.03D. of the General Conditions in its entirety and replace with the following:

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIME

SC-12.01C.2.b.

In the second line of paragraph 12.01C.2.b, before the semicolon add the following words "based on subcontractor's Cost of the Work";

Delete "five percent" in paragraph 12.01C.2.b of the General Conditions and replace with "seven and one-half percent."

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

SC-13.05A.

Add the following new paragraph immediately after paragraph 13.05A. of the General Conditions to read as follows:

B. If Owner stops Work under Paragraph 13.05A. Contractor shall not be entitled to any extension of Contract Time or increase in Contract Price.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

SC-14.02A.3.

Add the following new paragraph immediately after paragraph 14.02A.3 of the General Conditions which is to read as follows:

4. Contractor shall furnish evidence that payment received on the basis of materials and equipment not incorporated and suitably stored, has in fact been paid to the respective supplier(s) within sixty days of payment by Owner. Failure to provide such evidence of payment may result in the withdrawal of previous approval(s) and removal of the cost of related materials and equipment from the next submitted Application for Payment.

SC-14.02B.1

Delete paragraph 14.02B.1. of the General Condition in its entirety and replace with the following:

1. Progress Payments will be made in accordance with Massachusetts General Law Chapter 30, Section 39G, which is included in PART II of these Supplementary Conditions.

SC-14.03A.

Add the following new paragraphs immediately after paragraph 14.03A of the General Conditions which are to read as follows:

B. No materials or supplies for the Work shall be purchased by Contractor or Subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. Contractor warrants that Contractor has good title to all materials and supplies used by Contractor in the Work, free from all liens, claims or encumbrances.

C. Contractor shall defend, indemnify and save Owner and Engineer harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this Contract. Contractor shall at Owner's request, furnish satisfactory evidence that all obligations of the nature hereinabove designated have been paid, discharged, or waived. If Contractor fails to do so, then Owner may, after having served written notice on the said Contractor either pay unpaid bills, of which Owner has written notice, direct, or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to Contractor shall be resumed, in accordance with the terms of this Contract, but in no event shall the provisions of this sentence be construed to impose any obligations upon Owner to either Contractor or Contractor's Surety. In paying any unpaid bills of the Contractor, Owner shall be deemed the agent of Contractor and any payment so made by Owner shall be considered as payment made under the Contract by Owner to Contractor and Owner shall not be liable to Contractor for any such payment made in good faith.

SC-14.07B.1.

Delete paragraph 14.07B.1. of the General Conditions in its entirety and replace with the following:

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation - all as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will indicate in writing Engineer's recommendation of payment and present the Application to Owner for payment. Thereupon Engineer will give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of paragraph 14.09. Otherwise, Engineer will return the Application to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application. If the Application and accompanying documentation are appropriate as to form and substance, Owner shall in accordance with the applicable Massachusetts General Law, pay Contractor the amount recommended by Engineer.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION SC-

15.01A.

Delete paragraph 15.01A. of the General Conditions in its entirety and replace with the following:

A. Owner may order, at any time and without cause, suspension of the Work in accordance with Massachusetts General Law Chapter 30, Section 39O, which is included in Part II of the Supplementary Conditions.

SC-15.02A.4.

Add the following new paragraph immediately after paragraph 15.02.A.4 of the General Conditions which is to read as follows:

5. If Contractor abandons the Work, or sublets this Contract or any part thereof, without the previous written consent of Owner, or if the Contract or any claim thereunder shall be assigned by Contractor otherwise than as herein specified;

ARTICLE 16 - DISPUTE RESOLUTION SC-

16.01A

Delete the paragraph 16.01A of the General Conditions in its entirety and replace with the following:

Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 when such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of this Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract.

SC-16.01C.3.

Add a new paragraph immediately after paragraph 16.01C.3. of the General Conditions which is to read as follows:

D. Contractor shall carry on the Work and maintain the progress schedule during the dispute resolution proceedings, unless otherwise agreed by Contractor and Owner in writing.

ARTICLE 17 - MISCELLANEOUS SC-

17.06

Add the following new paragraphs immediately after paragraph 17.06 of the General Conditions which are to read as follows:

17.07 Addresses

A. Both the address given in the Bid Form upon which this Agreement is founded, and Contractor's office at or near the site of the Work are hereby designated as places to either of which notices, letters, and other communications to Contractor shall be certified, mailed, or delivered. The delivering at the above named place, or depositing in a postpaid wrapper directed to the first-named place, in any post office box regularly maintained by the post office department, of any notice, letter or other communication to Contractor shall be deemed sufficient service thereof upon Contractor; and the date of said service shall be the date of such delivery or mailing. The first-named address may be changed at any time by an instrument in writing, executed and acknowledged by Contractor, and delivered to Owner and Engineer. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter, or other communication upon Contractor personally.

17.08 Wage Rates

A. The requirements and provisions of all applicable laws and any amendments thereof or additions thereto as to the employment of labor, and to the schedule of minimum wage rates established in compliance with laws shall be a part of these Contract Documents. Copies of the wage schedules are included in PART II of these Supplementary Conditions. If, after the Notice of Award, it becomes necessary to employ any person in a trade or occupation not classified in the wage determinations, such person shall be paid at not less than such rates as shall be determined by the officials administering the laws mentioned above. Such approved minimum rate shall be retroactive to the time of the initial employment of such person in such trade or occupation. Contractor shall notify Owner of Contractor's intention to employ persons in trades or occupations not classified in sufficient time for Owner to obtain approved rates for such trades or occupations.

B. The schedules of wages referred to above are minimum rates only, and Owner will not consider any claims for additional compensation made by Contractor because of payment by Contractor of any wage rate in excess

of the applicable rate contained in these Contract Documents. All disputes between Contractor and employees of Contractor in regard to the payment of wages in excess of these specified in the schedules shall be resolved by Contractor.

C. The said schedules of wages shall continue to be the minimum rates to be paid during the life of this Agreement and a legible copy of said schedules shall be kept posted in a conspicuous place at the site of the work.

D. Both Federal and State schedules of minimum wage rates are included in PART II of these Supplementary Conditions. Where rates differ, the higher rates shall apply as a minimum for that trade. PART

II FEDERAL, STATE AND LOCAL GOVERNMENT PROVISIONS

Federal, State and Local Government Provisions included herein, have been selected from those to which specific references have been made elsewhere in the Contract Documents. Each and every other provision of law or clause required by law to be inserted in this Contract shall be deemed to be also inserted herein in accordance with paragraph 3.01D of the Supplementary Conditions.

1.0. FEDERAL GOVERNMENT PROVISIONS

1.1. Federal Wage Rates

1.2. Disadvantaged Business Enterprise Program – DBE Subcontractor Participation Form (1 Page)

2.0. COMMONWEALTH OF MASSACHUSETTS PROVISIONS

2.1. Owner and Contractor agree that the following Commonwealth of Massachusetts Provisions apply to the work to be performed under this Contract and that these provisions supersede any conflicting provisions of this Contract.

2.2. Applicable provisions of Massachusetts General Laws and Regulations and/or the United States Code and Code of Federal Regulations govern this Contract and any provision in violation of the foregoing shall be deemed null, void and of no effect. Where conflict between Code of Federal Regulations and State Laws and Regulations exist, the more stringent requirement shall apply.

2.3. Special Provisions for Disadvantaged Business Enterprises - Massachusetts Department of Environmental Protection, Division of Municipal Services.

2.4. Massachusetts General Laws

2.4.1. Chapter 30, Section 39F (5 Pages)

2.4.2. Chapter 30, Section 39G (3 Pages)

2.4.3. Chapter 30, Section 39I (1 Page)

2.4.4. Chapter 30, Section 39J (1 Page)

2.4.5. Chapter 30, Section 39L (1 Page)

2.4.6. Chapter 30, Section 39M (3 Pages)

2.4.7. Chapter 30, Section 39N (1 Page)

- 2.4.8. Chapter 30, Section 39O (2 Pages)
- 2.4.9. Chapter 30, Section 39P (1 Page)
- 2.4.10. Chapter 30, Section 39Q (2 Pages)
- 2.4.11. Chapter 30, Section 39R (4 Pages)
- 2.4.12. Chapter 30, Section 39S (2 Pages)
- 2.4.13. Chapter 82, Sections 40 and 40A through 40E (7 Pages)
- 2.4.14. Chapter 82A, Section 1 (2 Pages)
- 2.4.15. Chapter 149, Sections 26 and 27A through 27H (17 Pages)
- 2.4.16. Chapter 149, Section 34 (2 Pages)
- 2.4.17. Chapter 149, Section 44J (2 Pages)
- 2.5. State Wage Rates
- 2.6. Diesel Retrofit Requirements
- 2.7. Massachusetts Construction Grants Policy Memoranda (Currently 16 Memoranda).
- 2.8. Department of Environmental Protection Policy for Review of Sewer Line/Water Supply Protection.



MAURA HEALEY
Governor

KIM DRISCOLL
Lt. Governor

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

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

LAUREN JONES
Secretary

MICHAEL FLANAGAN
Director

Awarding Authority: Town of Athol
Contract Number: **City/Town:** ATHOL
Description of Work: Replacement of reinforced concrete bridge deck, replacement of sidewalk beams with precast concrete beams, new concrete sidewalk, new bridge rails, and associated components.
Job Location: 104 Crescent Street, Athol, MA

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.

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2025	\$39.95	\$15.57	\$20.17	\$0.00	\$75.69
	06/01/2025	\$40.95	\$15.57	\$20.17	\$0.00	\$76.69
	12/01/2025	\$40.95	\$15.57	\$21.78	\$0.00	\$78.30
	01/01/2026	\$40.95	\$16.17	\$21.78	\$0.00	\$78.90
	06/01/2026	\$41.95	\$16.17	\$21.78	\$0.00	\$79.90
	12/01/2026	\$41.95	\$16.17	\$23.52	\$0.00	\$81.64
	01/01/2027	\$41.95	\$16.77	\$23.52	\$0.00	\$82.24
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2025	\$40.02	\$15.57	\$20.17	\$0.00	\$75.76
	06/01/2025	\$41.02	\$15.57	\$20.17	\$0.00	\$76.76
	12/01/2025	\$41.02	\$15.57	\$21.78	\$0.00	\$78.37
	01/01/2026	\$41.02	\$16.17	\$21.78	\$0.00	\$78.97
	06/01/2026	\$42.02	\$16.17	\$21.78	\$0.00	\$79.97
	12/01/2026	\$42.02	\$16.17	\$23.52	\$0.00	\$81.71
	01/01/2027	\$42.02	\$16.77	\$23.52	\$0.00	\$82.31
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2025	\$40.14	\$15.57	\$20.17	\$0.00	\$75.88
	06/01/2025	\$41.14	\$15.57	\$20.17	\$0.00	\$76.88
	12/01/2025	\$41.14	\$15.57	\$21.78	\$0.00	\$78.49
	01/01/2026	\$41.14	\$16.17	\$21.78	\$0.00	\$79.09
	06/01/2026	\$42.14	\$16.17	\$21.78	\$0.00	\$80.09
	12/01/2026	\$42.14	\$16.17	\$23.52	\$0.00	\$81.83
	01/01/2027	\$42.14	\$16.77	\$23.52	\$0.00	\$82.43
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2024	\$117.16	\$10.08	\$24.29	\$0.00	\$151.53
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.61	\$9.65	\$17.70	\$0.00	\$67.96
	06/01/2025	\$42.00	\$9.65	\$17.70	\$0.00	\$69.35
	12/01/2025	\$43.38	\$9.65	\$17.70	\$0.00	\$70.73
	06/01/2026	\$44.82	\$9.65	\$17.70	\$0.00	\$72.17
	12/01/2026	\$46.26	\$9.65	\$17.70	\$0.00	\$73.61
	06/01/2027	\$47.71	\$9.65	\$17.70	\$0.00	\$75.06
	12/01/2027	\$49.16	\$9.65	\$17.70	\$0.00	\$76.51
	06/01/2028	\$50.66	\$9.65	\$17.70	\$0.00	\$78.01
	12/01/2028	\$52.16	\$9.65	\$17.70	\$0.00	\$79.51
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.61	\$9.65	\$17.80	\$0.00	\$68.06
	06/01/2025	\$42.00	\$9.65	\$17.80	\$0.00	\$69.45
	12/01/2025	\$43.38	\$9.65	\$17.80	\$0.00	\$70.83
	06/01/2026	\$44.82	\$9.65	\$17.80	\$0.00	\$72.27
	12/01/2026	\$46.26	\$9.65	\$17.80	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASBESTOS WORKER (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (WORCESTER)</i>	12/01/2024	\$42.80	\$14.50	\$11.05	\$0.00	\$68.35
	06/01/2025	\$43.80	\$14.50	\$11.05	\$0.00	\$69.35
	12/01/2025	\$44.80	\$14.50	\$11.05	\$0.00	\$70.35

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ASPHALT RAKER <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
AUTOMATIC GRADER-EXCAVATOR (RECLAIMER) <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2023	\$39.56	\$13.78	\$15.15	\$0.00	\$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER OPERATOR <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2023	\$39.56	\$13.78	\$15.15	\$0.00	\$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						
BATCH/CEMENT PLANT - ON SITE <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2023	\$39.03	\$13.78	\$15.15	\$0.00	\$67.96
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.61	\$9.65	\$17.70	\$0.00	\$67.96
	06/01/2025	\$42.00	\$9.65	\$17.70	\$0.00	\$69.35
	12/01/2025	\$43.38	\$9.65	\$17.70	\$0.00	\$70.73
	06/01/2026	\$44.82	\$9.65	\$17.70	\$0.00	\$72.17
	12/01/2026	\$46.26	\$9.65	\$17.70	\$0.00	\$73.61
	06/01/2027	\$47.71	\$9.65	\$17.70	\$0.00	\$75.06
	12/01/2027	\$49.16	\$9.65	\$17.70	\$0.00	\$76.51
	06/01/2028	\$50.66	\$9.65	\$17.70	\$0.00	\$78.01
	12/01/2028	\$52.16	\$9.65	\$17.70	\$0.00	\$79.51
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY)	12/01/2024	\$40.61	\$9.65	\$17.80	\$0.00	\$68.06
<i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2025	\$42.00	\$9.65	\$17.80	\$0.00	\$69.45
	12/01/2025	\$43.38	\$9.65	\$17.80	\$0.00	\$70.83
	06/01/2026	\$44.82	\$9.65	\$17.80	\$0.00	\$72.27
	12/01/2026	\$46.26	\$9.65	\$17.80	\$0.00	\$73.71

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

BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2024	\$48.12	\$7.07	\$20.60	\$0.00	\$75.79
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Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2024

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

Notes:

Apprentice to Journeyworker Ratio:1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	02/01/2025	\$63.66	\$11.49	\$22.90	\$0.00	\$98.05
<i>BRICKLAYERS LOCAL 3 (LOWELL)</i>	08/01/2025	\$65.81	\$11.49	\$22.90	\$0.00	\$100.20
	02/01/2026	\$67.16	\$11.49	\$22.90	\$0.00	\$101.55
	08/01/2026	\$69.36	\$11.49	\$22.90	\$0.00	\$103.75
	02/01/2027	\$70.76	\$11.49	\$22.90	\$0.00	\$105.15

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.83	\$11.49	\$22.90	\$0.00	\$66.22
2	60	\$38.20	\$11.49	\$22.90	\$0.00	\$72.59
3	70	\$44.56	\$11.49	\$22.90	\$0.00	\$78.95
4	80	\$50.93	\$11.49	\$22.90	\$0.00	\$85.32
5	90	\$57.29	\$11.49	\$22.90	\$0.00	\$91.68

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.91	\$11.49	\$22.90	\$0.00	\$67.30
2	60	\$39.49	\$11.49	\$22.90	\$0.00	\$73.88
3	70	\$46.07	\$11.49	\$22.90	\$0.00	\$80.46
4	80	\$52.65	\$11.49	\$22.90	\$0.00	\$87.04
5	90	\$59.23	\$11.49	\$22.90	\$0.00	\$93.62

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/POWER SHOVEL/TREE SHREDDER /CLAM SHELL OPERATING	12/01/2023	\$39.56	\$13.78	\$15.15	\$0.00	\$68.49
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ENGINEERS LOCAL 98

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN LABORERS - FOUNDATION AND MARINE	12/01/2024	\$48.10	\$9.65	\$18.22	\$0.00	\$75.97
	06/01/2025	\$49.60	\$9.65	\$18.22	\$0.00	\$77.47
	12/01/2025	\$51.10	\$9.65	\$18.22	\$0.00	\$78.97
	06/01/2026	\$52.65	\$9.65	\$18.22	\$0.00	\$80.52
	12/01/2026	\$54.15	\$9.65	\$18.22	\$0.00	\$82.02

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING LABORER LABORERS - FOUNDATION AND MARINE	12/01/2024	\$46.95	\$9.65	\$18.22	\$0.00	\$74.82
	06/01/2025	\$48.45	\$9.65	\$18.22	\$0.00	\$76.32
	12/01/2025	\$49.95	\$9.65	\$18.22	\$0.00	\$77.82
	06/01/2026	\$51.50	\$9.65	\$18.22	\$0.00	\$79.37
	12/01/2026	\$53.00	\$9.65	\$18.22	\$0.00	\$80.87

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING TOP MAN LABORERS - FOUNDATION AND MARINE	12/01/2024	\$47.28	\$9.65	\$18.22	\$0.00	\$75.15
	06/01/2025	\$48.78	\$9.65	\$18.22	\$0.00	\$76.65
	12/01/2025	\$50.28	\$9.65	\$18.22	\$0.00	\$78.15
	06/01/2026	\$51.83	\$9.65	\$18.22	\$0.00	\$79.70
	12/01/2026	\$53.33	\$9.65	\$18.22	\$0.00	\$81.20

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01

For apprentice rates see "Apprentice- LABORER"

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

Apprentice - CARPENTER - Zone 2 Eastern MA

Effective Date - 09/01/2024

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

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$22.33	\$9.83	\$1.73	\$0.00	\$33.89
2	45	\$22.33	\$9.83	\$1.73	\$0.00	\$33.89
3	55	\$27.29	\$9.83	\$3.40	\$0.00	\$40.52
4	55	\$27.29	\$9.83	\$3.40	\$0.00	\$40.52
5	70	\$34.73	\$9.83	\$16.51	\$0.00	\$61.07
6	70	\$34.73	\$9.83	\$16.51	\$0.00	\$61.07
7	80	\$39.70	\$9.83	\$18.24	\$0.00	\$67.77
8	80	\$39.70	\$9.83	\$18.24	\$0.00	\$67.77

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARPENTER WOOD FRAME <i>CARPENTERS-ZONE 3 (Wood Frame)</i>	10/01/2024	\$26.65	\$7.02	\$4.80	\$0.00	\$38.47
	10/01/2025	\$27.75	\$7.02	\$4.80	\$0.00	\$39.57
	10/01/2026	\$28.85	\$7.02	\$4.80	\$0.00	\$40.67

All Aspects of New Wood Frame Work

Apprentice - CARPENTER (Wood Frame) - Zone 3

Effective Date - 10/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$15.99	\$7.02	\$0.00	\$0.00	\$23.01
2	60	\$15.99	\$7.02	\$0.00	\$0.00	\$23.01
3	65	\$17.32	\$7.02	\$1.00	\$0.00	\$25.34
4	70	\$18.66	\$7.02	\$1.00	\$0.00	\$26.68
5	75	\$19.99	\$7.02	\$4.80	\$0.00	\$31.81
6	80	\$21.32	\$7.02	\$4.80	\$0.00	\$33.14
7	85	\$22.65	\$7.02	\$4.80	\$0.00	\$34.47
8	90	\$23.99	\$7.02	\$4.80	\$0.00	\$35.81

Effective Date - 10/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$16.65	\$7.02	\$0.00	\$0.00	\$23.67
2	60	\$16.65	\$7.02	\$0.00	\$0.00	\$23.67
3	65	\$18.04	\$7.02	\$1.00	\$0.00	\$26.06
4	70	\$19.43	\$7.02	\$1.00	\$0.00	\$27.45
5	75	\$20.81	\$7.02	\$4.80	\$0.00	\$32.63
6	80	\$22.20	\$7.02	\$4.80	\$0.00	\$34.02
7	85	\$23.59	\$7.02	\$4.80	\$0.00	\$35.41
8	90	\$24.98	\$7.02	\$4.80	\$0.00	\$36.80

Notes:

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING <i>BRICKLAYERS LOCAL 3 (LOWELL)</i>	07/01/2024	\$49.19	\$13.35	\$24.21	\$1.80	\$88.55
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Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CEMENT MASONRY/PLASTERING - Lowell

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.60	\$13.35	\$16.43	\$0.00	\$54.38
2	60	\$29.51	\$13.35	\$19.21	\$1.80	\$63.87
3	65	\$31.97	\$13.35	\$20.21	\$1.80	\$67.33
4	70	\$34.43	\$13.35	\$21.21	\$1.80	\$70.79
5	75	\$36.89	\$13.35	\$22.21	\$1.80	\$74.25
6	80	\$39.35	\$13.35	\$23.21	\$1.80	\$77.71
7	90	\$44.27	\$13.35	\$24.21	\$1.80	\$83.63

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

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01

For apprentice rates see "Apprentice- LABORER"

COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2023	\$39.03	\$13.78	\$15.15	\$0.00	\$67.96
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CRANE OPERATOR <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2023	\$43.06	\$13.78	\$15.15	\$0.00	\$71.99
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36
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Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$29.23	\$9.95	\$0.00	\$0.00	\$39.18
2	55	\$32.15	\$9.95	\$6.66	\$0.00	\$48.76
3	60	\$35.08	\$9.95	\$7.26	\$0.00	\$52.29
4	65	\$38.00	\$9.95	\$7.87	\$0.00	\$55.82
5	70	\$40.92	\$9.95	\$20.32	\$0.00	\$71.19
6	75	\$43.85	\$9.95	\$20.93	\$0.00	\$74.73
7	80	\$46.77	\$9.95	\$21.53	\$0.00	\$78.25
8	90	\$52.61	\$9.95	\$22.74	\$0.00	\$85.30

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN LABORERS - ZONE 2	12/02/2024	\$47.00	\$9.65	\$18.40	\$0.00	\$75.05
	06/02/2025	\$48.50	\$9.65	\$18.40	\$0.00	\$76.55
	12/01/2025	\$50.00	\$9.65	\$18.40	\$0.00	\$78.05
	06/01/2026	\$51.55	\$9.65	\$18.40	\$0.00	\$79.60
	12/07/2026	\$53.05	\$9.65	\$18.40	\$0.00	\$81.10
	06/07/2027	\$54.65	\$9.65	\$18.40	\$0.00	\$82.70
	12/06/2027	\$56.25	\$9.65	\$18.40	\$0.00	\$84.30
	06/05/2028	\$57.93	\$9.65	\$18.40	\$0.00	\$85.98
	12/04/2028	\$59.60	\$9.65	\$18.40	\$0.00	\$87.65

For apprentice rates see "Apprentice- LABORER"

DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS - ZONE 2	12/02/2024	\$48.00	\$9.65	\$18.40	\$0.00	\$76.05
	06/02/2025	\$49.50	\$9.65	\$18.40	\$0.00	\$77.55
	12/01/2025	\$51.00	\$9.65	\$18.40	\$0.00	\$79.05
	06/01/2026	\$52.55	\$9.65	\$18.40	\$0.00	\$80.60
	12/07/2026	\$54.05	\$9.65	\$18.40	\$0.00	\$82.10
	06/07/2027	\$55.65	\$9.65	\$18.40	\$0.00	\$83.70
	12/06/2027	\$57.25	\$9.65	\$18.40	\$0.00	\$85.30
	06/05/2028	\$58.93	\$9.65	\$18.40	\$0.00	\$86.98
	12/04/2028	\$60.60	\$9.65	\$18.40	\$0.00	\$88.65

For apprentice rates see "Apprentice- LABORER"

DEMO: BURNERS LABORERS - ZONE 2	12/02/2024	\$47.75	\$9.65	\$18.40	\$0.00	\$75.80
	06/02/2025	\$49.25	\$9.65	\$18.40	\$0.00	\$77.30
	12/01/2025	\$50.75	\$9.65	\$18.40	\$0.00	\$78.80
	06/01/2026	\$52.30	\$9.65	\$18.40	\$0.00	\$80.35
	12/07/2026	\$53.80	\$9.65	\$18.40	\$0.00	\$81.85
	06/07/2027	\$55.40	\$9.65	\$18.40	\$0.00	\$83.45
	12/06/2027	\$57.00	\$9.65	\$18.40	\$0.00	\$85.05
	06/05/2028	\$58.68	\$9.65	\$18.40	\$0.00	\$86.73
	12/04/2028	\$60.35	\$9.65	\$18.40	\$0.00	\$88.40

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER LABORERS - ZONE 2	12/02/2024	\$48.00	\$9.65	\$18.40	\$0.00	\$76.05
	06/02/2025	\$49.50	\$9.65	\$18.40	\$0.00	\$77.55
	12/01/2025	\$51.00	\$9.65	\$18.40	\$0.00	\$79.05
	06/01/2026	\$52.55	\$9.65	\$18.40	\$0.00	\$80.60
	12/07/2026	\$54.05	\$9.65	\$18.40	\$0.00	\$82.10
	06/07/2027	\$55.65	\$9.65	\$18.40	\$0.00	\$83.70
	12/06/2027	\$57.25	\$9.65	\$18.40	\$0.00	\$85.30
	06/05/2028	\$58.93	\$9.65	\$18.40	\$0.00	\$86.98
	12/04/2028	\$60.60	\$9.65	\$18.40	\$0.00	\$88.65
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR LABORERS - ZONE 2	12/02/2024	\$47.75	\$9.65	\$18.40	\$0.00	\$75.80
	06/02/2025	\$49.25	\$9.65	\$18.40	\$0.00	\$77.30
	12/01/2025	\$50.75	\$9.65	\$18.40	\$0.00	\$78.80
	06/01/2026	\$52.30	\$9.65	\$18.40	\$0.00	\$80.35
	12/07/2026	\$53.80	\$9.65	\$18.40	\$0.00	\$81.85
	06/07/2027	\$55.40	\$9.65	\$18.40	\$0.00	\$83.45
	12/06/2027	\$57.00	\$9.65	\$18.40	\$0.00	\$85.05
	06/05/2028	\$58.68	\$9.65	\$18.40	\$0.00	\$86.73
	12/04/2028	\$60.35	\$9.65	\$18.40	\$0.00	\$88.40
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER LABORERS - ZONE 2	12/02/2024	\$47.00	\$9.65	\$18.40	\$0.00	\$75.05
	06/02/2025	\$48.50	\$9.65	\$18.40	\$0.00	\$76.55
	12/01/2025	\$50.00	\$9.65	\$18.40	\$0.00	\$78.05
	06/01/2026	\$51.55	\$9.65	\$18.40	\$0.00	\$79.60
	12/07/2026	\$53.05	\$9.65	\$18.40	\$0.00	\$81.10
	06/07/2027	\$54.65	\$9.65	\$18.40	\$0.00	\$82.70
	12/06/2027	\$56.25	\$9.65	\$18.40	\$0.00	\$84.30
	06/05/2028	\$57.93	\$9.65	\$18.40	\$0.00	\$85.98
	12/04/2028	\$59.60	\$9.65	\$18.40	\$0.00	\$87.65
For apprentice rates see "Apprentice- LABORER"						
DIVER PILE DRIVER LOCAL 56 (ZONE 2)	08/01/2024	\$78.11	\$10.08	\$24.29	\$0.00	\$112.48
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 (ZONE 2)	08/01/2024	\$51.97	\$10.08	\$24.29	\$0.00	\$86.34
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 (ZONE 2)	08/01/2024	\$83.69	\$10.08	\$24.29	\$0.00	\$118.06
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) PILE DRIVER LOCAL 56 (ZONE 2)	08/01/2024	\$117.16	\$10.08	\$24.29	\$0.00	\$151.53
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) DRAWBRIDGE - SEIU LOCAL 888	07/01/2020	\$26.77	\$6.67	\$3.93	\$0.16	\$37.53

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ELECTRICIAN <i>ELECTRICIANS LOCAL 96</i>	09/01/2024	\$47.05	\$13.99	\$19.22	\$0.00	\$80.26
	09/07/2025	\$48.16	\$14.98	\$19.60	\$0.00	\$82.74
	09/06/2026	\$49.38	\$15.96	\$20.00	\$0.00	\$85.34

Apprentice - ELECTRICIAN - Local 96

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.82	\$13.99	\$0.56	\$0.00	\$33.37
2	45	\$21.17	\$13.99	\$0.64	\$0.00	\$35.80
3	48	\$22.58	\$13.99	\$15.79	\$0.00	\$52.36
4	55	\$25.88	\$13.99	\$16.26	\$0.00	\$56.13
5	65	\$30.58	\$13.99	\$16.91	\$0.00	\$61.48
6	80	\$37.64	\$13.99	\$17.90	\$0.00	\$69.53

Effective Date - 09/07/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.26	\$14.98	\$0.58	\$0.00	\$34.82
2	45	\$21.67	\$14.98	\$0.65	\$0.00	\$37.30
3	48	\$23.12	\$14.98	\$16.09	\$0.00	\$54.19
4	55	\$26.49	\$14.98	\$16.57	\$0.00	\$58.04
5	65	\$31.30	\$14.98	\$17.25	\$0.00	\$63.53
6	80	\$38.53	\$14.98	\$18.26	\$0.00	\$71.77

Notes:

Steps 1-2 are 1000 hrs; Steps 3-6 are 1500 hrs.

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR <i>ELEVATOR CONSTRUCTORS LOCAL 41</i>	01/01/2025	\$62.83	\$16.28	\$21.36	\$0.00	\$100.47
	01/01/2026	\$63.68	\$16.38	\$21.76	\$0.00	\$101.82
	01/01/2027	\$64.53	\$16.48	\$22.16	\$0.00	\$103.17

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELEVATOR CONSTRUCTOR - Local 41

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.42	\$16.28	\$0.00	\$0.00	\$47.70
2	55	\$34.56	\$16.28	\$21.36	\$0.00	\$72.20
3	65	\$40.84	\$16.28	\$21.36	\$0.00	\$78.48
4	70	\$43.98	\$16.28	\$21.36	\$0.00	\$81.62
5	80	\$50.26	\$16.28	\$21.36	\$0.00	\$87.90

Effective Date - 01/01/2026

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.84	\$16.38	\$0.00	\$0.00	\$48.22
2	55	\$35.02	\$16.38	\$21.76	\$0.00	\$73.16
3	65	\$41.39	\$16.38	\$21.76	\$0.00	\$79.53
4	70	\$44.58	\$16.38	\$21.76	\$0.00	\$82.72
5	80	\$50.94	\$16.38	\$21.76	\$0.00	\$89.08

Notes:
Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 41</i>	01/01/2025	\$43.98	\$16.28	\$21.36	\$0.00	\$81.62
	01/01/2026	\$44.58	\$16.38	\$21.76	\$0.00	\$82.72
	01/01/2027	\$45.17	\$16.48	\$22.16	\$0.00	\$83.81
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FIELD ENG.INST/ROD-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 98</i>	06/01/1999	\$18.84	\$4.80	\$4.10	\$0.00	\$27.74
FIELD ENG.PARTY CHIEF:BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 98</i>	06/01/1999	\$21.33	\$4.80	\$4.10	\$0.00	\$30.23
FIELD ENG.SURVEY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 98</i>	06/01/1999	\$22.33	\$4.80	\$4.10	\$0.00	\$31.23
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 96</i>	09/01/2024	\$47.05	\$13.99	\$19.22	\$0.00	\$80.26
	09/07/2025	\$48.16	\$14.98	\$19.60	\$0.00	\$82.74
	09/06/2026	\$49.38	\$15.96	\$20.00	\$0.00	\$85.34
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINT/COMMISSIONING <i>ELECTRICIANS LOCAL 96</i>	09/01/2024	\$47.05	\$13.99	\$19.22	\$0.00	\$80.26
	09/07/2025	\$48.16	\$14.98	\$19.60	\$0.00	\$82.74
	09/06/2026	\$49.38	\$15.96	\$20.00	\$0.00	\$85.34
For apprentice rates see "Apprentice- ELECTRICIAN"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIREMAN <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2023	\$39.03	\$13.78	\$15.15	\$0.00	\$67.96

Apprentice - OPERATING ENGINEERS - Local 98 Class 3

Effective Date - 12/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.42	\$13.78	\$15.15	\$0.00	\$52.35
2	70	\$27.32	\$13.78	\$15.15	\$0.00	\$56.25
3	80	\$31.22	\$13.78	\$15.15	\$0.00	\$60.15
4	90	\$35.13	\$13.78	\$15.15	\$0.00	\$64.06

Notes:

Steps 1-2 are 1000 hrs.; Steps 3-4 are 2000 hrs.

Apprentice to Journeyworker Ratio:1:6

FLAGGER & SIGNALER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$27.01	\$9.65	\$17.80	\$0.00	\$54.46
	06/01/2025	\$28.09	\$9.65	\$17.80	\$0.00	\$55.54
	12/01/2025	\$28.09	\$9.65	\$17.80	\$0.00	\$55.54
	06/01/2026	\$29.21	\$9.65	\$17.80	\$0.00	\$56.66
	12/01/2026	\$29.21	\$9.65	\$17.80	\$0.00	\$56.66

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

FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE II</i>	03/01/2024	\$49.47	\$8.83	\$20.27	\$0.00	\$78.57
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Apprentice - FLOORCOVERER - Local 2168 Zone II

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.74	\$8.83	\$1.76	\$0.00	\$35.33
2	55	\$27.21	\$8.83	\$1.76	\$0.00	\$37.80
3	60	\$29.68	\$8.83	\$3.52	\$0.00	\$42.03
4	65	\$32.16	\$8.83	\$3.52	\$0.00	\$44.51
5	70	\$34.63	\$8.83	\$16.75	\$0.00	\$60.21
6	75	\$37.10	\$8.83	\$16.75	\$0.00	\$62.68
7	80	\$39.58	\$8.83	\$18.51	\$0.00	\$66.92
8	85	\$42.05	\$8.83	\$18.51	\$0.00	\$69.39

Notes: Steps are 750 hrs.

% After 10/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)

Step 1&2 \$32.63/ 3&4 \$39.28/ 5&6 \$59.86/ 7&8 \$66.52

Apprentice to Journeyworker Ratio:1:1

FORK LIFT <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2023	\$39.25	\$13.78	\$15.15	\$0.00	\$68.18
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GENERATORS/LIGHTING PLANTS <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2023	\$35.80	\$13.78	\$15.15	\$0.00	\$64.73
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 2)</i>	01/01/2025	\$47.96	\$9.95	\$23.95	\$0.00	\$81.86

Apprentice - GLAZIER - Local 35 Zone 2

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.98	\$9.95	\$0.00	\$0.00	\$33.93
2	55	\$26.38	\$9.95	\$6.66	\$0.00	\$42.99
3	60	\$28.78	\$9.95	\$7.26	\$0.00	\$45.99
4	65	\$31.17	\$9.95	\$7.87	\$0.00	\$48.99
5	70	\$33.57	\$9.95	\$20.32	\$0.00	\$63.84
6	75	\$35.97	\$9.95	\$20.93	\$0.00	\$66.85
7	80	\$38.37	\$9.95	\$21.53	\$0.00	\$69.85
8	90	\$43.16	\$9.95	\$22.74	\$0.00	\$75.85

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

GRADER/TRENCHING MACHINE/DERRICK <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2023	\$39.56	\$13.78	\$15.15	\$0.00	\$68.49
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

HVAC (DUCTWORK) <i>SHEETMETAL WORKERS LOCAL 63</i>	01/01/2025	\$42.23	\$12.20	\$18.74	\$2.13	\$75.30
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For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) <i>ELECTRICIANS LOCAL 96</i>	09/01/2024	\$47.05	\$13.99	\$19.22	\$0.00	\$80.26
	09/07/2025	\$48.16	\$14.98	\$19.60	\$0.00	\$82.74
	09/06/2026	\$49.38	\$15.96	\$20.00	\$0.00	\$85.34

For apprentice rates see "Apprentice- ELECTRICIAN"

HVAC (TESTING AND BALANCING - AIR) <i>SHEETMETAL WORKERS LOCAL 63</i>	01/01/2025	\$42.23	\$12.20	\$18.74	\$2.13	\$75.30
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For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (TESTING AND BALANCING -WATER) <i>PLUMBERS LOCAL 4</i>	09/01/2024	\$55.00	\$9.90	\$17.77	\$0.00	\$82.67
	03/01/2025	\$56.40	\$9.90	\$17.77	\$0.00	\$84.07
	09/01/2025	\$57.80	\$9.90	\$17.77	\$0.00	\$85.47
	03/01/2026	\$59.20	\$9.90	\$17.77	\$0.00	\$86.87

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

HVAC MECHANIC <i>PLUMBERS LOCAL 4</i>	09/01/2024	\$55.00	\$9.90	\$17.77	\$0.00	\$82.67
	03/01/2025	\$56.40	\$9.90	\$17.77	\$0.00	\$84.07
	09/01/2025	\$57.80	\$9.90	\$17.77	\$0.00	\$85.47
	03/01/2026	\$59.20	\$9.90	\$17.77	\$0.00	\$86.87

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HYDRAULIC DRILLS <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.61	\$9.65	\$17.70	\$0.00	\$67.96
	06/01/2025	\$42.00	\$9.65	\$17.70	\$0.00	\$69.35
	12/01/2025	\$43.38	\$9.65	\$17.70	\$0.00	\$70.73
	06/01/2026	\$44.82	\$9.65	\$17.70	\$0.00	\$72.17
	12/01/2026	\$46.26	\$9.65	\$17.70	\$0.00	\$73.61
	06/01/2027	\$47.71	\$9.65	\$17.70	\$0.00	\$75.06
	12/01/2027	\$49.16	\$9.65	\$17.70	\$0.00	\$76.51
	06/01/2028	\$50.66	\$9.65	\$17.70	\$0.00	\$78.01
	12/01/2028	\$52.16	\$9.65	\$17.70	\$0.00	\$79.51

For apprentice rates see "Apprentice- LABORER"

HYDRAULIC DRILLS (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.61	\$9.65	\$17.80	\$0.00	\$68.06
	06/01/2025	\$42.00	\$9.65	\$17.80	\$0.00	\$69.45
	12/01/2025	\$43.38	\$9.65	\$17.80	\$0.00	\$70.83
	06/01/2026	\$44.82	\$9.65	\$17.80	\$0.00	\$72.27
	12/01/2026	\$46.26	\$9.65	\$17.80	\$0.00	\$73.71

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

INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (WORCESTER)</i>	09/01/2024	\$51.23	\$14.75	\$19.61	\$0.00	\$85.59
	09/01/2025	\$54.31	\$14.75	\$19.61	\$0.00	\$88.67
	09/01/2026	\$57.38	\$14.75	\$19.61	\$0.00	\$91.74

Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Worcester

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.62	\$14.75	\$14.32	\$0.00	\$54.69
2	60	\$30.74	\$14.75	\$15.37	\$0.00	\$60.86
3	70	\$35.86	\$14.75	\$16.43	\$0.00	\$67.04
4	80	\$40.98	\$14.75	\$17.49	\$0.00	\$73.22

Effective Date - 09/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.16	\$14.75	\$14.32	\$0.00	\$56.23
2	60	\$32.59	\$14.75	\$15.37	\$0.00	\$62.71
3	70	\$38.02	\$14.75	\$16.43	\$0.00	\$69.20
4	80	\$43.45	\$14.75	\$17.49	\$0.00	\$75.69

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (WORCESTER AREA)</i>	03/16/2024	\$53.67	\$8.35	\$26.70	\$0.00	\$88.72
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Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - IRONWORKER - Local 7 Worcester

Effective Date - 03/16/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$32.20	\$8.35	\$26.70	\$0.00	\$67.25
2	70	\$37.57	\$8.35	\$26.70	\$0.00	\$72.62
3	75	\$40.25	\$8.35	\$26.70	\$0.00	\$75.30
4	80	\$42.94	\$8.35	\$26.70	\$0.00	\$77.99
5	85	\$45.62	\$8.35	\$26.70	\$0.00	\$80.67
6	90	\$48.30	\$8.35	\$26.70	\$0.00	\$83.35

Notes:

Apprentice to Journeyworker Ratio:1:4

JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 2	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01

For apprentice rates see "Apprentice- LABORER"

LABORER LABORERS - ZONE 2	12/01/2024	\$39.86	\$9.65	\$17.70	\$0.00	\$67.21
	06/01/2025	\$41.25	\$9.65	\$17.70	\$0.00	\$68.60
	12/01/2025	\$42.63	\$9.65	\$17.70	\$0.00	\$69.98
	06/01/2026	\$44.07	\$9.65	\$17.70	\$0.00	\$71.42
	12/01/2026	\$45.51	\$9.65	\$17.70	\$0.00	\$72.86
	06/01/2027	\$46.96	\$9.65	\$17.70	\$0.00	\$74.31
	12/01/2027	\$48.41	\$9.65	\$17.70	\$0.00	\$75.76
	06/01/2028	\$49.91	\$9.65	\$17.70	\$0.00	\$77.26
	12/01/2028	\$51.41	\$9.65	\$17.70	\$0.00	\$78.76

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LABORER - Zone 2

Effective Date - 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.92	\$9.65	\$17.70	\$0.00	\$51.27
2	70	\$27.90	\$9.65	\$17.70	\$0.00	\$55.25
3	80	\$31.89	\$9.65	\$17.70	\$0.00	\$59.24
4	90	\$35.87	\$9.65	\$17.70	\$0.00	\$63.22

Effective Date - 06/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$24.75	\$9.65	\$17.70	\$0.00	\$52.10
2	70	\$28.88	\$9.65	\$17.70	\$0.00	\$56.23
3	80	\$33.00	\$9.65	\$17.70	\$0.00	\$60.35
4	90	\$37.13	\$9.65	\$17.70	\$0.00	\$64.48

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER (HEAVY & HIGHWAY)	12/01/2024	\$39.86	\$9.65	\$17.80	\$0.00	\$67.31
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2025	\$41.25	\$9.65	\$17.80	\$0.00	\$68.70
	12/01/2025	\$42.63	\$9.65	\$17.80	\$0.00	\$70.08
	06/01/2026	\$44.07	\$9.65	\$17.80	\$0.00	\$71.52
	12/01/2026	\$45.51	\$9.65	\$17.80	\$0.00	\$72.96

Apprentice - LABORER (Heavy & Highway) - Zone 2

Effective Date - 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.92	\$9.65	\$17.80	\$0.00	\$51.37
2	70	\$27.90	\$9.65	\$17.80	\$0.00	\$55.35
3	80	\$31.89	\$9.65	\$17.80	\$0.00	\$59.34
4	90	\$35.87	\$9.65	\$17.80	\$0.00	\$63.32

Effective Date - 06/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$24.75	\$9.65	\$17.80	\$0.00	\$52.20
2	70	\$28.88	\$9.65	\$17.80	\$0.00	\$56.33
3	80	\$33.00	\$9.65	\$17.80	\$0.00	\$60.45
4	90	\$37.13	\$9.65	\$17.80	\$0.00	\$64.58

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER <i>LABORERS - ZONE 2</i>	12/01/2024	\$39.86	\$9.65	\$17.70	\$0.00	\$67.21
	06/01/2025	\$41.25	\$9.65	\$17.70	\$0.00	\$68.60
	12/01/2025	\$42.63	\$9.65	\$17.70	\$0.00	\$69.98
	06/01/2026	\$44.07	\$9.65	\$17.70	\$0.00	\$71.42
	12/01/2026	\$45.51	\$9.65	\$17.70	\$0.00	\$72.86
	06/01/2027	\$46.96	\$9.65	\$17.70	\$0.00	\$74.31
	12/01/2027	\$48.41	\$9.65	\$17.70	\$0.00	\$75.76
	06/01/2028	\$49.91	\$9.65	\$17.70	\$0.00	\$77.26
	12/01/2028	\$51.41	\$9.65	\$17.70	\$0.00	\$78.76
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER <i>LABORERS - ZONE 2</i>	12/01/2024	\$39.86	\$9.65	\$17.70	\$0.00	\$67.21
	06/01/2025	\$41.25	\$9.65	\$17.70	\$0.00	\$68.60
	12/01/2025	\$42.63	\$9.65	\$17.70	\$0.00	\$69.98
	06/01/2026	\$44.07	\$9.65	\$17.70	\$0.00	\$71.42
	12/01/2026	\$45.51	\$9.65	\$17.70	\$0.00	\$72.86
	06/01/2027	\$46.96	\$9.65	\$17.70	\$0.00	\$74.31
	12/01/2027	\$48.41	\$9.65	\$17.70	\$0.00	\$75.76
	06/01/2028	\$49.91	\$9.65	\$17.70	\$0.00	\$77.26
	12/01/2028	\$51.41	\$9.65	\$17.70	\$0.00	\$78.76
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER <i>LABORERS - ZONE 2</i>	12/02/2024	\$39.95	\$9.65	\$17.76	\$0.00	\$67.36
	06/02/2025	\$41.34	\$9.65	\$17.76	\$0.00	\$68.75
	12/01/2025	\$42.72	\$9.65	\$17.76	\$0.00	\$70.13
	06/01/2026	\$44.16	\$9.65	\$17.76	\$0.00	\$71.57
	12/07/2026	\$45.60	\$9.65	\$17.76	\$0.00	\$73.01
	06/07/2027	\$47.05	\$9.65	\$17.76	\$0.00	\$74.46
	12/06/2027	\$48.50	\$9.65	\$17.76	\$0.00	\$75.91
	06/05/2028	\$50.00	\$9.65	\$17.76	\$0.00	\$77.41
	12/04/2028	\$51.50	\$9.65	\$17.76	\$0.00	\$78.91
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 2</i>	12/01/2024	\$39.86	\$9.65	\$17.70	\$0.00	\$67.21
	06/01/2025	\$41.25	\$9.65	\$17.70	\$0.00	\$68.60
	12/01/2025	\$42.63	\$9.65	\$17.70	\$0.00	\$69.98
	06/01/2026	\$44.07	\$9.65	\$17.70	\$0.00	\$71.42
	12/01/2026	\$45.51	\$9.65	\$17.70	\$0.00	\$72.86
	06/01/2027	\$46.96	\$9.65	\$17.70	\$0.00	\$74.31
	12/01/2027	\$48.41	\$9.65	\$17.70	\$0.00	\$75.76
	06/01/2028	\$49.91	\$9.65	\$17.70	\$0.00	\$77.26
	12/01/2028	\$51.41	\$9.65	\$17.70	\$0.00	\$78.76
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER <i>LABORERS - ZONE 2</i>	12/01/2024	\$39.86	\$9.65	\$17.70	\$0.00	\$67.21
	06/01/2025	\$41.25	\$9.65	\$17.70	\$0.00	\$68.60
	12/01/2025	\$42.63	\$9.65	\$17.70	\$0.00	\$69.98
	06/01/2026	\$44.07	\$9.65	\$17.70	\$0.00	\$71.42
	12/01/2026	\$45.51	\$9.65	\$17.70	\$0.00	\$72.86
	06/01/2027	\$46.96	\$9.65	\$17.70	\$0.00	\$74.31
	12/01/2027	\$48.41	\$9.65	\$17.70	\$0.00	\$75.76
	06/01/2028	\$49.91	\$9.65	\$17.70	\$0.00	\$77.26
	12/01/2028	\$51.41	\$9.65	\$17.70	\$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 <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2025	\$50.36	\$11.49	\$21.62	\$0.00	\$83.47
	08/01/2025	\$52.08	\$11.49	\$21.62	\$0.00	\$85.19
	02/01/2026	\$53.16	\$11.49	\$21.62	\$0.00	\$86.27
	08/01/2026	\$54.92	\$11.49	\$21.62	\$0.00	\$88.03
	02/01/2027	\$56.04	\$11.49	\$21.62	\$0.00	\$89.15

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.18	\$11.49	\$21.62	\$0.00	\$58.29
2	60	\$30.22	\$11.49	\$21.62	\$0.00	\$63.33
3	70	\$35.25	\$11.49	\$21.62	\$0.00	\$68.36
4	80	\$40.29	\$11.49	\$21.62	\$0.00	\$73.40
5	90	\$45.32	\$11.49	\$21.62	\$0.00	\$78.43

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.04	\$11.49	\$21.62	\$0.00	\$59.15
2	60	\$31.25	\$11.49	\$21.62	\$0.00	\$64.36
3	70	\$36.46	\$11.49	\$21.62	\$0.00	\$69.57
4	80	\$41.66	\$11.49	\$21.62	\$0.00	\$74.77
5	90	\$46.87	\$11.49	\$21.62	\$0.00	\$79.98

Notes:

Apprentice to Journeyworker Ratio:1:3

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

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.91	\$11.49	\$23.56	\$0.00	\$67.96
2	60	\$39.49	\$11.49	\$23.56	\$0.00	\$74.54
3	70	\$46.07	\$11.49	\$23.56	\$0.00	\$81.12
4	80	\$52.66	\$11.49	\$23.56	\$0.00	\$87.71
5	90	\$59.24	\$11.49	\$23.56	\$0.00	\$94.29

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$33.99	\$11.49	\$23.56	\$0.00	\$69.04
2	60	\$40.78	\$11.49	\$23.56	\$0.00	\$75.83
3	70	\$47.58	\$11.49	\$23.56	\$0.00	\$82.63
4	80	\$54.38	\$11.49	\$23.56	\$0.00	\$89.43
5	90	\$61.17	\$11.49	\$23.56	\$0.00	\$96.22

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2023	\$39.56	\$13.78	\$15.15	\$0.00	\$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MECHANIC/WELDER/BOOM TRUCK <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2023	\$39.03	\$13.78	\$15.15	\$0.00	\$67.96
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MILLWRIGHT (Zone 3) <i>MILLWRIGHTS LOCAL 1121 - Zone 3</i>	01/06/2025	\$43.48	\$10.08	\$21.22	\$0.00	\$74.78
	01/05/2026	\$45.76	\$10.08	\$21.22	\$0.00	\$77.06

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MILLWRIGHT - Local 1121 Zone 3

Effective Date - 01/06/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$23.91	\$10.08	\$5.36	\$0.00	\$39.35
2	65	\$28.26	\$10.08	\$6.34	\$0.00	\$44.68
3	75	\$32.61	\$10.08	\$18.78	\$0.00	\$61.47
4	85	\$36.96	\$10.08	\$19.76	\$0.00	\$66.80

Effective Date - 01/05/2026

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$25.17	\$10.08	\$5.36	\$0.00	\$40.61
2	65	\$29.74	\$10.08	\$6.34	\$0.00	\$46.16
3	75	\$34.32	\$10.08	\$18.78	\$0.00	\$63.18
4	85	\$38.90	\$10.08	\$19.76	\$0.00	\$68.74

Notes: Step 1&2 Appr. indentured after 1/6/2020 receive no pension, but do receive annuity. (Step 1 \$5.72, Step 2 \$6.66)
Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:4

MORTAR MIXER LABORERS - ZONE 2	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01

For apprentice rates see "Apprentice- LABORER"

OILER OPERATING ENGINEERS LOCAL 98	12/01/2023	\$35.02	\$13.78	\$15.15	\$0.00	\$63.95
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OTHER POWER DRIVEN EQUIPMENT - CLASS VI OPERATING ENGINEERS LOCAL 98	12/01/2023	\$32.74	\$13.78	\$15.15	\$0.00	\$61.67
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS) PAINTERS LOCAL 35 - ZONE 2	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36
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Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2025

Table with 7 columns: Step, percent, Apprentice Base Wage, Health, Pension, Supplemental Unemployment, Total Rate. Rows 1-8 showing wage progression from \$29.23 to \$52.61.

Notes: Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Summary row for PAINTER (SPRAY OR SANDBLAST, NEW) * with Effective Date 01/01/2025, Base Wage \$49.36, Total Rate \$83.26.

* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2

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

Effective Date - 01/01/2025

Table with 7 columns: Step, percent, Apprentice Base Wage, Health, Pension, Supplemental Unemployment, Total Rate. Rows 1-8 showing wage progression from \$24.68 to \$44.42.

Notes: Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Summary row for PAINTER (SPRAY OR SANDBLAST, REPAINT) with Effective Date 01/01/2025, Base Wage \$47.42, Total Rate \$81.32.

PAINTERS LOCAL 35 - ZONE 2

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.71	\$9.95	\$0.00	\$0.00	\$33.66
2	55	\$26.08	\$9.95	\$6.66	\$0.00	\$42.69
3	60	\$28.45	\$9.95	\$7.26	\$0.00	\$45.66
4	65	\$30.82	\$9.95	\$7.87	\$0.00	\$48.64
5	70	\$33.19	\$9.95	\$20.32	\$0.00	\$63.46
6	75	\$35.57	\$9.95	\$20.93	\$0.00	\$66.45
7	80	\$37.94	\$9.95	\$21.53	\$0.00	\$69.42
8	90	\$42.68	\$9.95	\$22.74	\$0.00	\$75.37

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	01/01/2025	\$47.96	\$9.95	\$23.95	\$0.00	\$81.86
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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 - ZONE 2

Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.98	\$9.95	\$0.00	\$0.00	\$33.93
2	55	\$26.38	\$9.95	\$6.66	\$0.00	\$42.99
3	60	\$28.78	\$9.95	\$7.26	\$0.00	\$45.99
4	65	\$31.17	\$9.95	\$7.87	\$0.00	\$48.99
5	70	\$33.57	\$9.95	\$20.32	\$0.00	\$63.84
6	75	\$35.97	\$9.95	\$20.93	\$0.00	\$66.85
7	80	\$38.37	\$9.95	\$21.53	\$0.00	\$69.85
8	90	\$43.16	\$9.95	\$22.74	\$0.00	\$75.85

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2025	\$46.02	\$9.95	\$23.95	\$0.00	\$79.92
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PAINTERS LOCAL 35 - ZONE 2

Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.01	\$9.95	\$0.00	\$0.00	\$32.96
2	55	\$25.31	\$9.95	\$6.66	\$0.00	\$41.92
3	60	\$27.61	\$9.95	\$7.26	\$0.00	\$44.82
4	65	\$29.91	\$9.95	\$7.87	\$0.00	\$47.73
5	70	\$32.21	\$9.95	\$20.32	\$0.00	\$62.48
6	75	\$34.52	\$9.95	\$20.93	\$0.00	\$65.40
7	80	\$36.82	\$9.95	\$21.53	\$0.00	\$68.30
8	90	\$41.42	\$9.95	\$22.74	\$0.00	\$74.11

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$39.86	\$9.65	\$17.80	\$0.00	\$67.31
	06/01/2025	\$41.25	\$9.65	\$17.80	\$0.00	\$68.70
	12/01/2025	\$42.63	\$9.65	\$17.80	\$0.00	\$70.08
	06/01/2026	\$44.07	\$9.65	\$17.80	\$0.00	\$71.52
	12/01/2026	\$45.51	\$9.65	\$17.80	\$0.00	\$72.96

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

PANEL & PICKUP TRUCKS DRIVER <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2025	\$39.78	\$15.57	\$20.17	\$0.00	\$75.52
	06/01/2025	\$40.78	\$15.57	\$20.17	\$0.00	\$76.52
	12/01/2025	\$40.78	\$15.57	\$21.78	\$0.00	\$78.13
	01/01/2026	\$40.78	\$16.17	\$21.78	\$0.00	\$78.73
	06/01/2026	\$41.78	\$16.17	\$21.78	\$0.00	\$79.73
	12/01/2026	\$41.78	\$16.17	\$23.52	\$0.00	\$81.47
	01/01/2027	\$41.78	\$16.77	\$23.52	\$0.00	\$82.07

PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2024	\$51.97	\$10.08	\$24.29	\$0.00	\$86.34
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For apprentice rates see "Apprentice- PILE DRIVER"

PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2024	\$51.97	\$10.08	\$24.29	\$0.00	\$86.34
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Apprentice - PILE DRIVER - Local 56 Zone 2

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$23.39	\$10.08	\$2.53	\$0.00	\$36.00
2	55	\$28.58	\$10.08	\$5.07	\$0.00	\$43.73
3	70	\$36.38	\$10.08	\$19.22	\$0.00	\$65.68
4	80	\$41.58	\$10.08	\$21.76	\$0.00	\$73.42

Notes:
 % Indentured BEFORE 8/1/2020, 50/60/70/75/80/80/90/90
 Step 1 \$60.36/2 \$65.75/3 \$70.75/4 \$73.35/5&6 \$75.95/7&8 81.14

Apprentice to Journeyworker Ratio:1:5

PIPELAYER LABORERS - ZONE 2	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01

For apprentice rates see "Apprentice- LABORER"

PIPELAYER (HEAVY & HIGHWAY) LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21

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

PLUMBER & PIPEFITTER PLUMBERS LOCAL 4	09/01/2024	\$55.00	\$9.90	\$17.77	\$0.00	\$82.67
	03/01/2025	\$56.40	\$9.90	\$17.77	\$0.00	\$84.07
	09/01/2025	\$57.80	\$9.90	\$17.77	\$0.00	\$85.47
	03/01/2026	\$59.20	\$9.90	\$17.77	\$0.00	\$86.87

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PLUMBER/PIPEFITTER - Local 4

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$22.00	\$9.90	\$0.00	\$0.00	\$31.90
2	50	\$27.50	\$9.90	\$0.00	\$0.00	\$37.40
3	60	\$33.00	\$9.90	\$0.00	\$0.00	\$42.90
4	70	\$38.50	\$9.90	\$8.06	\$0.00	\$56.46
5	80	\$44.00	\$9.90	\$8.06	\$0.00	\$61.96

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$22.56	\$9.90	\$0.00	\$0.00	\$32.46
2	50	\$28.20	\$9.90	\$0.00	\$0.00	\$38.10
3	60	\$33.84	\$9.90	\$0.00	\$0.00	\$43.74
4	70	\$39.48	\$9.90	\$8.06	\$0.00	\$57.44
5	80	\$45.12	\$9.90	\$8.06	\$0.00	\$63.08

Notes:
 Steps - 2000 hrs; Step 4 w/lic 75%, Step 5 w/lic 85%
 Step 4 w/lic \$52.59, Step 5 w/lic \$57.44

Apprentice to Journeyworker Ratio:1:3

PNEUMATIC CONTROLS (TEMP.) <i>PLUMBERS LOCAL 4</i>	09/01/2024	\$55.00	\$9.90	\$17.77	\$0.00	\$82.67
	03/01/2025	\$56.40	\$9.90	\$17.77	\$0.00	\$84.07
	09/01/2025	\$57.80	\$9.90	\$17.77	\$0.00	\$85.47
	03/01/2026	\$59.20	\$9.90	\$17.77	\$0.00	\$86.87

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

PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.61	\$9.65	\$17.70	\$0.00	\$67.96
	06/01/2025	\$42.00	\$9.65	\$17.70	\$0.00	\$69.35
	12/01/2025	\$43.38	\$9.65	\$17.70	\$0.00	\$70.73
	06/01/2026	\$44.82	\$9.65	\$17.70	\$0.00	\$72.17
	12/01/2026	\$46.26	\$9.65	\$17.70	\$0.00	\$73.61
	06/01/2027	\$47.71	\$9.65	\$17.70	\$0.00	\$75.06
	12/01/2027	\$49.16	\$9.65	\$17.70	\$0.00	\$76.51
	06/01/2028	\$50.66	\$9.65	\$17.70	\$0.00	\$78.01
	12/01/2028	\$52.16	\$9.65	\$17.70	\$0.00	\$79.51

For apprentice rates see "Apprentice- LABORER"

PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWDERMAN & BLASTER <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.86	\$9.65	\$17.70	\$0.00	\$68.21
	06/01/2025	\$42.25	\$9.65	\$17.70	\$0.00	\$69.60
	12/01/2025	\$43.63	\$9.65	\$17.70	\$0.00	\$70.98
	06/01/2026	\$45.07	\$9.65	\$17.70	\$0.00	\$72.42
	12/01/2026	\$46.51	\$9.65	\$17.70	\$0.00	\$73.86
	06/01/2027	\$47.96	\$9.65	\$17.70	\$0.00	\$75.31
	12/01/2027	\$49.41	\$9.65	\$17.70	\$0.00	\$76.76
	06/01/2028	\$50.91	\$9.65	\$17.70	\$0.00	\$78.26
	12/01/2028	\$52.41	\$9.65	\$17.70	\$0.00	\$79.76
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.86	\$9.40	\$17.55	\$0.00	\$67.81
	06/01/2025	\$42.25	\$9.40	\$17.55	\$0.00	\$69.20
	12/01/2025	\$43.63	\$9.40	\$17.55	\$0.00	\$70.58
	06/01/2026	\$45.07	\$9.40	\$17.55	\$0.00	\$72.02
	12/01/2026	\$46.51	\$9.40	\$17.55	\$0.00	\$73.46
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2023	\$39.56	\$13.78	\$15.15	\$0.00	\$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2023	\$39.03	\$13.78	\$15.15	\$0.00	\$67.96
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS 170 -J.G.MacLellan (Lunenburg)</i>	02/02/2025	\$29.50	\$11.57	\$8.00	\$0.00	\$49.07
	02/02/2026	\$29.50	\$12.37	\$8.00	\$0.00	\$49.87
	01/01/2027	\$30.00	\$12.37	\$8.00	\$0.00	\$50.37
RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						
ROLLER OPERATOR <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2023	\$38.42	\$13.78	\$15.15	\$0.00	\$67.35
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Inc.Roofer Waterproofing &Roofer Damproofg) <i>ROOFERS LOCAL 33</i>	02/01/2025	\$52.28	\$13.03	\$21.70	\$0.00	\$87.01
	08/01/2025	\$53.78	\$13.03	\$21.70	\$0.00	\$88.51
	02/01/2026	\$55.03	\$13.03	\$21.70	\$0.00	\$89.76

Apprentice - ROOFER - Local 33

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.14	\$13.03	\$15.55	\$0.00	\$54.72
2	60	\$31.37	\$13.03	\$21.70	\$0.00	\$66.10
3	65	\$33.98	\$13.03	\$21.70	\$0.00	\$68.71
4	75	\$39.21	\$13.03	\$21.70	\$0.00	\$73.94
5	85	\$44.44	\$13.03	\$21.70	\$0.00	\$79.17

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.89	\$13.03	\$15.55	\$0.00	\$55.47
2	60	\$32.27	\$13.03	\$21.70	\$0.00	\$67.00
3	65	\$34.96	\$13.03	\$21.70	\$0.00	\$69.69
4	75	\$40.34	\$13.03	\$21.70	\$0.00	\$75.07
5	85	\$45.71	\$13.03	\$21.70	\$0.00	\$80.44

Notes: ** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1
 Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.
 (Hot Pitch Mechanics' receive \$1.00 hr. above ROOFER)

Apprentice to Journeyworker Ratio:**

ROOFER SLATE / TILE / PRECAST CONCRETE	02/01/2025	\$52.53	\$13.03	\$21.70	\$0.00	\$87.26
ROOFERS LOCAL 33	08/01/2025	\$54.03	\$13.03	\$21.70	\$0.00	\$88.76
	02/01/2026	\$55.28	\$13.03	\$21.70	\$0.00	\$90.01

For apprentice rates see "Apprentice- ROOFER"

SCRAPER	12/01/2023	\$39.03	\$13.78	\$15.15	\$0.00	\$67.96
OPERATING ENGINEERS LOCAL 98						

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

SELF-POWERED ROLLERS AND COMPACTORS (TAMPERS)	12/01/2023	\$38.42	\$13.78	\$15.15	\$0.00	\$67.35
OPERATING ENGINEERS LOCAL 98						

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

SELF-PROPELLED POWER BROOM	12/01/2023	\$35.80	\$13.78	\$15.15	\$0.00	\$64.73
OPERATING ENGINEERS LOCAL 98						

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

SHEETMETAL WORKER	01/01/2025	\$42.23	\$12.20	\$18.74	\$2.13	\$75.30
SHEETMETAL WORKERS LOCAL 63						

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SHEET METAL WORKER - Local 63

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$19.00	\$5.49	\$4.86	\$0.85	\$30.20
2	50	\$21.12	\$6.10	\$5.40	\$0.94	\$33.56
3	55	\$23.23	\$6.71	\$9.71	\$1.15	\$40.80
4	60	\$25.34	\$7.32	\$9.71	\$1.23	\$43.60
5	65	\$27.45	\$7.93	\$9.71	\$1.31	\$46.40
6	70	\$29.56	\$8.54	\$9.71	\$1.39	\$49.20
7	75	\$31.67	\$9.15	\$9.71	\$1.47	\$52.00
8	80	\$33.78	\$9.76	\$17.66	\$1.78	\$62.98
9	85	\$35.90	\$10.37	\$17.66	\$1.86	\$65.79
10	90	\$38.01	\$10.98	\$17.66	\$1.94	\$68.59

Notes:

Apprentice to Journeyworker Ratio:1:3

SPECIALIZED EARTH MOVING EQUIP < 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2025	\$40.24	\$15.57	\$20.17	\$0.00	\$75.98
	06/01/2025	\$41.24	\$15.57	\$20.17	\$0.00	\$76.98
	12/01/2025	\$41.24	\$15.57	\$21.78	\$0.00	\$78.59
	01/01/2026	\$41.24	\$16.17	\$21.78	\$0.00	\$79.19
	06/01/2026	\$42.24	\$16.17	\$21.78	\$0.00	\$80.19
	12/01/2026	\$42.24	\$16.17	\$23.52	\$0.00	\$81.93
	01/01/2027	\$42.24	\$16.77	\$23.52	\$0.00	\$82.53

SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2025	\$40.53	\$15.57	\$20.17	\$0.00	\$76.27
	06/01/2025	\$41.53	\$15.57	\$20.17	\$0.00	\$77.27
	12/01/2025	\$41.53	\$15.57	\$21.78	\$0.00	\$78.88
	01/01/2026	\$41.53	\$16.17	\$21.78	\$0.00	\$79.48
	06/01/2026	\$42.53	\$16.17	\$21.78	\$0.00	\$80.48
	12/01/2026	\$42.53	\$16.17	\$23.52	\$0.00	\$82.22
	01/01/2027	\$42.53	\$16.77	\$23.52	\$0.00	\$82.82

SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 669</i>	04/01/2023	\$47.43	\$11.45	\$16.61	\$0.00	\$75.49
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Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SPRINKLER FITTER - Local 669

Effective Date - 04/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$21.34	\$8.22	\$0.00	\$0.00	\$29.56
2	50	\$23.72	\$8.22	\$0.00	\$0.00	\$31.94
3	55	\$26.09	\$11.45	\$7.20	\$0.00	\$44.74
4	60	\$28.46	\$11.45	\$8.35	\$0.00	\$48.26
5	65	\$30.83	\$11.45	\$8.35	\$0.00	\$50.63
6	70	\$33.20	\$11.45	\$8.60	\$0.00	\$53.25
7	75	\$35.57	\$11.45	\$8.60	\$0.00	\$55.62
8	80	\$37.94	\$11.45	\$8.60	\$0.00	\$57.99
9	85	\$40.32	\$11.45	\$8.60	\$0.00	\$60.37
10	90	\$42.69	\$11.45	\$8.60	\$0.00	\$62.74

Notes:

Apprentice to Journeyworker Ratio:1:1

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

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.37	\$11.49	\$23.59	\$0.00	\$67.45
2	60	\$38.84	\$11.49	\$23.59	\$0.00	\$73.92
3	70	\$45.32	\$11.49	\$23.59	\$0.00	\$80.40
4	80	\$51.79	\$11.49	\$23.59	\$0.00	\$86.87
5	90	\$58.27	\$11.49	\$23.59	\$0.00	\$93.35

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$33.45	\$11.49	\$23.59	\$0.00	\$68.53
2	60	\$40.13	\$11.49	\$23.59	\$0.00	\$75.21
3	70	\$46.82	\$11.49	\$23.59	\$0.00	\$81.90
4	80	\$53.51	\$11.49	\$23.59	\$0.00	\$88.59
5	90	\$60.20	\$11.49	\$23.59	\$0.00	\$95.28

Notes:

Apprentice to Journeyworker Ratio:1:3

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

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2024	\$47.07	\$9.65	\$18.22	\$0.00	\$74.94
	06/01/2025	\$48.57	\$9.65	\$18.22	\$0.00	\$76.44
	12/01/2025	\$50.07	\$9.65	\$18.22	\$0.00	\$77.94
	06/01/2026	\$51.62	\$9.65	\$18.22	\$0.00	\$79.49
	12/01/2026	\$53.12	\$9.65	\$18.22	\$0.00	\$80.99

For apprentice rates see "Apprentice- LABORER"

TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2024	\$46.95	\$9.65	\$18.22	\$0.00	\$74.82
	06/01/2025	\$48.45	\$9.65	\$18.22	\$0.00	\$76.32
	12/01/2025	\$49.95	\$9.65	\$18.22	\$0.00	\$77.82
	06/01/2026	\$51.50	\$9.65	\$18.22	\$0.00	\$79.37
	12/01/2026	\$53.00	\$9.65	\$18.22	\$0.00	\$80.87

For apprentice rates see "Apprentice- LABORER"

TRACTORS <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2023	\$38.42	\$13.78	\$15.15	\$0.00	\$67.35
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2025	\$40.82	\$15.57	\$20.17	\$0.00	\$76.56
	06/01/2025	\$41.82	\$15.57	\$20.17	\$0.00	\$77.56
	12/01/2025	\$41.82	\$15.57	\$21.78	\$0.00	\$79.17
	01/01/2026	\$41.82	\$16.17	\$21.78	\$0.00	\$79.77
	06/01/2026	\$42.82	\$16.17	\$21.78	\$0.00	\$80.77
	12/01/2026	\$42.82	\$16.17	\$23.52	\$0.00	\$82.51
	01/01/2027	\$42.82	\$16.77	\$23.52	\$0.00	\$83.11
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	12/01/2024	\$59.18	\$9.65	\$19.00	\$0.00	\$87.83
	06/01/2025	\$60.68	\$9.65	\$19.00	\$0.00	\$89.33
	12/01/2025	\$62.18	\$9.65	\$19.00	\$0.00	\$90.83
	06/01/2026	\$63.73	\$9.65	\$19.00	\$0.00	\$92.38
	12/01/2026	\$65.23	\$9.65	\$19.00	\$0.00	\$93.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2024	\$61.18	\$9.65	\$19.00	\$0.00	\$89.83
	06/01/2025	\$62.68	\$9.65	\$19.00	\$0.00	\$91.33
	12/01/2025	\$64.18	\$9.65	\$19.00	\$0.00	\$92.83
	06/01/2026	\$65.73	\$9.65	\$19.00	\$0.00	\$94.38
	12/01/2026	\$67.23	\$9.65	\$19.00	\$0.00	\$95.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2024	\$51.25	\$9.65	\$19.00	\$0.00	\$79.90
	06/01/2025	\$52.75	\$9.65	\$19.00	\$0.00	\$81.40
	12/01/2025	\$54.25	\$9.65	\$19.00	\$0.00	\$82.90
	06/01/2026	\$55.80	\$9.65	\$19.00	\$0.00	\$84.45
	12/01/2026	\$57.30	\$9.65	\$19.00	\$0.00	\$85.95
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2024	\$53.25	\$9.65	\$19.00	\$0.00	\$81.90
	06/01/2025	\$54.75	\$9.65	\$19.00	\$0.00	\$83.40
	12/01/2025	\$56.25	\$9.65	\$19.00	\$0.00	\$84.90
	06/01/2026	\$57.80	\$9.65	\$19.00	\$0.00	\$86.45
	12/01/2026	\$59.30	\$9.65	\$19.00	\$0.00	\$87.95
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2025	\$40.24	\$15.57	\$20.17	\$0.00	\$75.98
	06/01/2025	\$41.24	\$15.57	\$20.17	\$0.00	\$76.98
	12/01/2025	\$41.24	\$15.57	\$21.78	\$0.00	\$78.59
	01/01/2026	\$41.24	\$16.17	\$21.78	\$0.00	\$79.19
	06/01/2026	\$42.24	\$16.17	\$21.78	\$0.00	\$80.19
	12/01/2026	\$42.24	\$16.17	\$23.52	\$0.00	\$81.93
	01/01/2027	\$42.24	\$16.77	\$23.52	\$0.00	\$82.53
VOICE-DATA-VIDEO TECHNICIAN <i>ELECTRICIANS LOCAL 96</i>	09/01/2024	\$35.29	\$13.99	\$17.57	\$0.00	\$66.85
	09/07/2025	\$36.12	\$14.98	\$17.91	\$0.00	\$69.01
	09/06/2026	\$37.04	\$15.96	\$18.27	\$0.00	\$71.27

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - VOICE-DATA-VIDEO TECHNICIAN - Local 96

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.65	\$13.99	\$4.41	\$0.00	\$36.05
2	55	\$19.41	\$13.99	\$4.46	\$0.00	\$37.86
3	60	\$21.17	\$13.99	\$17.15	\$0.00	\$52.31
4	65	\$22.94	\$13.99	\$17.20	\$0.00	\$54.13
5	70	\$24.70	\$13.99	\$17.25	\$0.00	\$55.94
6	75	\$26.47	\$13.99	\$17.30	\$0.00	\$57.76
7	80	\$28.23	\$13.99	\$17.36	\$0.00	\$59.58
8	85	\$30.00	\$13.99	\$17.41	\$0.00	\$61.40

Effective Date - 09/07/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.06	\$14.98	\$4.51	\$0.00	\$37.55
2	55	\$19.87	\$14.98	\$4.57	\$0.00	\$39.42
3	60	\$21.67	\$14.98	\$17.48	\$0.00	\$54.13
4	65	\$23.48	\$14.98	\$17.53	\$0.00	\$55.99
5	70	\$25.28	\$14.98	\$17.59	\$0.00	\$57.85
6	75	\$27.09	\$14.98	\$17.64	\$0.00	\$59.71
7	80	\$28.90	\$14.98	\$17.70	\$0.00	\$61.58
8	85	\$30.70	\$14.98	\$17.75	\$0.00	\$63.43

Notes:

Apprentice to Journeyworker Ratio:1:1

WAGON DRILL OPERATOR LABORERS - ZONE 2	12/01/2024	\$40.61	\$9.65	\$17.70	\$0.00	\$67.96
	06/01/2025	\$42.00	\$9.65	\$17.70	\$0.00	\$69.35
	12/01/2025	\$43.38	\$9.65	\$17.70	\$0.00	\$70.73
	06/01/2026	\$44.82	\$9.65	\$17.70	\$0.00	\$72.17
	12/01/2026	\$46.26	\$9.65	\$17.70	\$0.00	\$73.61
	06/01/2027	\$47.71	\$9.65	\$17.70	\$0.00	\$75.06
	12/01/2027	\$49.16	\$9.65	\$17.70	\$0.00	\$76.51
	06/01/2028	\$50.66	\$9.65	\$17.70	\$0.00	\$78.01
	12/01/2028	\$52.16	\$9.65	\$17.70	\$0.00	\$79.51

For apprentice rates see "Apprentice- LABORER"

WAGON DRILL OPERATOR (HEAVY & HIGHWAY) LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
WATER METER INSTALLER <i>PLUMBERS LOCAL 4</i>	09/01/2024	\$55.00	\$9.90	\$17.77	\$0.00	\$82.67
	03/01/2025	\$56.40	\$9.90	\$17.77	\$0.00	\$84.07
	09/01/2025	\$57.80	\$9.90	\$17.77	\$0.00	\$85.47
	03/01/2026	\$59.20	\$9.90	\$17.77	\$0.00	\$86.87

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.

SECTION 00900
SPECIAL PROVISIONS

CRESCENT STREET
OVER SLUICEWAY
BRIDGE NO. A-15-036 (C0E)

SCOPE OF WORK

All work under this Contract shall be done in conformance with the *2024 Standard Specifications for Highways and Bridges*, the *Supplemental Specifications* dated September 30, 2024, the *2017 Construction Standard Details*, *MassDOT Work Zone Safety Temporary Traffic Control*, 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 Massachusetts Amendments; the *1968 Standard Drawings for Traffic Signals and Highway Lighting*; *The American Standard for Nursery Stock*; the Plans and these Special Provisions.

The existing Bridge No. A-15-036 is located at Crescent Street over Sluiceway in Athol, Massachusetts. The bridge was constructed around 1900 originally. There are no available Plans for this bridge structure. The roadway width measured curb to curb varies and has an average width of 40’.

The superstructure consists of steel stringers fully encased in a 14” deep concrete slab. The bottom flanges of steel beams are only visible at a few locations where the encasement has deteriorated. There is approximately 14” of fill, which consists of 3” hot mix asphalt, 6” cobblestone and 5” soil borrow on top of the structure. At the west sidewalk, the bottom of deck steps-up exposing one of the encased steel stringers which is severely deteriorated.

At the southwest corner and along the east edge, the bridge deck abuts the Starrett Manufacturing Company. The company utilizes an underground tunnel which travels from their building at the southwest corner to their building at the northeast corner. The tunnel roof is approximately 2.5’ underneath the roadway as it approaches the back of abutments. There is an opening, 8’-6” wide x 9’-6” tall, in each abutment which allows for the tunnel to span between abutments. The tunnel walls are supported by concrete encased steel beams and the walls extend to the underside of the existing bridge deck. The tunnel is considered to be an independent structure with no visible connections between the tunnel and concrete deck. There are no available plans for the tunnel structure.

Granite stone masonry gravity abutments support the superstructure. The span measured face to face of abutment varies and is 18.7’ on average. The sluiceway serves as a discharge channel for the Starrett Company. There is no typical flow from the upstream end. The channel under the bridge contains several different types of utilities, including two steam pipes and several electrical conduits, serving the Starrett Company in addition to Town owned water and sewer.

The work to be done under this contract includes but is not limited to removal approximately 12” to 14” of fill from on top of existing deck slab and replacement with a 12” thick reinforced concrete deck slab. The slab will contain an integral wearing surface so there will be no asphalt on the bridge. A CM-MTL3 Bridge Railing will be installed along the east edge of slab to make the east sidewalk unmountable. The west sidewalk and encased beams will be demolished and replaced with a 12” precast concrete beam and cast-in place reinforced concrete sidewalk. A CT-MTL2 Bridge Railing will be installed on top of the sidewalk and continue to be supported by a reinforced concrete moment slab at the northwest corner. The works also includes removal and replacement of an existing water line under the bridge and any other items as set forth in the contract documents. Payment for materials shown on the Plans as being part of the work to the bridge or which may be incidental to its construction and are not specifically included for payment under the Contract shall be considered incidental to the work performed.

The bridge will be closed during construction. The date of the road closure will be coordinated by the Engineer and the Town of Athol. The Contractor will be responsible for all associated traffic management Items of work per the Contract Documents. The Contractor will maintain responsibility for securing and protecting the site.

RESTRICTION OF CONSTRUCTION LIVE LOAD ON EXISTING BRIDGE

The existing bridge shall be closed to live traffic. Construction vehicles such as such as dump trucks and excavators **are not allowed** on the existing bridge deck.

GENERAL REQUIREMENTS FOR DEMOLITION AND WORK INVOLVING PAINTED STEEL

Demolition and work involving painted steel shall conform to the requirements of Section 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, diaphragms, etcetera.

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 Sections 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 Section 961.68 “Handling of Hazardous Waste and Reporting Release Programs”.

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

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 Section 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.

RE-ADDRESSING OF MASSDOT PROJECT PERSONNEL ROLES TO TOWN PROJECT PERSONNEL ROLES

This is a Town project and the following changes will apply to the MassDOT Standard Specifications as well as these Special Provisions. Within this contract, the following will apply: MassDOT Resident Engineer shall be replaced with Engineer, submissions to MassDOT Research and Materials Section (RMS) shall be replaced with Engineer of Record, and the term “MassDOT projects” shall be replaced with “this project.” All requests for information, approvals and construction inspections are to be addressed through the Engineer of Record. All materials shall conform to MassDOT Standards. All fabricators and contractors shall be on the MassDOT list of pre-qualified fabricators and contractors.

PROMPT PAYMENT AND RELEASE OF RETAINAGE TO SUBCONTRACTORS

The Contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of subcontract work not later than 10 business days from the receipt of each payment the prime contractor receives from the Town. Failure to comply with this requirement may result in the withholding of payment to the prime contractor until such time as all payment due under this provision has been received by the subcontractor(s) and/or referral to the Prequalification Committee for action which may affect the contractor’s prequalification status.

The Contractor further agrees to make payment in full, including retainage, to each subcontractor not later than 10 business days after the subcontractor has completed all the work required under its subcontract.

EXISTING STRUCTURE

The Contractor will make his own investigation of the structure noting all visible existing conditions including utilities, adjacent properties and anything which may affect the means and methods of construction. No increase will be made to the bid price due to the nature of the materials involved in the construction. All costs for permits, dump fees, taxes, special handling of hazardous materials, etcetera, shall be included in the bid price of each Item.

UTILITIES

It is the Contractors responsibility to locate and protect all utilities. There are overhead power lines, phone and cable lines that run along the west side of the bridge, and several utilizes underneath the bridge. Any damage to existing utilities will be repaired at the Contractors own expense. The Contractor's means and methods are expected to accommodate and include the protection of the existing utilities and shall be included in the bid price. No additional compensation shall be provided.

PRECAUTION UNDER ELECTRIC LINES

The Contractor's attention is directed to the AASHTO Guide on Occupational Safety on Highway Construction Projects, Sub-part N, 1926.550, relating to construction equipment clearances at overhead electric lines, which states in part "...the minimum clearance between the lines and any part of the crane or load must be a safe distance from lines rated 50kV or below and greater distances for higher voltage...".

PERSONAL PROTECTIVE SAFETY EQUIPMENT FOR CONTRACTOR PERSONNEL

The Contractor is responsible to ensure that all personnel, including all subcontractors, working on the project are issued and are wearing all necessary personal protective safety equipment while working within the project limits. This equipment shall include, as a minimum, a hardhat and a safety vest, regardless of the type of work being performed. Other safety equipment shall be added as required to perform the work in which they are engaged and in accordance with all local, state and federal requirements in effect. Safety equipment shall be provided at no additional cost to the Town.

WORK SCHEDULE

This contract contains the following work restrictions:

No work shall be done on this Contract on Saturdays, Sundays, or holidays or on the day before or the day after a long weekend that involves a holiday without prior approval by the Engineer.

Work on this project is restricted to a normal 8-hour, 5-day week, between 7:00 AM to 5:00 PM, with the Prime Contractor and all Subcontractors working on the same shift. The Contractor shall give notice to the Engineer at least 48 hours in advance of beginning any work affecting public access to abutters.

PROPERTY BOUNDS

The Contractor shall exercise due care when working around all property bounds, which are to remain. Should any damage to a bound result from the actions of the Contractor, the bound shall be replaced and/or realigned by the Contractor as directed by the Engineer. No further compensation will be due the Contractor for the materials and labor required re-establishing the bound in its proper position.

PUBLIC SAFETY AND CONVENIENCE (Supplementing Subsection 7.09)

The Contractor shall without additional compensation be required to provide safe and convenient access to all abutters during the prosecution of the work, except for such periods and at such locations as may be authorized in writing by the Engineer. Particular attention shall be paid to the driveways and doorways which abut the construction site. Abutter access must be maintained as requested by the Engineer. Exception may be made upon written request by the Contractor and approval by the Engineer.

COOPERATION OF THE CONTRACTOR

The Contractor's attention is directed to the fact that the agents of various public service agencies, municipal and state departments may be entering the work site to remove existing facilities and to construct or place new facilities or to make alterations in existing facilities.

The Contractor shall do his work in cooperation with the several agencies so as to cause the least interference with the aforementioned agencies and shall have no claim for any delay that may be due or result from said work of these agents. This is in accordance with the stipulations of Sections 5.05 and 5.06.

DESIGNER/PROJECT MANAGER

DESIGNER
Fuss & O'Neill, Inc.
Brian Boucher, P.E.
(781) 287 - 9905

EROSION/SEDIMENTATION CONTROL

All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediment be deposited in a wetland or water body. During construction, the Contractor or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The Contractor shall immediately control any erosion problems that occur at the site and shall also immediately notify the Resident Engineer who reserves the right to require additional erosion and/or damage prevention controls s/he may deem necessary. Cost for erosion control, unless paid for elsewhere, is considered incidental to this Contract Agreement.

ENVIRONMENTAL PERMITTING

WORK WITHIN AND ADJACENT TO RESOURCE AREAS

The work under this contract will require work adjacent to state and federal regulated coastal and waterway resource areas (hereafter referred to as "resource area"). The work shall be performed in accordance with the conditions set forth in the permits and as detailed in the Special Provisions. Where specific guidance is not provided, at a minimum the conditions in this section shall apply.

WORK ABOVE THE WATER

Work above the water shall be performed in such a manner to prevent any debris from falling into the resource area. Debris shall be defined as any material that has been generated as a result of construction activity including but not limited to concrete materials cured or uncured (dust, chips, aggregate repair mortar...), reinforcing steel, asphalt materials, tools, personal protective equipment (PPE), oils, grease and lubricating/hydraulic fluids. Debris that falls into the resource area shall be removed immediately. At the end of each work day, the resource area shall be inspected for construction materials and debris, and if found, shall be removed.

WORK NOT COVERED BY PERMITS

Adequate provisions for varying means and methods to perform work within and/or above the water have been provided. If field conditions dictate and/or the Contractor determines that their means and methods for work in the resource area are not originally authorized by existing environmental permits, then work may not proceed until all required environmental permits have been either amended or obtained. The Contractor must notify the Engineer in writing at least 30 days prior to the commencement of the proposed activity. All environmental submittals, including any contact with Local, State, or Federal environmental agencies, must be coordinated with the Town. The Contractor shall fully cooperate with requests for information and provide same in a timely manner. The Town will not approve a delay claim resulting from the time required to modify or obtain environmental permits.

DISPOSAL OF SURPLUS MATERIALS

All existing and other materials not required or needed for use on the project, and not required to be removed and stacked, shall become the property of the Contractor and shall be removed from the site during the construction period and legally disposed of. No separate payment will be made for this work, but all costs in connection therewith shall be included in the prices bid for various contract items.

DISPOSAL OF EXCAVATION MATERIAL

Surplus materials obtained from any type of excavation, and not needed for further use as determined by the Engineer shall become the property of the Contractor and shall be disposed of by the Contractor outside the project location subject to the regulations and requirements of local authorities governing the disposal of such materials, at no additional compensation.

CONTRACT ALLOWANCE PAYMENT ITEMS

The quantity to be paid for under these items shall be the actual amount paid by the Contractor to provide satisfactory inspection and testing operations as stipulated and required by the Engineer. Any associated Contractor overhead costs and profit shall be considered incidental to the cost of the contract.

ALLOWANCE ITEM 999.300 MATERIALS INSPECTION, SAMPLING AND TESTING SERVICES

Allowance for Verification and Testing

Materials inspection, sampling and testing services shall be provided by independent testing consultants or firms that shall be retained by the Contractor to ensure compliance with the Standard Specifications and these Special Provisions. These services will include, but are not limited to the following:

- Precast Concrete Shop Fabrication
- Cement Concrete Inspection and Testing

The firm(s) selected to provide these services must be pre-qualified by MassDOT in the discipline of Materials Inspection and Testing. The contractor shall coordinate with the firm(s) and the Town 's Resident Engineer as necessary while the work is ongoing to ensure that the appropriate materials inspection, sampling and testing is occurring. Test reports shall be provided to the Engineer with copies to the contractor. Work on materials that fail to meet the requirements of these Special Provisions shall be promptly corrected by the contractor in accordance with the standard specifications. The cost of tests that fail to show compliance will not be reimbursed to the contractor. The contractor shall be reimbursed under this allowance item for testing based on paid invoices from the independent testing consultant. Administration of this work by the Contractor is considered incidental to the Contract Bid Price. No additional compensation shall be provided beyond the amount indicated in the paid invoices.

ITEM 114.1

DEMOLITION OF SUPERSTRUCTURE OF
BRIDGE NO. A-15-036

LUMP SUM

General

The work to be done under this Item shall conform to the applicable provisions of Section 112 and the following:

The work to be done under this Item includes furnishing all labor and materials necessary to perform demolition of the west sidewalk and concrete encased beams to the limits as shown on the Plans and as explained herein. At the limit of demolition, a full depth 14" deep sawcut is required to isolate the designated section to be removed. There is 3/16" steel wire mesh in the deck approximately 3.5" below the surface. Care shall be taken to cut through the steel mesh without damaging the existing concrete deck to remain. All labor and material required to accomplish the sawcut is considered incidental to this Item. Demolition of the bridges' superstructure includes removal and disposal of the entire pipe railing along the west side and a small, 4'x 2.5', section of hot mix asphalt in the east sidewalk. This Item also includes removal of three existing scupper grates, chutes and related hardware as required. The grates are to be stored on site until it is determined by the Town that they should be disposed of. Additionally, this Item includes cutting and removal of a section of existing 10" water main to facilitate the work under Item 313.11. Included in this work is selective demolition of the abutment openings to remove and install the proposed water main. Also, included in this work is removal of the plywood encasement which houses the water main, timber supports and contained insulation. The Contractor shall assume the insulation contains **asbestos**. It is the responsibility of the Contractor to see that all the material is handled in compliance with all applicable regulations. The proper removal and disposal of hazardous material shall be considered incidental to this Item.

This Item includes excavation and removal of material of every nature that is required to perform the work in this contract and is not included elsewhere in the contract. Excavation of hot mix asphalt roadway surface and underlying materials for installation of the proposed deck slab is paid for under Item 120.1 Unclassified Excavation.

Pollution prevention is mandatory, and all debris must be kept from entering the waterway. The Contractor shall install temporary protective shielding, used in conjunction with this demolition that shall be paid for under Item 994.01, Temporary Protective Shielding. As explained in Item 994.01, the shielding shall extend the full length and width of the bridge and beyond the deck overhang and vertically at the fascia to an elevation above the height. The shielding shall have all spaces sealed along the perimeter and at the seams to prevent any dust or debris from escaping and falling below on the waterway.

RESTRICTION OF CONSTRUCTION LIVE LOAD ON EXISTING BRIDGE

The existing bridge shall be closed to live traffic. Construction vehicles such as dump trucks and excavators **are not allowed** on the existing bridge deck prior to or during construction.

ITEM 114.1 (Continued)

SUBMITTALS

The Contractor shall submit to the Engineer a complete description of the equipment and construction methods proposed for the demolition work. The demolition procedure shall be stamped and signed by a Professional Engineer registered in the state of Massachusetts. The procedure shall be submitted in coordination with the Temporary Protective Shielding submittal required under Item 994.01. The following information shall be included in the submittal:

1. A written sequence of the specific steps required for demolition, a.k.a. demolition procedure.
2. A plan and drawings with details of temporary protective shielding containment enclosures, in coordination with the demolition procedure to ensure all debris is kept from entering the sluiceway.
3. Plan showing the location of all roadways, utilities and other appurtenances in areas of demolition.
4. The location of cranes, if required to be used, both horizontally and vertically, and their operating radii.
5. Lifting equipment information, including rating data information shall include counterweights to be used and boom capability. Crane capacity shall be adequate for 125% of the total pick weight, in coordination with the demolition procedure.
6. The type, size and arrangement of slings, shackles or other lifting and connecting devices, including relative technical data.
7. The order of lifts, repositioning of equipment and weights, and location and method of attaching deadman.

Prior to the start of work, the Contractor shall locate all utilities and shall submit to the Engineer and the utility companies his proposed method of protecting them during the demolition operations. Procedure submittal shall not serve to relieve the Contractor of his responsibility to protect all utilities from damage at all times. Any damage done to utilities by the Contractor shall be immediately repaired at his expense. Work under this Item may not commence until the Engineer has given approval.

GENERAL REQUIREMENTS FOR DEMOLITION AND WORK INVOLVING PAINTED STEEL

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

Work Involving Painted Steel

Hazardous materials shall be removed in the immediate area of any intended welding, heating,

ITEM 114.1 (Continued)

saw cutting or burning of steel. Hazardous material removal is required to allow the demolition of structural steel, railings, drainage systems, etcetera.

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.

Environmental

All applicable portions of Sections 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 Section 961.68 “Handling of Hazardous Waste and Reporting Release Programs”.

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

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 Section 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.

ITEM 114.1 (Continued)

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 30µg/m³.

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.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

We do not guarantee or represent that the bridge materials requiring excavation under this Item will be exactly the same as any descriptions contained herein or represented on plans. The Contractor must satisfy himself by his own investigation and research regarding all conditions and materials affecting the work to be done. Work shall be paid at the contract Lump Sum price for bridge superstructure to be demolished, which price shall include full compensation for all work including coordination with others. No additional compensation other than Lump Sum price bid for Item 114.1 shall be made if materials or work prove to be different than that inferred or described herein.

All materials removed under Item 114.1 shall become the property of the Contractor and shall be removed from the job site unless noted otherwise. It is the responsibility of the Contractor to see that all the material is handled in compliance with all applicable regulations. The proper removal and disposal or recycling of hazardous material shall be considered incidental to this Item and shall be in compliance with Section 961 of the Standard Special Provisions. The work described under this Item will be paid for at the Contract Lump Sum Price for Item 114.1 and shall include all labor, equipment and materials necessary to complete the work including any testing, handling and disposal unless such payments are included elsewhere.

ITEM 120.1

UNCLASSIFIED EXCAVATION

CUBIC YARD

The work to be done under this item shall conform to the relevant provisions of section 120 of the standard specifications and the following:

Work shall include excavation of the existing hot mix asphalt roadway surface and underlying material to the limits shown on the Plans. The underlying cobblestones shall be removed, stacked and relocated to DPW yard. The work also includes excavation of small sections of concrete approach sidewalk at all four corners including excavation required to install a moment slab at the northwest corner. This Item includes excavation and removal of material of every nature that is required to perform the work in this contract and is not included elsewhere in the contract.

RESTRICTION OF CONSTRUCTION LIVE LOAD ON EXISTING BRIDGE

The existing bridge shall be closed to live traffic due to insufficient load carrying capacity. Construction vehicles such as dump trucks and excavators **are not allowed** on the existing bridge deck prior to or during construction.

METHOD OF MEASUREMENT

Item 120.1 Unclassified Excavation shall be measured for payment per cubic yard of excavation complete in place or discarded.

BASIS OF PAYMENT

Compensation for Item 120.1 Unclassified Excavation shall be paid for at the contract unit price, per cubic yard, under the respective pay item, which price shall include full compensation for all labor, equipment, materials, disposal fees, transportation, and incidentals necessary for the satisfactory completion of the work.

ITEM 313.11**10 INCH WATER MAIN PRE-INSULATED****FT****DESCRIPTION**

The work under this Item shall conform to the relevant provisions of Section 300 of the 2024 Standard Specifications with current Supplemental Specifications MassDOT Construction Standards, and the following:

The work under this Item consists of furnishing, transporting, and installing a new section of pre-insulated 10" diameter water main to replace the existing 10" water main which is supported by the existing bridge. The approximate length and location of this water main is as shown on the Plans. The work includes all the materials and labor required to reconnect to the existing water main. This work include connecting the proposed main back into the existing main and any intermediate connections that are required. Trench excavation, backfill and resurfacing required for installation is considered incidental to this Item. Closing the opening in the abutment around the pipe with bricks and mortar is considered incidental to this Item. Additionally, there is a slight angle point in the water line just north of the north abutment. A test pit is required to confirm the angle. A thrust block will be required at the angle point. The Contractor shall submit a plan and section of the thrust block for review. The test pit and thrust block are considered incidental to this Item. All the work as described herein is consider incidental to the water line replacement and shall be included in the unit bid price for this Item. No additional compensation will be provided.

SUBMITTAL

The Contractor shall submit a replacement plan and details to the Engineer for approval prior to beginning work or ordering any materials. The submission shall include catalog cutouts of all proposed materials and components including manufacturer's literature completely describing the products to be used along with and installation guidelines, to the Engineer for his review and approval. The submittal shall clearly identify which materials and components contained in the literature are intended to be utilized. The Contractor shall submit a plan and section of the thrust block along with computations, stamped by a Professional Engineer registered in the State of Massachusetts

CONSTRUCTION METHODS

A temporary bypass main is not required for this replacement. In coordination with the Town of Athol, water can be shut-off on both sides of the replacement location during the installation. The installation shall be accomplished by digging a trench on the north side of the bridge in which the pipe can be staged and moved into place through the existing openings in the abutments. After installation, filling the opening in the abutment around the pipe with bricks, cementitious mortar or concrete is required to complete the work.

MATERIALS

The service pipe shall be ductile iron, pre-insulated. The insulation shall be a foamed in place closed cell polyurethane which completely fills the annular space between the carrier pipe and

ITEM 313.11 Continued

the exterior casing. The exterior casing shall be seamless high density polyethylene (H.D.P.E.). No tape casing will be allowed. All straight field joints shall be covered with an HDPE jacket and covered with a wrap of tape.

The Contractor shall submit catalog cutouts of all proposed materials and components including manufacturer's literature completely describing and identifying all products to be used.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Item 313.11 will be measured for payment by the Foot from the cut to cut of the existing water main removed. The work includes all the components, materials and labor required to reconnect to the existing water main and any intermediate connections, as incidental to this Item. Trench excavation, thrust block, backfill and resurfacing required for installation is considered incidental to this Item. Closing the opening in the abutment around the pipe with bricks and mortar is considered incidental to this Item. The unit price shall include full compensation for all labor, materials, and equipment necessary to perform the work as described herein and as required by the manufacture's guidelines and construction standards. All the work as described herein is consider incidental to the water line replacement and shall be included in the unit bid price for this Item. No additional compensation will be provided.

ITEM 657. TEMPORARY FENCE

FOOT

Work under this item shall conform to the relevant provisions of Subsection 644 of the Standard Specifications and the following:

The work under Item 657. consists of furnishing, installing and final removal of 6-foot high temporary chain link fence to separate construction activities from public access as shown on the plans or as required by the Engineer.

The temporary 6-foot-high chain link fence shall be placed around the work area to protect areas with excavations as required by the Engineer and shall meet the requirements of the Standard Specifications and the Construction Standards.

All posts, including end, corner and intermediate brace posts, and all gates and gate posts, shall be incidental to Item 657. Gates shall be used at all locations that are to be opened on a regular basis. The materials need not be new and shall be in a condition suitable for the intended purpose. All materials shall have the Engineer's approval.

The Contractor shall be responsible for the maintenance of the fencing and for ensuring that the work area remains secure and inaccessible to the abutters at all times. All such maintenance shall be incidental. Any minor or short-term removing and resetting of temporary fence by the Contractor to perform construction operations shall be done at no additional cost to the Department.

The Contractor shall submit a plan to the Engineer indicating the locations and the amount of Temporary Fence that he anticipates he will install for the project. The methods of installation(s) and fence detail(s) shall also be submitted for approval by the Engineer. The Contractor shall inspect the condition of temporary fence on a daily basis. Temporary fence that is damaged shall be promptly replaced by the Contractor at no additional cost to the Department.

It may be necessary to remove sections of the Temporary Fence during construction. Any removing/resetting of the Temporary Fence by the Contractor to facilitate his/her operations or site access shall be done at no additional cost to the Department. Fence fabric shall be placed on the top of the post away from the work area. A top tension wire, rather than the pipe top rail, shall be used. The top edge of the fabric shall be finished with a "knuckled" salvage. The Temporary Fence shall not be removed until construction is completed, or as directed by the Engineer.

After all other construction activities are complete, temporary fencing shall be removed and disposed off site by the Contractor at no additional cost.

ITEM 657. (Continued)

METHOD OF MEASUREMENT

Item 657. will be measured for payment by the Foot, complete in place.

BASIS OF PAYMENT

Item 657. will be paid for at the Contract unit bid price per foot, which price shall include all labor, materials, equipment and incidental costs required to complete the work. No separate payment will be made for gates, end, corner and intermediate posts and foundations, maintenance, and removal and resetting of same, but all costs in connection therewith shall be included in the Contract unit price bid.

ITEM 701.

CEMENT CONCRETE SIDEWALK

SY

The work to be done under this item shall conform to the relevant provisions of section 700 of the standard specifications and the following:

Work shall include installing new 4" thick concrete sidewalks at the southeast, southwest and northeast approach corners to the limits as shown on the Plans. The work under this Item includes concrete curb and ramps as required to restore the areas back to their existing elevations and to the elevations shown on the Plans. Due to existing physical constraints it is not intended that the ramps will meet current standards. The intent to restore the areas back to their original elevations with minor modifications where shown on the Plans. All the materials and labor required to do the work as described shall be included in the contract bid price per square yard for this Item.

METHOD OF MEASUREMENT

Item 701 Cement Concret Sidewalk shall be measured for payment per square yard complete in place.

BASIS OF PAYMENT

Compensation for Item 701 shall be paid for at the contract unit price, per square yard, which price shall include full compensation for all labor, equipment, materials, disposal fees, transportation, and incidentals necessary for the satisfactory completion of the work.

ITEM 905.2**5000 PSI, 3/8 INCH, 710 HP CEMENT CONCRETE****CY****DESCRIPTION**

The work under this Item shall conform to the relevant provisions of Section 901 of the 2024 Standard Specifications with current Supplemental Specifications, and the following.

The work under this Item consists of installing a patch in a void near the base of the south abutment as shown on the Plans. The void is located approximately 20' in from the west facia. The hole is approximately 2' x 2' x 1.5' deep. Work under this Item also includes filling voids in other locations as designated by the Engineer.

SUBMITTAL

The Contractor shall submit a placement procedure to the Engineer for approval prior to beginning work. The submission shall show the locations of repair and expected quantities, describe the materials, equipment, and method and sequence of work to be completed.

CONSTRUCTION METHODS

Concrete shall be placed in the dry. Coordination with the Starrett Company to control the water and other means to control water including but not limited to sandbags are considered incidental to this Item.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Concrete shall be measured by the cubic yard of patch area, complete in place and accepted by the Engineer. Payment under this Item shall be made at the contract unit price per cubic yard installed. The price shall include full compensation for all labor, materials, and equipment necessary to perform the work described above to the satisfaction of the Engineer.

ITEM 909.2

CEMENTITIOUS MORTAR FOR PATCHING

SQUARE FOOT

DESCRIPTION

The work under this Item shall conform to the relevant provisions of Section 901 of the 2024 Standard Specifications with current Supplemental Specifications, and the following:

The work under this Item consists of furnishing and placing a polymer-modified, cementitious, 2-component, fast-setting, trowel grade patching mortar to repair/patch and overlay the west face of existing deck at 14” deep sawcut as specified on the Plans and as designated by the Engineer. Additionally, the work includes installation of this material as a bedding grout at each abutment in preparation for precast beam installation. Similarly, the work includes installation of this material on top of the existing stone masonry retaining walls at the northwest corner in preparation for moment slab installation.

SUBMITTAL

The Contractor shall submit product data and a placement procedure to the Engineer for approval prior to beginning work. The submission shall show the locations and expected quantities, describe the materials, equipment, and method and sequence of work to be completed.

CONSTRUCTION METHODS

Epoxy bonding compound shall be applied to the existing concrete and abutment, immediately prior to placing the cementitious mortar. Epoxy bonding compound shall be used as a bonding adhesive. Epoxy bonding compound shall be applied in accordance with manufacturer's recommendations and shall conform to the requirements of the Specifications, Subsections 901.68.C and M.4.05.5.

MATERIALS

The Contractor shall submit catalog cutouts of the polymer modified cementitious mortar system and epoxy bonding compound, including manufacturer's literature completely describing the products to be used along with product testing results as required, to the Engineer for his review and approval. 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.

Surface Preparation

Areas to be patched must be clean and sound and shall be prepared in accordance with the manufacturer's specifications.

Mixing

Mix manually or mechanically. The mortar shall be prepared in accordance with the manufacturer's instructions.

ITEM 909.2 (Continued)

Application and Finish

The bedding grout for precast beam shall be installed, level, to a thickness of approximately ½” minimum at each abutment. Bevel edges at limits, do not feather. Maximum thickness of bedding grout shall not exceed 1” without prior approval of the Engineer.

At time of application, surfaces shall be damp (saturated surface dry) with no glistening water. Application and finishing shall be as per the manufacturer’s specifications and requirements.

Curing

1. Use fine mist spray of water, wet burlap, or non-solvent approved curing compound if ambient conditions might cause premature surface drying by high temperatures, low humidity and strong winds. If necessary, protect newly applied mortar from rain. To prevent freezing, cover with insulating material.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Measurement of Cementitious Mortar for Patching shall be measured by the square foot of patch area, complete in place and accepted by the Engineer. Payment under this Item shall be made at the contract unit price per Square Foot of Cementitious Mortar For Patching installed. The price shall include full compensation for all labor, materials, and equipment necessary to perform the work described above to the satisfaction of the Engineer. Epoxy Bonding Compound required for use with Cementitious Mortar is considered incidental to this Item.

ITEM 913.3**CORING AND GROUTING DOWELS****EACH**

The work under this heading shall consist of coring and grouting holes for dowels in the top of existing deck slab, the top of abutment and in the face of abutment as shown on the Plans, or as directed 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 core the holes, and the diameter of the core hole shall at shall conform to the recommendations of the manufacturer and be submitted to the Engineer for approval. Approximate embedment on the plans shall be adjusted in accordance with the manufacturer's recommendations.

MATERIALS

The grout to be used for these dowels shall meet the requirements of:

1. "Garonite HD" as manufactured by Garon Products, Incorporated of Wall, New Jersey.
2. "FX-228", as manufactured by Fox Industries, Incorporated of Baltimore, Maryland.
3. "Five Star Grout", as manufactured by U.S. Grout Corp. of Fairfield, Connecticut.
4. An approved equal. A copy of MassDOT's Qualified Construction Materials List (QCML) may be consulted and is available on its website.
5. Adhesive Anchors listed on MassDOT Qualified Construction Materials List (QCML) can be submitted as an alternative.

Reinforcing steel dowels shall meet the requirements of AASHTO M 31 (ASTM A615) Grade 60. All reinforcing steel dowels shall be epoxy coated in accordance with AASHTO M 284 or shall be galvanized in accordance with ASTM A767. Reinforcing steel dowels shall be incidental to the work under this Item.

CONSTRUCTION

All dowel holes shall be diamond core drilled. No impact or percussion type drills will be allowed without prior approval of the Engineer. The inner surfaces of the diamond core dilled dowel holes shall be scored to develop sufficient keying action. 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 any damage to any portion of the existing structure that is to remain in place. There is existing steel mesh approximately 3.5" below the top surface of the slab. Care shall be taken while coring through the steel mesh. 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 or adhesive material prior to the placement of the dowels. Dowels shall not be ordered until the embedment lengths have been approved by the Engineer.

ITEM 913.3 (Continued)

SUBMITTAL

For each application, the contractor shall submit manufacturer's guidelines for installation, proposed embedment length, the method and equipment used to core the holes, and the diameter of the core hole shall conform to the recommendations of the manufacturer and be submitted to the Engineer for approval.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Item 913.3 shall be measured as each, in place, which price shall include all labor, materials, equipment and incidental costs required to complete the work as described herein.

ITEM 994.01**TEMPORARY PROTECTIVE SHIELDING**
BRIDGE NO. A-15-036**LUMP SUM**

Work under this Item shall provide for the protection of the Sluice Way and adjacent utilities. The work done consists of designing, furnishing, installing, maintaining, removing, and disposing of a protective shielding system on and under the bridge for demolition of the west sidewalk and associated work as explained under Item 114.

All shielding shall meet the following requirements:

1. The Contractor shall submit for review Plans of proposed shielding stamped by a Professional Structural Engineer registered in the Commonwealth of Massachusetts at the pre-construction conference. The plan for shielding must be submitted in coordination with demolition procedure required under Item 114.1. The drawings shall include a plan view and details of all connections, brackets and fasteners.
2. Protective shielding shall not be installed until the Engineer's review is completed. No portion of the bridge deck, railing, or other portion of the existing structure shall be removed until Protective Shielding is complete in place.
3. The shielding shall extend a sufficient distance beyond the deck limits and have walls sufficient to contain any debris. The shielding shall extend the full length of the bridge span. The Contractor may use the existing abutments and pier as supports for the protective shielding.
4. The shielding shall extend the full length of the bridge span and a sufficient distance above and beyond the girders as required to protect debris from entering the river below. All spaces along the perimeter of the shielding and at the seams shall be sealed to prevent dust and debris from escaping and falling into the river. Shielding should be sealed using polyurethane sheets to prevent fine debris from falling into the river below.
5. Shielding shall be designed to safely withstand all loads it would be subjected to during construction. The allowable design stresses shall be in accordance with AASHTO Standard Specifications for Highway Bridges. The design shall also include a complete description of the equipment and construction methods proposed for the deck removal and the maximum size of deck area excavated (i.e. 12 inch x 12 inch jack hammered sections or 6 foot x 2 foot wet saw cut sections). The shielding shall also be designed to withstand impact loads from the maximum size of concrete decking should it fall during removal.
6. The protective shielding shall not lessen the existing clearances under the bridge without the approval of the Engineer.
7. The shielding shall be maintained and remain in place until the deck is completely removed. Shielding shall be removed only upon approval of the Engineer. After completion, the shielding shall be removed and disposed of to the satisfaction of the Engineer.

All materials used in the shielding systems shall become the property of the Contractor and shall be removed from the site at the completion of the project.

ITEM 994.01 (Continued)

COMPENSATION:

The Lump Sum Price shall include all labor, materials, tools, equipment and incidentals required for the satisfactory installation and subsequent removal of the Temporary Protective Shielding. Payment of 70% of the Lump Sum Bid Price of this Item will be made upon complete installation to the satisfaction and approval of the Engineer. The remaining 30% of the Lump Sum Bid Price of this Item will be paid following proper removal and disposal of the shielding

ITEM 992.1 ALTERATION TO BRIDGE STRUCTURE, BRIDGE NO. A-15-036 LS

The work under this Item shall conform to the applicable provisions of Section 995 of the Standard Specifications and the specific requirements stipulated below for component parts of the subject Item. For those component parts where no specific requirement is stipulated, the Standard Specifications shall apply, except for payment.

Work under this Item shall include all materials, equipment and labor needed for the following:

- Cast-in place 12” deep (minimum) reinforced concrete deck slab
- Cast-in place CT-MTL2 bridge rail
- Cast-in place moment slab including CT-MTL2 railing
- Cast-in-place concrete safety curb and termination for CM-MTL3 bridge railing
- Cast-in-place bridge sidewalk
- Cast-in-place approach sidewalks
- Water pipe utility support angles, plates and hangers
- Steel Reinforcement for Structures-Epoxy Coated
- Precast Concrete Beam
- Scupper and downspout
- Sealing joints at bridge

If the work does not include any items listed separately in the proposal. Payment for materials shown on the Plans as being part of the bridge structure or which may be incidental to its construction and are not specifically included for payment under another Item shall be considered incidental to the work performed under this Item and shall be included in the unit price of the component of which they are a part. Mechanical bar splicers and inserts in precast concrete beam are considered incidental to this construction.

STRUCTURAL STEEL – COATED STEEL

The work under this sub-item shall consist of the fabrication, galvanizing, and installation of structural steel utility support angles, plates and rods as shown on the Plans. Drilling holes through the existing 14” concrete deck to install hanger rods is consider incidental to this sub-item. Care shall be taken to drill through the wire mesh so that the existing deck to remain is not damaged. The work shall conform to the applicable provisions of Section 960 and Subsections M7.10.0 and M8.05.0 of the Standard Specifications and the following:

The Contractor shall supply all labor, materials, tools, equipment required to accomplish this work as incidental to this sub-item. Steel utility supports shall conform to the requirements of AASHTO M270 Grade 36 and shall be galvanized after fabrication in accordance with Section 975.63 of the Standard Specifications. Should any damage occur to the coating during shipping or handling at the job site, the contractor shall repair and touch-up any damaged areas in accordance with Section 975.65 of the Standard Specifications.

ITEM 992.1 Continued

SUBMITTAL

The contractor shall field verify that the utility support rod locations are not in conflict with encased steel beam locations. If a drill holes are used to verify the location of steel beams, the holes shall be filled with an applicable non-shrink grout from the MassDOT QCML. If there is a conflict, the angles and plates shall be lengthened to avoid conflict. The contractor shall submit a Plan and fabrication drawings of utility support angle and plate, in coordination with pre-insulated water pipe dimensions verifying the placement and hole locations for review and approval by the Engineer prior to ordering any materials.

SCUPPER AND DOWNSPOUT

The work under this sub-item shall consist of the fabrication, galvanizing, and installation of two bridge scuppers in their entirety as shown on the Plans and as required to complete the work in accordance with the MassDOT Construction Standard Details and MassDOT Standard Specifications. The work shall conform to the applicable provisions of Section 960 and Subsections M7.10.0 and M8.05.0 of the Standard Specifications and the following:

The Contractor shall supply all labor, materials, tools, equipment required to accomplish this work as incidental to this sub-item. Scupper grates are considered incidental to this sub-item. All steel shall conform to the requirements of AASHTO M270 Grade 36 unless noted otherwise. Tube steel shall conform to A500 Grade A or B. All steel shall be hot-dip galvanized in accordance with Section 975.63 of the Standard Specifications. Should any damage occur to the coating during shipping or handling at the job site, the contractor shall repair and touch-up any damaged areas in accordance with Section 975.65 of the Standard Specifications.

SUBMITTAL

The contractor shall submit fabrication drawings of each bridge scupper along with a Plan verifying the location and lengths for review and approval by the Engineer prior to ordering any materials. The contractor shall field verify that the scuppers and downspouts as detailed will fit into the existing conditions.

CAST-IN-PLACE CONCRETE

The work under these headings shall conform to the relevant provisions of Subections 901 and the relevant provisions of Materials Section M4 of the Standard Specifications and the following:

The work under the below headings include furnishing, transporting and installing cast-in-place elements as shown on the plans. The labor and materials associated with the following items shall be considered as included in the unit price per cubic yard of concrete or per each unit, as stated by the Contractor and as approved by the Engineer in the respective "Basis for Partial Payments": all preformed and pre-molded filler, joint sealer(color to match concrete), caulking, closed cell foam, weep holes, materials complete in place at construction joints and all other work considered as incidental to the work involved in furnishing and placing the concrete to the lines and grades on the plans and all other work not covered in the schedule of basis for Partial Payments or for which payment is not provided elsewhere in the Contract.

ITEM 992.1 Continued

Compressive Strength

Minimum 28 Day design compressive strength shall be as noted on the plans or these provisions.

5000 psi, HP CEMENT CONCRETE

- Reinforced Concrete Deck Slab
- Reinforced Concrete CT-MTL2 bridge rail
- Reinforced Concrete moment slab including CT-MTL2 railing
- Reinforced Concrete rail base and termini for CM-MTL3 bridge railing
- Reinforced Concrete bridge sidewalk
- Cast-in-place approach sidewalks

SUBMITTALS

FORMWORK

Inserts for ¾” bolts are placed in the precast sidewalk slab at 1’-0” on center as shown on the Plans. The inserts are intended to be utilized for a channel support of formwork as shown on the drawings. The channel is considered incidental to this construction and not for payment. The contractor could choose not to use the channel and proposed an alternative means to support formwork. The contractor shall submit a plan and details of formwork for the deck slab along its west edge for review and approval by the Engineer. The plan and associated calculations shall be stamped by a Professional Engineer registered in the state of Massachusetts. After construction of the deck slab, inserts can be filled with galvanized bolts and washers or with Cement Mortar (M4.02.15) or grout.

BOND BREAKER

Incidental to the cost of this construction is a bond breaker which shall be applied to the top of existing deck slab prior to the installation of the proposed deck slab. The bond breaker shall be a geotextile fabric for separation or liquid applied from the MassDOT QCML and shall be submitted to the Engineer for approval.

STEEL REINFORCEMENT FOR STRUCTURES – EPOXY COATED

The work under these headings shall conform to the applicable provisions of Section 901 and 960 of the Standard Specifications and the following. The work shall include installation of steel reinforcement in cast-in place concrete components, i.e. deck slab, bridge rail, safety curb, sidewalks and moment slabs. All reinforcing steel shall be epoxy coated.

Mechanical reinforcing bar splicers shall meet the requirements of M8.01.9, be listed on the Qualified Construction Materials List and be used as necessary at construction joints or at other locations indicated on the Plans. Mechanical bar splicers shall be placed in the precast beam as shown on the Plans and shall be considered as incidental to the work involved in the furnishing and placing of reinforcing steel. Inserts used for ¾” bolts and mechanical bar splicers in precast beam are considered incidental to this construction. Steel Reinforcement bars required in the precast beam are considered incidental to the cost of the precast element.

Accessories supporting epoxy coated bars, shall also be epoxy coated. Individual and continuous slab bolsters and chairs shall be of type to suit various conditions encountered and must be capable of supporting a 300-lb load without damage or permanent distortion. Reinforcing supports shall be considered as included in the price per pound of Steel Reinforcement for Structures - Epoxy Coated, as stated by the Contractor, and approved by the Engineer in the "Basis for Partial Payments"

METAL BRIDGE RAIL, STEEL (TYPE CM-MTL3)

The work under this heading shall conform to the applicable provisions of Sections 960 and 975 of the Standard Specifications, the material requirements outlined in M8.13.1, and the details shown on the Plans.

PRECAST CONCRETE SIDEWALK BEAM

General.

The work under this heading consists of fabricating, transporting and installing the Precast Concrete Sidewalk Beam and includes all necessary labor, materials, and equipment to complete the work as shown on the Plans. The work shall conform with the MassDOT Standard, Supplemental, and Interim Specifications and the requirements of the current AASHTO LRFD Bridge Construction Specifications, supplemented by the current relevant provisions of the latest edition of PCI MNL-116 (The Manual for Quality Control for Plants and Production of Precast and Prestressed Concrete Products), except as noted herein.

QUALITY ASSURANCE

A. General.

Quality Assurance includes all the planned and systematic actions necessary to provide confidence that a product or facility will perform satisfactorily in service. It is an all-encompassing term that includes Quality Control (performed by the Fabricator) and Acceptance (performed by MassDOT). Quality Control is the system used by the Contractor and Fabricator to monitor and assess their production processes at the plant facility and installation activities at the project site to ensure that the final product will meet the specified level of quality. Acceptance includes all factors used by MassDOT to determine the corresponding value for the product. MassDOT Acceptance inspection at the plant facility is intended as a means of evaluation of compliance with contract requirements. Contractor and Fabricator Quality Control activities and MassDOT Acceptance activities shall remain independent from one another. MassDOT Acceptance activities shall not replace Fabricator Quality Control activities.

B. Fabricator Quality Control.

Quality Control shall be performed by the Fabricator to ensure that the product is fabricated in conformance with the specifications herein. The Fabricator shall maintain a Quality Control system to monitor, assess, and adjust placement and fabrication processes to ensure the Precast Concrete Bridge Element(s) meet the specified level of quality, through sufficient Quality Control sampling, testing, inspection, and corrective action (where required). The Fabricator's Quality Control system shall address all key activities during the placement and fabrication and shall be performed in conformance with the Fabricator's NPCA or PCI Certification. Quality Control documentation shall meet the requirements of the *Fabricator Quality Control – Documentation* section below. Upon request, Fabricator Quality Control documentation shall be provided to the MassDOT Plant Inspector.

ITEM 992.1 Continued

1. Plant.

Prior to the fabrication of Precast Concrete Bridge Elements, the Fabricator's precast concrete plant shall obtain the following:

- (a) Certification by the National Precast Concrete Association (NPCA) Plant Certification Program or Precast/Prestressed Concrete Institute (PCI) Plant Certification Program, for the applicable types of Precast Concrete Bridge Element(s) being fabricated
- (b) MassDOT Prequalification
- (c) MassDOT Mix Design Approval

All concrete for a given Precast Concrete Bridge Element shall be produced by a single company and plant, unless otherwise approved by the Engineer.

2. Personnel.

The Fabricator shall provide adequate training for all QC personnel in accordance with NPCA or PCI certification. There shall be sufficient personnel trained and certified to perform the tests listed under Subsection M4.02.13, Part D. At a minimum, the Fabricator's Quality Control Personnel shall maintain the following qualifications and certifications:

- (a) QC Manager with an active NETTCP Field Technician or ACI Concrete Field Testing Technician – Grade I certification or higher, and a minimum of 4 years continuous experience in the manufacture of Precast Concrete Bridge Elements for state transportation departments. The QC Manager shall be on site while the batch plant is producing and placing concrete for MassDOT projects.
- (b) A Technician/Inspector having the Precast/Prestressed Concrete Institute (PCI) Technician/Inspector Level I or NorthEast Transportation Training and Certification Program (NETTCP) Precast Concrete Inspector, or higher.

The Contractor shall submit to the Engineer a copy of the Fabricator's Quality Control Personnel required qualifications, as specified above.

3. Laboratory.

The Fabricator shall provide a room of sufficient size to house all equipment and to adequately perform all testing. The room shall have either a separate moisture storage room or curing box for concrete cylinders, and it shall be thermostatically controlled to maintain temperatures consistent with AASHTO T 23. It shall include a desk and file cabinet for proper record keeping, and have good lighting and ventilation. This room shall be kept for testing and quality control and not used for any other purpose. An additional desk and file cabinet shall be provided for exclusive use of the Engineer. No exception from these requirements will be allowed without the express written permission of the Engineer.

ITEM 992.1 Continued

4. Testing Equipment.

At a minimum, the Fabricator's plant facility shall have the following testing equipment:

- (a) Air Content Meter Type A or B: AASHTO T 152
- (b) Air Content Meter Volumetric Method: AASHTO T 196 (Required for Lightweight Concrete)
- (c) Slump Cone: AASHTO T 119
- (d) Cylinder Molds AASHTO M 205
- (e) Concrete Testing Machine: AASHTO T 22
- (f) Screening Sieve: AASHTO T 27, AASHTO T 11
- (g) Curing Box: AASHTO T 23
- (h) Spread Test Base Plate for Self-Consolidating Concrete (SCC): ASTM C1611
- (i) All other equipment prescribed by AASHTO and ASTM standards for the tests to be performed by the Fabricator as specified

5. Inspection.

Quality Control personnel shall monitor and inspect the fabrication of each Precast Concrete Bridge Element. Quality Control personnel shall report all inspection activities on Quality Control Inspection Reports and non-conformances on Non-Conformance Reports (NCRs) throughout the entire fabrication process, as specified herein.

6. Temperature Monitoring.

At a minimum, the Fabricator shall monitor, record, and report the temperatures of the form, ambient temperatures surrounding the concrete, and temperatures of the concrete continuously, without interruption as specified below:

- (a) Prior to placement of concrete to verify that $T_i \geq 50^\circ\text{F}$.
- (b) Immediately after placement to verify that $T_i \geq 50^\circ\text{F}$ is maintained.
- (c) Throughout the entire duration of the curing cycle, at regular intervals not to exceed one hour until 100% Design Strength (f'_c) is attained and concrete has cooled to within 40°F of the ambient temperature surrounding the Precast Concrete Bridge Element.

At a minimum, the temperature measuring devices shall record and report the temperature of the concrete to the nearest 2°F . At least two temperature sensors (thermocouples) shall be positioned to record the maximum and minimum anticipated concrete temperatures. The anticipated minimum temperature shall be measured with one or more thermocouples at a distance no greater than 2 inches from the surface of the thinnest section. The anticipated maximum temperature shall be measured with one or more thermocouples at the center of the thickest section. Proposed temperature measurement locations shall be submitted to the Engineer for approval. Temperature recording devices shall be located within the curing enclosure and calibrated as required by PCI MNL-116 Section 4.18.4. Maximum heat increase and cool down rates shall comply with PCI MNL-116, Section 4.19. The Contractor shall furnish temperature logs recorded at a minimum frequency of once per hour to the Inspector as required, with each post-pour QC inspection report.

ITEM 992.1 Continued

7. Sampling and Testing.

At a minimum, the Fabricator shall perform random Quality Control sampling and testing as specified in *Table 1: Quality Control Sampling and Testing*. The Fabricator shall perform additional Quality Control sampling and testing on concrete that has been retempered with admixtures or hold-back water during fabrication. Test Specimens shall conform to the requirements of Section M4.02.13 of the MassDOT Standard and Supplemental Specifications and AASHTO R 60, with the exception of the Stripping (80% f'_c) set of cylinders. Stripping (80 % f'_c) cylinders shall be cured in the same location and environment as the Precast Bridge Elements they represent. If approved by the Engineer, compressive strength cylinder match curing equipment, that maintains the same concrete conditions that the corresponding Precast Bridge Element is exposed to, may be utilized in lieu of Stripping (80 % f'_c) field cured cylinders, with the use of thermocouples, controllers, and heaters.

ITEM 992.1 (Continued)

Table 1: Quality Control Sampling and Testing

Quality Characteristic	Test Method	Sample Size	Specification Limit	Lot Size ^(c)	Sublot Size ^(d)	Frequency	Point of Sampling
Slump (in.) ^(a)	AASHTO T 119	Per AASHTO	≤ 8 in. or as approved by the Engineer	Total Quantity of Concrete (cy) produced on a Contract, per Type of Element fabricated, per Mix Design	20 cy	One (1) per Sublot or fraction thereof	Point of Discharge
Air Content (%)	AASHTO T 152	Per AASHTO	5% ≤ % ≤ 8%				
Temperature (°F)	AASHTO T 309	Per AASHTO	50°F ≤ °F ≤ 90°F				
Compressive Strength (psi)	AASHTO T 22	Stripping Cylinders: One (1) set of Three (3) 4 x 8 in.	≥ 80% f _c at Stripping				
		7-day Cylinders: One (1) set of Three (3) 4 x 8 in.	For Information at 7 days				
		28-day Cylinders: One (1) set of Three (3) 4 x 8 in.	≥ 100% f _c at 28 days				
		56-day Cylinders: One (1) set of Three (3) 4 x 8 in.	≥ 100% f _c at 56 days ^(b)				

Notes:

- (a) Self-consolidating concrete (SCC) shall meet the requirements of M4.02.17.
- (b) 56-day Compressive Strength test specimens shall require testing only when 28-day Compressive Strength test specimens have failed to meet Design Strength (f_c).
- (c) Lot shall be defined as a specific quantity of material from a single source, produced or placed by the same controlled process.
- (d) Sublot shall be defined as an equal division or part of a Lot from which a sample of material is obtained in order to assess the Quality Characteristics of the Lot.

ITEM 992.1 (Continued)

8. Certificate of Compliance.

The Fabricator shall provide a Certificate of Compliance in accordance with Standard Specifications, Division I, Section 6.01, stating that QC test cylinders have achieved the design strength, f_c . A Certificate of Compliance shall accompany each shipment and shall be presented to the MassDOT Resident Engineer or designee upon delivery to the site.

9. Documentation.

At a minimum, the Fabricator shall maintain a filing system for the following QC records and documentation. All QC records and documentation shall be made available to MassDOT upon the request of the Department.

- (a) Current MassDOT Approved Mix Design Sheet(s) and Approval Letter(s)
- (b) PCI or NPCA Certification
- (c) Current Qualifications and Certifications for QC Manager(s) and QC Technician(s)
- (d) Most current set of Approved Shop Drawings
- (e) Approved Placement, Finishing and Curing Plan
- (f) Approved Dunnage Plan
- (g) Fabricator Certificate of Compliance for each fabricated Precast Concrete Bridge Element
- (h) Admixture Manufacturer's Certification of Compliance for each approved Admixture
- (i) Completed QC Inspection Report for each fabricated Precast Concrete Bridge Element
- (j) Identification Number for each fabricated Precast Concrete Bridge Element
- (k) Time and date of casting of each fabricated Precast Concrete Bridge Element
- (l) Date of stripping of each fabricated Precast Concrete Bridge Element
- (m) Batch Ticket Printout reporting the quantity of concrete produced for each batch of concrete produced
- (n) Concrete temperature records for each Precast Concrete Bridge Element fabricated
- (o) QC Test Report Forms for each subplot of concrete produced
- (p) Non-Conformance Reports (NCRs)
- (q) Documentation of Repairs (if applicable)

C. Acceptance.

MassDOT will perform Acceptance inspection, sampling, and testing during fabrication and installation, to evaluate the quality and degree of compliance of the fabricated Precast Concrete Bridge Element to MassDOT specifications. Additionally, MassDOT Inspectors will monitor the Fabricator's Quality Control activities to ensure the Fabricator is properly administering Quality Control in conformance with the Fabricator's NPCA or PCI Certification. Acceptance inspection and test results not meeting MassDOT specifications will result in Non-conformance Reports (NCR) being issued by MassDOT to the Fabricator or Contractor for corrective action. Final Acceptance for the fabricated Precast Concrete Bridge Elements shall be determined by MassDOT.

1. Inspection.

A MassDOT MassDOT Inspector will be assigned to perform Acceptance activities during fabrication, which includes the inspection of the materials, work procedures, and Precast Concrete Bridge Elements. At least seven (7) days prior to the scheduled start of fabrication, the Fabricator shall

contact the MassDOT Research and Materials Section (RMS) to provide notice of the scheduled fabrication start date. The Fabricator shall complete the following activities prior to notifying MassDOT RMS of the scheduled start date:

- (a) Receive approval for all submitted Fabricator cement concrete mix designs from the MassDOT Research and Materials Section for the current year, as specified under the *Mix Design* section and *Table 3: Trial Batch Sampling Testing for New Mix Designs*. Self-consolidating concrete shall meet the requirements of M4.02.17.
- (b) Receive approval for the submitted Fabricator Placement, Finishing, and Curing Plan from the MassDOT Research and Materials Section, as specified under the *Placement, Finishing, and Curing Plan* section.
- (c) Receive Engineer of Record approved shop drawings from the MassDOT Research and Materials Section as specified under the *Shop Drawings* section.
- (d) Participate in the pre-production meeting, as described under the *Pre-Production Meeting* section (if required).

Prior to the start of fabrication, the Fabricator shall review the fabrication schedule with the MassDOT Inspector. Fabrication shall only proceed when:

- (a) The QC Inspector and MassDOT Inspector are present to inspect the Precast Concrete Bridge Element(s) being fabricated.
- (b) The QC Manager is present at the Fabricator's plant.

The Fabricator shall grant access to all required areas of the Fabricator's plant to the MassDOT Inspector, during the hours of fabrication. Fabrication without MassDOT Inspector access to required areas is prohibited, and will result in the rejection of the fabricated Precast Concrete Bridge Element(s).

Additionally, the MassDOT Inspector will monitor the adequacy of the Fabricator's Quality Control activities. MassDOT Inspector Acceptance activities performed at the Fabricator's plant shall remain independent from the Fabricator, and does not replace the Fabricator's required Quality Control activities.

2. Sampling and Testing.

At a minimum, the MassDOT Inspector will perform random Acceptance sampling and testing for each Sublot of concrete produced as specified in *Table 2: Acceptance Sampling and Testing*. The MassDOT Inspector will also perform Acceptance sampling and testing on concrete that has been retempered with admixtures or hold-back water during production. Test Specimens will conform to the requirements of Section M4.02.13 of the MassDOT Standard and Supplemental Specifications and AASHTO R 60.

ITEM 992.1 (Continued)

Table 2: Acceptance Sampling and Testing

Quality Characteristic	Test Method	Sample Size	Specification Limit	Lot Size ^(c)	Sublot Size ^(d)	Frequency	Point of Sampling
Slump (in.) ^(a)	AASHTO T 119	Per AASHTO	≤ 8 in. or as approved by the Engineer	Total Quantity of Concrete (cy) produced on a Contract, per Type of Element fabricated, per Mix Design	20 cy	One (1) per Sublot or fraction thereof	Point of Discharge
Air Content (%)	AASHTO T 152	Per AASHTO	5% ≤ % ≤ 8%				
Temperature (°F)	AASHTO T 309	Per AASHTO	50°F ≤ °F ≤ 90°F				
Compressive Strength (psi)	AASHTO T 22 AASHTO T 23	7-day Cylinders: One (1) set of Three (3) 4 x 8 in.	For Information at 7 days				
		28-day Cylinders: One (1) set of Three (3) 4 x 8 in.	≥ 100% f _c at 28 days				
		56-day Cylinders: One (1) set of Three (3) 4 x 8 in.	≥ 100% f _c at 56 days ^(b)				

Notes:

- (a) Self-consolidating concrete (SCC) shall meet the requirements of M4.02.17.
- (b) 56-day Compressive Strength test specimens shall require testing only when 28-day Compressive Strength test specimens have failed to meet Design Strength (f_c).
- (c) Lot shall be defined as a specific quantity of material from a single source, produced or placed by the same controlled process.
- (d) Sublot shall be defined as an equal division or part of a Lot from which a sample of material is obtained in order to assess the Quality Characteristics of the Lot.

MATERIALS

A. Materials.

Materials shall meet the following specifications (if applicable):

General	M4.00.00
Portland Cement	M4.01.0
Blended Hydraulic Cements	M4.01.1
Fly Ash	M4.01.2
Cement Concrete	M4.02.00
Cement	M4.02.01
Cement Mortar	M4.02.15
Aggregates	M4.02.02

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Lightweight Aggregates	M4.02.03
Water	M4.02.04
Cement Concrete Additives	M4.02.05
Proportioning	M4.02.06
Mixing and Delivery	M4.02.10
Test Specimens	M4.02.13
Mortar for Filling Keyways	M4.04.0
Slag	AASHTO M 302
High Performance Cement Concrete	M4.06.1
Self-Consolidating Concrete (SCC)	M4.02.17
Controlled Density Fill – Non-Excavatable	M4.08.0
Reinforcing Bars	M8.01.0
Epoxy Coated Reinforcing Bars	M8.01.7
Galvanized Reinforcing Bars	M8.01.8
Welded Wire Reinforcement	M8.01.2
Mechanical Reinforcing Bar Splicer	M8.01.9
Lifting Devices	PCI MNL-116
Corrugated Metal Pipe	AASHTO M 36

1. Cement Concrete Mix Design.

The cement concrete shall be comprised of specified proportions of water and MassDOT approved aggregates, cement, supplementary cementitious materials (SCMs), and admixtures to form a homogenous composition. Cement concrete for Precast Concrete Bridge Elements shall meet the requirements of M4.06.1 High Performance Cement Concrete, with the exception that the “Total Cementitious Content” specified shall be considered the “Maximum Allowable Cementitious Content”. When used, self-consolidating concrete (SCC) shall meet the requirements of M4.02.17.

Prior to production of cement concrete, the Fabricator shall report and submit all proposed mix design formulations and its constituent materials onto the MassDOT Cement Concrete Mix Design Sheet to the MassDOT Research and Materials Section for review and approval. All mix design yields shall be designed for 1.0 cubic yards of concrete, with an allowable tolerance of +/- 1.0 %. All liquids incorporated into the proposed mix design(s) shall include both water and admixtures in the liquid mass calculation.

During production of cement concrete, the Fabricator shall not alter the previously approved mix design formulation or its constituent materials. Proposed alterations in source, type, batch quantity, or gradation to any of the constituent materials of the previously approved mix design formulation shall require a new MassDOT Mix Design Sheet submission to the MassDOT Research and materials Section for review and approval. Fabrication shall not occur without prior MassDOT mix design approval.

The Fabricator shall notify MassDOT RMS to schedule trial batch testing for the new mix design(s). Trial batch testing shall meet the following requirements:

ITEM 992.1 Continued

- (a) Performed by a qualified laboratory and/or AASHTO accredited laboratory.
- (b) Performed and/or sampled in the presence of a MassDOT Inspector.
- (c) Meet the requirements as specified in *Table 3: Trial Batch Sampling Testing for New Mix Designs*. Self-consolidating concrete (SCC) shall meet M4.02.17.

Failure to perform all of the required trial batch testing or provide MassDOT RMS trial batch test results within the Specification Limits (as specified in Table 3) will result in the disqualification of the Fabricator’s proposed mix design(s).

Table 3: Trial Batch Sampling and Testing for New Mix Designs

Quality Characteristic	Test Method	Sample Size	Specification Limit	Performed By
Slump ^(a)	AASHTO T 119	Per AASHTO	Max. 8 inches or as approved by the Engineer	Quality Control
Air Content (AC)	AASHTO T 152	Per AASHTO	$5\% \leq AC \leq 8\%$	Quality Control
Temperature (°F)	AASHTO T 309	Per AASHTO	$50^{\circ}\text{F} \leq ^{\circ}\text{F} \leq 90^{\circ}\text{F}$	Quality Control
Compressive Strength ^(b)	AASHTO T 22 AASHTO T 23	28-day Cylinders: One (1) set of Three (3) 4 x 8 in.	Lab Mixed $f'_{cr} = 1.3 f'_c$ at 28 days Batch Mixed $f'_{cr} = 1.2 f'_c$ at 28 days	MassDOT
Alkali-Silica Reaction (ASR) ^(d)	ASTM C 1567	Per ASTM	M4.02.00	Quality Control
Resistance to Chloride Ion Penetration Chloride Ion Penetration ^(e)	AASHTO T 358 ^(f)	28-day Cylinders: One (1) set of Three (3) 4 x 8 in.	Resistivity $\geq 21 \text{ k}\Omega\text{-cm}$ at 28 days	MassDOT
Freeze/Thaw Durability ^(c)	AASHTO T 161 (Procedure A)	Per AASHTO	Relative Dynamic Modulus of Elasticity after 300 cycles $\geq 80\%$	Quality Control

Notes:

- (a) Self-consolidating concrete (SCC) shall meet the requirements of M4.02.17.
- (b) Trial batch compressive strength testing shall be performed by MassDOT. Laboratory mixed trial batch compressive strength results shall achieve 130% Design Strength (f'_c). Batch-mixed trial batch compressive results shall achieve 120% f'_c . Acceptance will be based on compressive strength testing performed by MassDOT.
- (c) If an AASHTO accredited laboratory is preparing the trial batch test specimens, MassDOT Acceptance presence is not required. If the Fabricator is preparing the trial batch test specimens, MassDOT Acceptance presence is required during trial batch test specimen preparation.

ITEM 992.1 Continued

- (d) Alkali Silica Reaction (ASR) testing shall meet the requirements of M4.02.00. Independent laboratories performing ASR testing shall be listed on the MassDOT Quality Construction Materials List (QCML).
- (e) Calcium nitrite shall be removed from mix designs containing the admixture and replaced by an equivalent quantity of water when preparing Chloride Ion Penetration resistance trial batch test specimens.
- (f) The Wenner probe tip spacing “a” shall be 1.5.

2. Vertical Adjustment Assembly.

Vertical Adjustment Assembly details and material requirements shall be as shown on the plans. Alternate devices may be used provided that they are adjustable and can support the anticipated loads. The design of the leveling devices, with necessary calculations, shall be submitted to the Engineer of Record for approval.

3. Grout.

Grout used for shear keys, vertical adjustment assembly voids, and hand holes shall be in accordance with M4.04.0.

4. Reinforcement.

All reinforcing steel shall be coated Grade 60 unless otherwise noted on the plans. Mechanical reinforcing bar splicers shall be epoxy coated.

5. Threaded Inserts.

Threaded inserts are permissible to facilitate forming the keyway pours. Threaded inserts shall be hot dip galvanized or made of stainless steel. The number of threaded inserts shall be minimized, and the inserts shall not come in contact with the reinforcing steel.

6. Corrugated Metal Pipe.

Corrugated Metal Pipe to be used for forming voids as specified on the plans shall be fabricated from steel and shall have a protective metallic coating of zinc (galvanizing).

CONSTRUCTION METHODS – PLANT FABRICATION

A. Shop Drawings.

Prior to performing any work under this Section, the Contractor shall receive approval for all shop drawings for the Precast Concrete Bridge Element being worked on and any special Contract requirements, provided that a complete shop drawing package is provided. The Contractor shall not order materials or begin work before receiving approved shop drawings. MassDOT will reject Precast Concrete Bridge Elements that deviate from the approved drawings or are fabricated prior to receiving written approval of the shop drawings. The Contractor shall bear full responsibility and costs for all materials ordered or work performed prior to the approval of the shop drawings or written authorization from MassDOT.

ITEM 992.1 Continued

Contractor shall submit scaled shop drawings to the Engineer of Record for review and approval. Upon approval, the Engineer of Record will forward two (2) sets of scaled, full size (minimum 24x36") paper copies of the Approved (or Approved As Noted) shop drawings to the MassDOT Director of Research and Materials. Calculations are not to be included in any submittal to the Research and Materials Section. An approval stamp shall appear on every shop drawing sheet. Wet-stamping or wet-signing is not required, provided that the stamp and reviewer name are legible. The Fabricator's name and address shall appear on each sheet.

Resubmittal of "Approved as Noted" shop drawings is not necessary for minor revisions, provided that the correction can be clearly understood and is unambiguous without possibility of misinterpretation. Shop drawings with questions or comments that require a response and/or additional information from the Fabricator must be resubmitted.

Detailed shop drawings shall be prepared in accordance with the relevant provisions of Subsection 5.02 and shall, at a minimum, contain the following:

- (a) Number and type and/or piece mark of the precast concrete bridge element including overall length, width and height.
- (b) Skew angle.
- (c) Location, size and geometry of all steel reinforcement, including mechanical reinforcing bar splicers to be used for connecting Precast Concrete Bridge Elements together in the field. Include steel reinforcement size, grade, and coating on the plans.
- (d) Location and details of all inserts, anchors, Vertical Adjustment Assemblies, and any other items required to be cast into the Precast Concrete Bridge Elements (whether detailed on the plans by the Engineer of Record or provided for the Contractor's convenience). Precast Concrete Bridge Elements shall not be fired or drilled into for attachment purposes. All hardware shall be galvanized except as noted.
- (e) Locations and details of the lifting devices, including supporting calculations, type and amount of any additional reinforcing required for lifting. The Fabricator shall design all lifting devices based on the no cracking criteria in Chapter 8 of the PCI Design Handbook (7th edition).
- (f) The minimum compressive strength required prior to handling the precast concrete bridge element.

The shop drawings shall not include procedures for placement, finishing, and curing of concrete. These details shall be included in the Placement, Finishing and Curing Plan that is to be submitted to MassDOT Research and Materials Section as described under *Placement, Finishing, and Curing Plan*.

B. Fabrication.

All Precast Concrete Bridge Elements shall be fabricated in accordance with the latest edition of PCI MNL-116 as modified herein.

ITEM 992.1 Continued

C. Placement, Finishing and Curing Plan.

At least 30 days prior to start of fabrication, the Contractor shall submit the Fabricator's proposed Placement, Finishing and Curing Plan to the Engineer for approval by MassDOT Research and Materials Section. This shall be an independent submittal, separate from the fabrication shop drawings. The Placement, Finishing and Curing Plan shall include the following:

- (a) Method of Mixing
- (b) Method of Placement
- (c) Method of Consolidation
- (d) Method of Finishing
- (e) Method of Initial Curing
- (f) Method of Intermediate Curing
- (g) Method of Final Curing
- (h) Moisture Retention Materials and Equipment (water spray equipment, saturated covers, sheet materials, liquid membrane-forming compounds, accelerated curing equipment, etc.)
- (i) Cylinder Curing Methods, Location, and Environmental Control (temperature, humidity, etc.)
- (j) Temperature Monitoring, Recording, and Reporting

D. Dunnage Plan Shop Drawings.

At least 30 days prior to the start of fabrication, the Contractor shall submit proposed Dunnage Plan Shop Drawings to the Engineer of Record for review and approval. This shall be an independent submittal, separate from the fabrication shop drawings. Upon approval, the Engineer of Record will forward two (2) sets of scaled, full size (minimum 24"x36") paper copies of the Approved (or Approved As Noted) Dunnage Plan to the MassDOT Director of Research and Materials. Calculations are not to be included in any submittal to the Research and Materials Section. The Dunnage Plan shall include the following:

- (g) Proposed layout of the Precast Concrete Bridge Elements for storage in yard and during shipping
- (h) Support and blocking point locations
- (i) Support and blocking materials

E. - Deleted

F. Pre-Production Meeting.

A pre-production meeting will be required to review the specification, shop drawings, curing plan, schedule, and discuss any specific requirements. The meeting shall be held prior to scheduling a MassDOT Inspector (refer to Section *Quality Assurance – Precast Concrete, C. Acceptance, A. Inspection*), and at least seven (7) days prior to the scheduled casting of any Precast Concrete Bridge Element or control section. The Contractor shall schedule the meeting, which shall include representatives of the Fabricator and MassDOT.

ITEM 992.1 Continued

G. Reinforcement.

The reinforcing bars shall be installed in accordance with Section 901.62 of the Supplemental Specifications, including tolerances for cover and horizontal spacing of bars. Components of mechanical reinforcing bar splicers shall be set with the tolerances shown on the plans. The reinforcing bars and mechanical reinforcing bar splicers shall be assembled into a rigid cage that will maintain its shape in the form and which will not allow individual reinforcing bars to move during the placement of concrete. This cage shall be secured in the form so that the clearances to all faces of the concrete, as shown on the plans, shall be maintained.

Where reinforcing bars are to protrude from one Precast Concrete Bridge Element in order to mate with reinforcing bar splicers in a second precast concrete element, the fabricator shall set the reinforcing bars and the reinforcing bar splicers with a template in order to ensure proper fit up within the tolerances specified on the plans.

H. Tolerances.

Fabrication shall comply with tolerances specified on the plans. Tolerances for steel reinforcement placement shall be in accordance with 901.62. In the absence of specifications on the plans, tolerances shall comply with the latest version of the PCI MNL 135, Precast Tolerance Manual.

I. Forms.

Concrete shall be cast in rigidly constructed forms, which will maintain the Precast Concrete Bridge Elements within specified tolerances to the shapes, lines and dimensions shown on the approved fabrication drawings. Forms shall be constructed from flat, smooth, non-absorbent material and shall be sufficiently tight to prevent the leakage of the plastic concrete. When wood forms are used, all faces in contact with the concrete shall be laminated or coated with a non-absorbent material. All worn or damaged forms, which cause irregularities on the concrete surface or damage to the concrete during form removal, shall be repaired or replaced before being reused. Any defects or damage of more than

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“Category 2, Minor Defects” made to the concrete, due to form work, stripping or handling, shall be subject to repair or rejection, as defined in the *Repairs and Replacement* section. If threaded inserts are cast into the elements for support of formwork, the inserts shall be recessed a minimum of 1 inch and shall be plugged after use with a grout of the same color as that of the precast cement concrete.

J. Mixing of Concrete.

The concrete shall be proportioned and mixed in conformance with the Fabricator’s MassDOT approved mix design and M4.02.10 Mixing and Delivery Fabrication shall not occur without prior MassDOT mix design approval. The Fabricator shall provide copies of batch tickets to the MassDOT Plant Inspector. The MassDOT Plant Inspector will verify if the batch ticket quantities are within the tolerances of the Fabricator’s MassDOT approved mix design.

K. Placement of Concrete.

Prior to the placement of concrete, the temperature of the forms shall be greater than or equal to 50°F. Quality Control inspection shall be performed by the Fabricator as specified in the *Fabricator Quality Control* section. Placement of the concrete shall not proceed until the MassDOT Plant Inspector is present to perform inspection and begin monitoring Fabricator Quality Control inspection activities, and is in compliance with specifications. The MassDOT Plant Inspector shall inspect and accept the placement of the reinforcing steel prior to the placement of concrete into the forms. The Fabricator shall verify all

materials and equipment required for protecting and curing the concrete are readily available and meet the requirements of the *Final Curing Methods* section below. All items encased in the concrete shall be accurately placed in the position shown on the Plans and firmly held during the placing and setting of the concrete. Clearance from the forms shall be maintained by supports, spacers, or hangers and shall be of approved shape and dimension.

During placement, the concrete shall maintain a concrete temperature range between 50°F and 90°F. The Fabricator shall minimize the time to concrete placement (measured from start of mixing to completion of placement). In no event shall time to placement exceed 90 minutes. The Fabricator shall perform additional Quality Control sampling and testing on concrete that has been retempered with admixtures or hold-back water during the placement of the concrete as specified in the *Fabricator Quality Control* section above. Delays or shutdowns of over 30 minutes shall not be allowed during the continuous filling of individual forms.

L. Consolidation of Concrete.

Suitable means shall be used for placing concrete to prevent segregation or displacement of reinforcing steel or forms. The concrete shall be thoroughly consolidated by external or internal vibrators or a combination of both. Vibrators shall not be used to move concrete within the forms. Vibrators shall be used as specified in 901.63C and as directed by the Engineer. Concrete shall be placed and consolidated in a way that minimizes the presence of surface voids or bug holes on the formed surfaces. When used, self-consolidating concrete (SCC) shall meet the requirements of M4.02.17.

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M. Finishing of Concrete.

The finish of the Precast Concrete Bridge Elements shall be as indicated on the plans. Where Precast Concrete Bridge Elements have keyways for grout or closure pours, the surfaces of these shear keys shall be abrasive blasted prior to shipment. The Fabricator may utilize a surface retarder with water blast, sandblast, or a combination of both to achieve the desired keyway finish. At a minimum, the profile of the keyway surfaces shall be similar to that of 60 grit sand paper. The exposed reinforcing steel in the precast slab shall be protected from damage during the cleaning of the keyways. Damaged epoxy coating of steel reinforcement shall be repaired, and the reinforcing steel shall be cleaned as directed by the Engineer.

The Fabricator shall permanently mark each precast concrete bridge element with its type and/or piece mark, date of casting, and supplier identification either by stamp markings in fresh concrete, waterproof paint, or other approved means on a surface that will not be exposed after assembly.

N. Exposed Surfaces of Precast Concrete Bridge Elements.

As soon as conditions permit, before the concrete has fully hardened, all dirt, laitance, and loose aggregate shall be removed from the exposed concrete surfaces. Contractor shall not allow foot traffic on the uncured concrete until it has reached sufficient strength to prevent damage.

O. Exposed Surfaces of Closure Pour Shear Keys.

The closure pour shear key cast in the sides of the beam flanges shall have an exposed aggregate finish. The closure pour reinforcing steel and its coating shall not be damaged by the process for creating the exposed aggregate surface. Fabricator may utilize a surface retarder with water blast, abrasive blast, or a combination of both to achieve the desired shear key finish. The abrasive blast shall use oil free compressed air. The profile of the shear key surfaces shall be similar to that of 60 grit sand paper.

P. Initial Curing Methods.

After the placement of concrete and prior to concrete finishing, the Fabricator shall initiate initial curing methods when the concrete surface begins to dry, to reduce moisture loss from the surface. Application of one or more of the following initial curing methods shall occur immediately after the bleed water sheen has disappeared.

1. Fogging.

Fogging nozzles shall atomize water into a fog-like mist. The fog spray shall be directed and remain visibly suspended above the concrete surface, to increase the humidity of the air and reduce the rate of evaporation. Water from fogging shall not be worked into the surface during finishing operations and shall be removed or allowed to evaporate prior to finishing.

2. Liquid-applied Evaporation Reducers

Evaporation reducers shall be sprayed onto the freshly placed concrete surface to produce an effective monomolecular film that reduces the risk of plastic-shrinkage cracking and rate of evaporation of the bleed water from the concrete surface. Evaporation reducers shall be applied in accordance with manufacturer's recommendations.

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Q. Intermediate Curing Methods.

The Fabricator shall initiate intermediate curing methods if concrete finishing has taken place prior to the concrete reaching final set. The freshly finished concrete surface shall be protected from moisture loss, by the continuation of initial curing methods (fogging and evaporation reducers) until final curing methods are applied or by the use of liquid membrane-forming curing compounds (see *Liquid Membrane-Forming Compounds for Curing* section).

R. Final Curing Methods.

The Fabricator shall initiate and apply final curing methods to the concrete immediately after the following conditions are met:

- (a) Completion of concrete finishing
- (b) Final set of concrete
- (c) Concrete has hardened sufficiently enough to prevent surface damage

During fabrication of Precast Concrete Bridge Elements, the Fabricator shall maintain the required concrete temperature ranges throughout the entire duration of the final curing method cycle as specified herein. Controlled and gradual termination of the final curing method shall occur after all specified conditions are met. The concrete temperature shall be reduced at a rate not to exceed 36°F per hour until the concrete temperature is within 20°F of the ambient temperature outside of the final curing method enclosure. The Fabricator shall maintain a minimum concrete temperature of 40°F until 100% f'_c is attained (see *Handling and Storage* section below).

1. Water Spray Curing.

All exposed concrete surfaces shall remain moist with a continuous fine spray of water throughout the entire duration of the final curing method cycle (see *Table 4: Final Curing Method Cycle for Water Spray*).

Table 4: Final Curing Method Cycle for Water Spray

Sustained Concrete Temperature	Final Curing Method Cycle Duration	Compressive Strength
50°F ≤ °F ≤ 90°F	≥ Five (5) days	≥ 80% f'_c

2. Saturated Covers for Curing.

All exposed concrete surfaces shall remain moist with a continuous application of saturated covers throughout the entire duration of the final curing method cycle (see *Table 5: Final Curing Method Cycle for Saturated Covers*). Saturated covers shall be allowed to dry thoroughly before removal to provide uniform, slow drying of the concrete surface.

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Table 5: Final Curing Method Cycle for Saturated Covers

Sustained Concrete Temperature	Final Curing Method Cycle Duration	Compressive Strength
50°F ≤ °F ≤ 90°F	≥ Three (3) days	≥ 80% f _c

Saturated covers, such as burlap, cotton mats, and other coverings of absorbent materials shall meet the requirements of AASHTO M 182, Class 3. Saturated covers shall be in good condition, free from holes, tears, or other defects that would render it unsuitable for curing concrete. Saturated covers shall be dried to prevent mildew when storing. Prior to application, saturated covers shall be thoroughly rinsed in water and free of harmful substances that are deleterious or cause discoloration to the concrete. Saturated covers shall have sufficient thickness and proper positioning onto the concrete surface to maximize moisture retention.

Saturated covers shall contain a sufficient amount of moisture to prevent moisture loss from the surface of the concrete. Saturated covers shall be kept continuously moist so that a film of water remains on the concrete surface throughout the entire duration of the final curing method cycle. The Fabricator shall not permit the saturated covers to dry and absorb water from the concrete. Use of polyethylene film (see *Polyethylene Film* section) may be applied over the saturated cover to potentially decrease the need for continuous watering.

3. Sheet Materials for Curing.

All exposed concrete surfaces shall remain moist with a continuous application of curing sheet materials throughout the entire duration of the final curing method cycle (see *Table 6: Final Curing Method Cycle for Curing Sheet Materials*).

Table 6: Final Curing Method Cycle for Sheet Materials

Sustained Concrete Temperature	Final Curing Method Cycle Duration	Compressive Strength
50°F ≤ °F ≤ 90°F	≥ Three (3) days	≥ 80% f _c

Sheet Materials used for curing, such as polyethylene film, white burlap-polyethylene sheeting, and reinforced paper shall meet the requirements of ASTM C171 and the specifications herein. Sheet materials shall inhibit moisture loss and reduce temperature rise in concrete exposed to radiation from the sun during the final curing method cycle. Adjoining covers shall overlap not less than 12 inches. All edges of the covers shall be secured to maintain a moist environment.

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(a) Polyethylene Film.

Polyethylene film shall meet the requirements of ASTM C171, consist of a single sheet manufactured from polyethylene resins, be free of visible defects, and have a uniform appearance. Careful considerations shall be taken by the Fabricator to prevent the film from tearing during storage and application, so as to not disrupt the continuity of the film (polyethylene film reinforced with glass or other fibers is more durable and less likely to be torn). The Fabricator shall monitor the application of the film to prevent uneven spots from appearing (mottling) on the concrete surface, due to variations in temperature, moisture content, or both. The Fabricator shall prevent mottling from occurring on the concrete surface by applying additional water under the film or applying a combination of polyethylene film bonded to absorbent fabric to the concrete surface to retain and evenly distribute the moisture. Immediately following final finishing, polyethylene film shall be placed over the surface of the fresh concrete surface, so as to not damage the surface of the concrete and shall be placed and weighted so that it remains in contact with the concrete throughout the entire duration of the final curing method cycle. The film shall extend beyond the edges of the concrete surface. The film shall be placed flat on the concrete surface, avoiding wrinkles, to minimize mottling. Edges of adjacent polyethylene film shall overlap a minimum of 6 inches and be tightly sealed with the use of sand, wood planks, pressure-sensitive tape, mastic, or glue to maintain close contact with the concrete surface, retain moisture, and prevent the formation of air pockets throughout the entire duration of the final curing method cycle.

(b) White Burlap-Polyethylene Sheeting

White burlap-polyethylene sheeting shall meet the requirements of ASTM C171, be securely bonded to the burlap so to avoid separation of the materials during handling and curing of the concrete, and be applied in the same manner as the polyethylene film.

(c) Reinforced Impervious Paper.

Reinforced impervious paper shall meet the requirements of ASTM C171, consist of two sheets of kraft paper cemented together with a bituminous adhesive and reinforced with embedded cords or strands of fiber running in both directions, and be white in color. Reinforced impervious paper shall be treated to prevent tearing when wetted and dried.

Reinforced impervious paper can be reused so long as it is effective in retaining moisture on the concrete surface. The Fabricator shall visually inspect the reinforced impervious paper for all holes, tears, and pin holes from deterioration of the paper through repeated use by holding the paper up to the light. The paper shall be discarded and prohibited from use when the moisture is no longer retained.

After the concrete has hardened sufficiently to prevent surface damage, the concrete surface shall be thoroughly wetted prior to the application of the reinforced impervious paper, and be applied in the same manner as the polyethylene film.

4. Liquid Membrane-Forming Compounds for Curing.

All exposed concrete surfaces shall remain moist with a continuous application of liquid membrane-forming compounds throughout the entire duration of the final curing method cycle (see *Table 7: Final Curing Method Cycle for Liquid Membrane-Forming Compounds*).

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Table 7: Final Curing Method Cycle for Liquid Membrane-Forming Compounds

Sustained Concrete Temperature	Final Curing Method Cycle Duration	Compressive Strength
50°F ≤ °F ≤ 90°F	≥ Seven (7) days	≥ 80% f _c

Liquid membrane-forming compounds shall meet the requirements of ASTM C 1315, Type I, Class A and shall exhibit specific properties, such as alkali resistance, acid resistance, adhesion-promoting quality, and resistance to degradation by ultraviolet light, in addition to moisture-retention capabilities. Liquid membrane-forming compounds shall consist of waxes, resins, chlorinated rubber, or other materials to reduce evaporation of moisture from concrete. Liquid membrane-forming compounds shall be applied in accordance with the manufacturer's recommendations.

Liquid membrane-forming compounds shall be applied immediately after the disappearance of the surface water sheen following final finishing. All exposed surfaces shall be wetted immediately after form removal and kept moist to prevent absorption of the compound, allowing the curing membrane to remain on the concrete surface for proper membrane moisture retention. The concrete shall reach a uniformly damp appearance with no free water on the surface prior to the application of the compound.

If patching or finishing repairs are to be performed prior to the application of the compound, the Precast Concrete Bridge Element shall be covered temporarily with saturated covers until the repairs are completed and the compound is applied. Only areas being repaired shall be uncovered during this period. While the saturated covers are removed to facilitate the patching process, the work shall continue uninterrupted. If for any reason the work is interrupted, saturated covers shall be placed onto the uncovered concrete surface, until the work continues and is completed, at which time the curing compound shall be applied to the repaired area.

Careful considerations shall be made by the Fabricator to determine if the evaporation rate is exceeding the rate of bleeding, thus causing the surface to appear dry even though bleeding is still occurring. Under such conditions, the application of liquid membrane-forming compounds to the concrete surface shall be delayed, in order to prevent bleed water from being sealed below the concrete surface and

avert map cracking of the membrane films, reduction in moisture-retention capability, and reapplication of the compound. To diagnose and prevent this condition, the Fabricator shall place a transparent plastic sheet over a test area of the uncured and unfinished concrete surface and shall determine if any bleed water accumulates under the plastic.

The compound shall be applied in two applications at right angles to each other to ensure uniform and more complete coverage. On very deeply textured surfaces, the surface area to be treated shall be at least twice the surface area of a troweled or floated surface. In such cases, two separate applications may be needed, each at 200 ft²/gal., with the first being allowed to become tacky before the second is applied.

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The curing compound shall be applied by power sprayer, using appropriate wands and nozzles with pressures between 25 and 100 psi. For very small areas such as repairs, the compound shall be applied with a wide, soft-bristled brush or paint roller. The compound shall be stirred or agitated before use and applied uniformly in accordance with the manufacturer's recommended rate. The Fabricator shall verify the application rates are in accordance with the manufacturer's recommended rate.

When the concrete surface is to receive paint, finishes, or toppings that require positive bond to the concrete, it is critical that the curing procedures and subsequent coatings, finishes, or toppings be compatible to achieve the necessary bond.

After the termination of the final curing method cycle has occurred, liquid membrane-forming compounds shall be removed by blast-cleaning from any concrete surface that is to receive paint, finishes, plastic concrete from secondary pour, grout, or any other toppings that require bonding to the concrete surface. These surfaces shall be further blast-cleaned to remove the cement matrix down to exposed aggregate to ensure proper bonding to the material. The method used to remove the curing compound shall not damage the reinforcement and coating. Compounds are prohibited on any concrete surface that will have a penetrating or coating type treatment such as a sealer, stain, or waterproofing membrane applied to it.

5. Accelerated Curing.

Accelerated curing shall use live steam or radiant heat with moisture in accordance with PCI MNL-116 as modified herein. The concrete temperature shall meet the maximum heat increase and cool down rates as specified herein. Concrete temperature monitoring shall meet the requirements of the *Temperature Monitoring* section. Excessive and fluctuating rates of heating and cooling shall be prohibited. The concrete temperature shall not exceed 158°F at any time. The Fabricator shall meet the following accelerated curing sequencing and requirements.

(a) Initial Delay Period.

The initial delay period shall be defined as the duration immediately following the placement of the concrete and the attainment of initial set of the concrete. The Fabricator shall determine the time of initial set in accordance with AASHTO T 197 specifications. Throughout the entire duration of the preset period, initial curing shall be implemented. The temperature increase period (see *Temperature Increase Period* section) shall not occur until initial set of the concrete is attained. During the initial delay period, the concrete temperature shall meet the following requirements:

- i. Concrete temperature rate of increase shall not exceed 10°F per hour.
- ii. Total concrete temperature increase shall not exceed 40°F higher than the placement concrete temperature or 100°F, whichever is less

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(b) Temperature Increase Period.

The temperature increase period shall be defined as the duration immediately following the completion of the initial delay period (after initial set) and immediately prior to the start of the constant maximum temperature period. Application of steam to the enclosure shall not occur until the initial delay period is complete. After the initial delay period is complete, all exposed concrete surfaces shall be cured in a moist environment where the concrete temperature increases at a rate not to exceed 36°F per hour.

(c) Constant Maximum Temperature Period.

The constant maximum temperature period shall be defined as the duration immediately following the completion of the temperature increase period and immediately prior to the start of the temperature decrease period. After the temperature increase period is complete, all exposed concrete surfaces shall be cured in a moist environment at a controlled and constant elevated temperature throughout the entire duration of the constant maximum temperature period. Termination of the constant maximum temperature period and the start of the termination decrease period shall occur after all specified conditions are met (see *Table 8: Constant Maximum Temperature Period*).

Table 8: Constant Maximum Temperature Period

Sustained Concrete Temperature	Constant Maximum Temperature Period	Compressive Strength
120°F ≤ °F ≤ 158°F	6 hrs ≤ Time ≤ 48 hrs	≥ 80% f _c

(d) Temperature Decrease Period.

After the constant maximum temperature period is complete, the concrete temperature shall be cured in a moist environment at a controlled and reduced rate not to exceed 36°F per hour until the concrete temperature is within 20°F of the ambient temperature outside of the curing enclosure.

S. Stripping.

The Fabricator shall not strip forms or handle the Precast Concrete Bridge Element until Quality Control compressive strength cylinders attain a minimum compressive strength of 80% Design Strength (f_c) or the value indicated on the approved drawings has been achieved. After removal from the form, all exposed concrete surfaces shall continue to be cured in conformance with the *Final Curing Methods* sections until completion.

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T. Handling and Storage of Precast Concrete Bridge Elements.

Precast Concrete Bridge Elements may be exposed to temperatures below freezing (32°F) when the chosen curing cycle has been completed, provided that the following conditions are met:

- (a) Precast Concrete Bridge Elements are protected from precipitation with polyethylene curing covers until 100% f'_c is attained
- (b) Precast Concrete Bridge Elements maintain a minimum concrete temperature of 40°F until 100% f'_c is attained

Precast Concrete Bridge Elements damaged during handling and storage will be repaired or replaced at MassDOT's direction at no cost to MassDOT. Precast Concrete Bridge Elements shall be lifted at the designated points by approved lifting devices embedded in the concrete and in accordance with proper lifting and handling procedures. Storage areas shall be smooth and well compacted to prevent damage due to differential settlement. Precast Concrete Bridge Elements shall be supported on the ground by means of continuous blocking, in accordance with the approved dunnage plan.

Precast Concrete Bridge Elements shall be loaded on a trailer with blocking as described above, in accordance with the approved dunnage plan. Shock-absorbing cushioning material shall be used at all bearing points during transportation of the Precast Concrete Bridge Elements. Blocking shall be provided at all locations of tie-down straps. Precast Concrete Bridge Elements stored prior to shipment shall be inspected by the Contractor prior to being delivered to the site to identify damage that would be cause for repair or rejection.

U. Repairs and Replacement.

In the event defects are identified, they shall be classified in the following categories and a non-conformance report (NCR) shall be filed if required. The NCR shall be submitted to MassDOT for review. Defects in all categories shall be documented by plant Quality Control personnel and made available to MassDOT upon request. Any required repairs shall utilize materials listed on the MassDOT QCML.

Where noted, defects shall be repaired according to the PCI Northeast Region Guidelines for Resolution of Non-Conformances in Precast Concrete Bridge Elements, Report Number PCINE-18-RNPCBE. Please note that reference to PCINE-18-RNPCBE is made for repair details only. In the case of conflicts with this Special Provision, this Special Provision shall govern.

1. Category 1, Surface Defects.

Category 1 defects do not need to be repaired, and an NCR does not need to be filed. Surface defects are defined as the following:

- (a) Surface voids or bug holes that are less than 5/8-inch in diameter and less than 1/4-inch deep, except when classified as Category 4
- (b) Cracks less than or equal to 0.006 inches wide
- (c) Cracks less than or equal to 0.125 inches wide on surfaces that will receive a field-cast concrete overlay

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2. Category 2, Minor Defects.

Category 2 defects shall be repaired, but an NCR does not need to be filed. Minor defects are defined as the following:

- (a) Spalls, honeycombing, surface voids that are less than 2 inches deep and have no dimension greater than 12 inches
- (b) Cracks less than or equal to 0.016 inches that will not receive a concrete overlay
- (c) Broken or spalled corners that will be covered by field-cast concrete

Minor defects shall be repaired according to PCINE-18-RNPCBE. Cracks shall be sealed according to the PCI Repair Procedure #14 in PCINE-18-RNPCBE.

3. Category 3, Major Defects.

For Category 3 defects, the Fabricator shall prepare an NCR that documents the defect and describes the proposed repair procedure. The NCR shall be submitted to MassDOT for approval prior to performing the repair. Major defects are defined as the following:

- (a) Spalls, honeycombing and surface voids that are deeper than 2 inches or have any dimension greater than 12 inches, when measured along a straight line
- (b) Concentrated area of defects consisting of four or more Category 2 Defects within a 4-square foot area.
- (c) Exposed reinforcing steel
- (d) Cracks greater than 0.016 inches and less than or equal to 0.060 inches in width that will not receive a concrete overlay
- (e) Bearing area spalls with dimensions not exceeding 3 inches
- (f) Cracks, spalls and honeycombing that will be encased in cast in place concrete need not be repaired, but the limits and location of the defects shall be documented with an NCR

Upon MassDOT approval, defects and cracks shall be repaired according to PCINE-18-RNPCBE and this specification. All repairs shall be completed at the expense of the Contractor.

4. Category 4, Rejectable Defects.

Rejectable defects as determined by the MassDOT Inspector, RMS, and Engineer may be cause for rejection. Fabricator may submit an NCR with a proposed repair procedure, requesting approval. Some rejectable defects are defined as the following:

- (a) Surface defects on more than 5% of the surface area which will be exposed to view after installation
- (b) Minor defects that in total make up more than 5% of the surface area of the unit
- (c) Cracks greater than 0.060 inches in width except as noted in Category 1
- (d) Elements fabricated outside of the specified tolerances
- (e) MassDOT compressive strength testing that does not meet the specified Design Strength, f'_c .

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V. Loading.

Prior to the Fabricator loading the Precast Bridge Element on to the truck for shipping, the Fabricator shall provide the MassDOT Plant Inspector and RMS a minimum seven (7) days' notice of the Fabricator's intent to load the Precast Bridge Element. Inspection by the MassDOT Plant Inspector shall take place while the element is still on dunnage in the yard. The element shall not be loaded onto the truck until the MassDOT Plant Inspector has performed the inspection.

W. Shipping.

Prior to shipment, the Fabricator shall perform the following actions and provide the required documentation to the MassDOT Plant Inspector:

- (a) Precast Concrete Bridge Elements shall remain at the Fabricator's plant for a minimum of 7 days after cast date.
- (b) QC Inspection Reports shall be signed by the Quality Control Manager and provided to the MassDOT Plant Inspector.
- (c) QC Compressive Strength Test Report Forms attaining Design Strength, $f'c$ for the Precast Concrete Bridge Element's representative Sublot shall be generated by the Fabricator and provided to the MassDOT Plant Inspector.
- (d) Certificate of Compliance shall be generated by the Fabricator as described under the Fabricator Quality Control section and provided to the MassDOT Plant Inspector.
- (e) All MassDOT RMS approved Corrective Actions submitted on the Non-Conformance Reports (NCR), shall be verified to have been completed by the MassDOT Plant Inspector and Quality Control Manager.
- (f) All NCRs shall be signed off by the Quality Control Manager, MassDOT Inspector and MassDOT RMS.

X. Delivery.

Upon Delivery, the following documentation shall be provided to the MassDOT Resident Engineer or designee:

- (a) QC Compressive Strength Test Report Forms attaining Design Strength, $f'c$ for the Precast Concrete Bridge Element's representative sublot.
- (b) Certificate of Compliance generated by the Fabricator as described under the Fabricator Quality Control section.
- (c) QC Inspection Reports signed by the Quality Control Manager.

The Contractor shall inspect Precast Concrete Bridge Elements upon receipt at the site. Precast Concrete Bridge Elements damaged during delivery shall be repaired or replaced at MassDOT's direction at no cost to MassDOT.

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CONSTRUCTION METHODS – FIELD CONSTRUCTION

A. General.

All of the Contractor's field personnel involved in the erection and assembly of the Precast Concrete Bridge Elements shall have knowledge of and follow the approved Erection Procedure and Quality Control Plan for Precast Concrete Bridge Element Assembly.

Prior to installation, the following documentation shall be reviewed and confirmed by the MassDOT Resident Engineer or designee:

- (a) QC Compressive Strength Test Report Forms attaining Design Strength, f'_c for the Precast Concrete Bridge Element's representative subplot.
- (b) Certificate of Compliance generated by the Fabricator as described under the Fabricator Quality Control section.
- (c) QC Inspection Reports signed by the Quality Control Manager.

Field construction staff shall verify that the Resident Engineer has accepted all Precast Concrete Bridge Elements prior to installation.

B. Erection Procedure and Quality Control Plan for Precast Concrete Bridge Element Assembly.

Prior to the erection, the Contractor shall submit an Erection Procedure and a Quality Control Plan for Precast Concrete Bridge Element Assembly for approval by the Engineer. This submittal shall include computations and drawings for the transport, hoisting, erection and handling of the Precast Concrete Bridge Elements. The Erection Procedure and Quality Control Plan for Precast Concrete Bridge Element Assembly shall be prepared and stamped by a Professional Engineer registered in the Commonwealth of Massachusetts with working knowledge of the Contractor's equipment, approved shop drawings, and materials to build the bridge. The Erection Procedure and Quality Control Plan for Precast Concrete Bridge Element Assembly shall, at a minimum, include the following:

1. Erection Procedure

The Erection Procedure shall be prepared to conform to the requirements of 960.61, Erection and the applicable sections in Chapter 8 of the PCI Design Handbook (seventh edition) for handling, erection, and bracing requirements. At a minimum, the Erection Procedure shall provide:

- (a) Minimum concrete compressive strength for handling the Precast Concrete Bridge Elements.
- (b) Concrete stresses during handling, transport, and erection.
- (c) Crane capacities, pick radii, sling geometry, and lifting hardware.
- (d) Verification that the equipment can handle all pick loads and weights with the required factor of safety.
- (e) Evaluation of construction sequence and evaluation of any geometric conflicts in the lifting of the Precast Concrete Bridge Elements and setting them as shown on the plans.
- (f) Design of crane supports including verification of subgrade for support.

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- (g) Location and design of all temporary bracing that will be required during erection.

Non-shrink grout and concrete materials, approved by the Engineer, shall be placed as shown on the plans. Fill joints, keyways, and voids, in strict accordance with the specifications and manufacturer's recommendations and instructions.

For footings, approach slabs and highway guardrail transitions, once these Precast Concrete Bridge Elements have been set to the correct horizontal and vertical alignment, the void between them and the supporting soil shall be filled with Controlled Density Fill – Non-Excavatable to the limits as shown on the plans. Add additional grout ports in the footings to facilitate the bedding process if required.

Joints shall be filled flush to the top with non-shrink grout, and any vertical misalignment between adjacent elements shall be feathered out on a slope of 1 to 12.

Curing of grout or concrete shall be performed in strict accordance with the specifications and manufacturer's recommendations. Filling shall not be completed in cold weather when either the ambient temperature or the precast member's temperature is below the manufacturer's recommendation. No localized heating of either the precast members or of the air surrounding the element will be permitted in an attempt to reach application temperatures.

If the joints or voids are not filled within five days after the Precast Bridge Elements are erected, the Contractor shall cover and protect the openings from weather and debris until they are filled.

2. Quality Control Plan for Precast Concrete Bridge Element Assembly

The Quality Control Plan for Precast Concrete Bridge Element Assembly is a document prepared and submitted by the Contractor prior to the start of work which requires the Contractor to identify and detail the sequence of construction in accordance with the project schedule and which clearly identifies all stages of field construction. The assembly procedures for the Precast Concrete Bridge Elements shall be submitted on full size 24"x36" sheets. This document will be treated as a Construction Procedure and will be reviewed by both the Designer and the District Construction Office. The approval of this document will serve as a guideline for setting interim concrete and grout strengths and curing procedures to allow construction to proceed without waiting for the final in-service strengths to be achieved.

The following list details the minimum criteria that should be included in the Quality Control Plan for Precast Concrete Bridge Element Assembly:

- (a) A detailed schedule showing the sequence of operations that the Contractor will follow. The schedule shall include a timeline for installation of all major elements of the bridge accounting for the installation of temporary works and cure times of grouts or closure pour concrete and other selected materials.

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- (b) Calculations that support the schedule outlined above should be included verifying that the selected materials have adequate interim strength to proceed from one step to another. Final material strengths are not normally required until the bridge is opened to vehicular traffic. The minimum factor of safety of two (2) will be required for the interim strength of grouts and closure pour concrete before construction is allowed to proceed to subsequent steps. The factor of safety is applied to the service loads that are supported by the elements and materials during various stages of construction. For example, if the Contractor calculates that the grout between the precast pier cap and pier wall requires a strength of 100 psi to support the dead load of the beams in the next step, a cylinder break of 200 psi will be required prior to allowing the pier cap to be loaded with the beams. The required strength of materials for subsequent construction stages shall also be calculated and the material strength verified.
- (c) The Contractor is responsible for determining the center of gravity for all elements. Special care shall be used for unusual elements that are not symmetric. These elements may require special lifting hardware to allow for installation in a plumb or flat position.
- (d) Plan of the work area, depicting items such as temporary earth support, utilities within the immediate vicinity of the work, drainage structures, etc. The Contractor shall coordinate the various subcontractors that will need to occupy the same area and shall ensure that there are no conflicts. For example, if the Contractor is having different Subcontractors prepare and submit plans for temporary earth support and demolition, and the earth support is required to be installed prior to the demolition, it shall be the Contractor's responsibility to ensure that the Quality Control Plan for Precast Concrete Bridge Element Assembly submission allows both operations to be performed without field modification.
- (e) Details of all equipment that shall be employed for the construction of the bridge.
- (f) Methods of providing temporary support of the elements. Include methods of adjusting and securing the element after placement.
- (g) Vertical Adjustment Assemblies to be used as a means of setting precast concrete footings to the correct elevations.
- (h) Procedures for controlling the overall horizontal dimensions and the vertical elevations as each precast concrete bridge element is erected by using the tolerance limits of the joints as detailed on the plans.
- (i) Methods for curing grout.
- (j) Proposed methods for installing non-shrink grout and the sequence and equipment for the grouting operation.
- (k) Methods for sealing the keyways in preparation for filling with non-shrink grout, including the use of backer rods. The Contractor shall not assume that the backer rods will restrain the pressure from the grout in vertical grout joints. Provide additional forming to retain the backer rod.

C. Survey and Layout.

Working points, working lines, and benchmark elevations shall be established prior to placement of all elements. The Contractor is responsible for field survey as necessary to complete the work. MassDOT reserves the right to perform additional independent survey. If discrepancies are found, the Contractor may be required to verify previous survey data.

ITEM 992.1 Continued

D. Erection.

The elements shall be placed in the sequence and according to the methods outlined in the Erection Procedure and Quality Control Plan for Precast Concrete Bridge Element Assembly. As the erection proceeds, the Contractor shall constantly monitor the assembly to ensure that the precast concrete bridge element is within proper horizontal and vertical location and tolerances prior to releasing it from the crane and setting the next unit. The Contractor may use shims to maintain proper setting tolerances.

The concrete elements shall be lifted only by the lifting devices, and the utmost care shall be taken to prevent distortion of the elements during handling, transportation or storage.

Suitable spreaders shall be used during lifting so that only a vertical pull will be made on the lifting device. A non-vertical lifting force may be permitted if prior written approval is given by the Engineer.

This approval will be contingent on the Contractor demonstrating by calculations, prepared by a Professional Engineer registered in Massachusetts, that the elements will not be damaged by the non-vertical lifting force and by documentation that the capacity of the lifting devices is adequate for the non-vertical lifting force.

Precast components shall be pre-bed with non-shrink grout thicker than shim stacks prior to placing other precast elements on top of them.

After all Precast Concrete Bridge Elements have been placed, the actual overall dimensions of the structure both horizontal and vertical, as laid out shall not deviate from the nominal dimensions shown on the plans beyond a tolerance of +0 inches and -1 inches. Once the layout of Precast Concrete Bridge Elements has been accepted by the Engineer, the Contractor shall cut all lifting devices off below the surfaces of the elements.

E. Filling of Blockouts for Lifting Devices and Threaded inserts.

If the blockouts in the Precast Concrete Bridge Elements where the lifting devices were located will be exposed and visible after assembly is complete, the Contractor shall fill these blockouts with Cement Mortar (M4.02.15) or grout. After the formwork has been removed, all threaded inserts that have been cast into the precast concrete bridge deck for support of the formwork shall be filled with a grout of the same color as that of the precast concrete.

SEALING JOINTS AT BRIDGE

The work to be done under this Item consists of making a seal across the full width of the finished bridge at each end of deck as shown on the Plans. Joint sealing shall also be done at the following locations, at ends of precast slab and at edge of curbs on both sides of bridge, back of east safety curb and edge of curb at moment slab. Joint sealing shall be done in accordance with the Plans, MassDOT Specifications and Construction Standards.

ITEM 992.1 Continued

LUMP SUM for BRIDGE STRUCTURE NO. A-15-036

At the time of bid, the Contractor shall submit on his/her proposal form, a schedule of unit prices for the major component Sub-Items that make up Item 992.1 as well as his/her total bridge structure Lump Sum cost for Bridge Structure No. A-15-036. The bridge structure Lump Sum breakdown quantities provided in the proposal form are estimated and not guaranteed. No additional compensation will be paid for elements or components described herein as being part of the work but not shown on the Plans.

The total of all partial payments to the Contractor shall equal the Lump Sum contract price regardless of the accuracy of the quantities furnished by the Engineer for the individual bridge components. The cost of labor and materials for any Item not listed but required to complete the work shall be considered incidental to Item 992.1 and no further compensation will be allowed. The schedule on the proposal form applies only to Bridge Structure No. A-15-036. Sub-Item numbering is presented for information only in coordination with MassDOT Standard Nomenclature.

LUMP SUM for BRIDGE STRUCTURE NO. A-15-036

<u>SUB-ITEM NO.</u>	<u>ITEM</u>	<u>QTY.</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>TOTAL</u>
482.311	SEALING JOINTS AT BRIDGE	210	FT		
904.3	5000 PSI, ¾ IN., 685 HP CEMENT CONCRETE	75	CY		
910.1	STEEL REINFORCEMENT FOR STRUCTURES – (EPOXY COATED)	19,600	LB		
960.1	STRUCTURAL STEEL – COATED STEEL	235	LB		
915.266	PRECAST CONCRETE BEAM	165	SF		
968.1	SCUPPER AND DOWNSPOUT	2	EA		
974.4	METAL BRIDGE RAILING, STEEL (TYPE CM-MTL3)	22	FT		

TOTAL LUMP SUM FOR ITEM 992.1

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