

TOWN OF GREENFIELD
Department of Public Works

CONTRACT DPW-18-07

Poet's Seat Tower Repairs



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ADVERTISEMENT FOR BIDDERS
DEPARTMENT OF PUBLIC WORKS
14 Court Square
Greenfield, MA 01301

Sealed Proposals addressed to the Department of Public Works, 14 Court Square, Greenfield, Massachusetts and endorsed "Proposal for Contract DPW-18-07, Poet's Seat Tower Repairs" will be accepted by the Department of Public Works in Room 208, on the second floor of the Town Hall. Bids will be accepted until 2:00 p.m. on Thursday, October 12, 2017, at which time said bids will be publicly opened and read aloud in the Community Meeting Room (#203) on the second floor of the Town Hall.

The work consists of cutting out and pointing defective mortar joints; removing and re-installing loose stones as needed; removing wall and pier caps and replacing with 4000 psi cast-in-place concrete caps; and removing existing sills and replacing with 4000 psi pre-cast concrete sills.

The Engineer's opinion of probable cost is \$50,000.

Plans, specifications, and proposal forms will be emailed upon request by contacting alant@greenfield-ma.gov or by downloading them from the Town's Purchasing Department's webpage at <http://greenfield-ma.gov/p/290/Active-BidsRFQRFPP>. To get on the Bidder's List, proposers should contact the DPW at DPW@greenfield-ma.gov or by calling 413-772-1528 x6104. Plans and Specifications will be available after September 27, 2017.

The Bid Security from the Contractor in the form of cash, certified check, treasurer's check, or cashier's check, drawn upon a responsible bank in the Commonwealth of Massachusetts or a bid bond in the amount of five percent (5%) of the bid shall be made payable to the Town of Greenfield, Massachusetts and shall be enclosed with the bid.

A 50% Labor and Materials (Payment) Bond will be required of the successful bidder.

Attention is called to the following:

- A. Bids for this project are subject to the provisions of the Massachusetts General Laws Chapter 30, Section 39M, as amended.
- B. Wages are subject to Massachusetts minimum wage rates as per M.G.L. Chapter 149, Section 26 to 27H inclusive.
- C. The successful bidder must comply with Chapter 151B as amended, of the Massachusetts General Laws and with the provisions of Executive Order No. 74, as amended by Executive Order No. 116 dated May 1, 1975 pertaining to Equal Opportunity Anti-Discrimination and Affirmative Action.

A pre-bid site visit is scheduled for Tuesday, October 3, 2017 at 10:00am at the Poet's Seat Tower, 70 Mountain Road, Greenfield, MA.

The responsive and responsible bidder offering the lowest price shall be awarded the project subject to the availability of funding. The City of Greenfield reserves the right to reject any or all bids or to waive any informalities in the bidding.

The Contract/Bid/Proposal awarding authority is:

City of Greenfield
Department of Public Works
Greenfield, Massachusetts

INFORMATION FOR BIDDERS

INFORMATION FOR BIDDERS

1.1 **Location and work to be done:**

The work herein specified to be done (herein sometimes referred to as the “Work”) is located at 70 Mountain Road (Rocky Mountain), Greenfield, MA and consists of the following:

Cutting out and pointing defective mortar joints; removing and re-installing loose stones as needed; removing wall and pier caps and replacing with 4000 psi cast-in-place concrete caps; and removing existing sills and replacing with new 4000 psi precast concrete sills.

The Contractor shall furnish all labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies, and all other items necessary to do all the work required for the completion of the Work, as specified.

The Work to be done and paid for shall not be limited to the extent mentioned or described, but shall include all incidental work necessary or customarily done for the completion of the work.

- 1.2 **Questions Regarding Drawings and Documents.** In general, no answers will be given to prospective bidders in reply to an oral question if the question involves an interpretation of the intent or meaning of the Drawings or other Contract Documents, or the equality or use of products or methods other than those designated or described on the drawings or in the specifications. Any information given to bidders other than by means of the Drawings and other Contract Documents, including Addenda, as described below, is given informally, for information and the convenience of the bidder only and is not guaranteed. The bidder agrees that such information shall not be used as the basis of nor shall the giving of any such information entitle the bidder to assert any claim or demand against the owner or the engineer on account thereof.

To receive consideration, such questions shall be submitted in writing to the Town at least 7 days before the established date for receipt of bids. If the question involves the equality or use of products or methods it must be accompanied by drawings, specifications or other data in sufficient detail to enable the Town to determine the equality or suitability of the product or method. In general, the Town will neither approve nor disapprove particular products prior to the opening of Bids; such products will be considered when offered by the Contractor for incorporation into the Work.

The Town will set forth as Addenda, which shall become a part of the Contract Documents, such questions received as above provided as in his sole judgment are appropriate or necessary and his decision regarding each. At least three days prior to the receipt of Bids, he will send a copy of these Addenda to those prospective bidders known to have taken out sets of the Drawings and other Contract Documents.

The Contractor agrees to use the products and methods designated or described in the Specifications as amended by the Addenda.

- 1.3 **Bidders to Investigate.** Bidders are required to submit their Bids upon the following express conditions which shall apply to and be deemed a part of every Bid received, viz:

Bidders must satisfy themselves by personal examinations of the site of the work and by such other means as they may wish, as to the actual conditions there existing, the character and requirements of the Work, the difficulties attendant upon its execution, and the accuracy of all estimated quantities stated in the Bid.

- 1.4 **Information not Guaranteed.** All information given on the Drawings or in the Contract Documents relating to sub-surface and other conditions, natural phenomena, existing pipes and other structures is from the best sources at present available to the Town. All such information is furnished only for the information and convenience of bidders and is not guaranteed.

It is agreed and understood that the Town does not warrant or guarantee that the subsurface or other conditions, natural phenomena, existing pipes or other structures encountered during construction, will be the same as those indicated on the Drawings or in the other Contract Documents.

It is agreed further and understood that no bidder or contractor shall use or be entitled to use any of the information made available to him or obtained in any examination made by him in any manner as a basis of or ground for any claim or demand against the Town, arising from or by reason of any variance which may exist between the information made available and the actual subsurface or other conditions, natural phenomena, existing pipes or other structures actually encountered during the construction work, except as may otherwise be expressly provided for in the Contract Documents.

- 1.5 **Submitting Bids.** All Bids must be upon the blank form for Bid annexed hereto, state the proposed price of each item of the Work, both in words and in figures, and be signed by the Bidder with his business address and place of residence. The Bid Security shall be enclosed with the Bid.

Bidders shall not remove and submit the Bid pages separate from the volume of Contract Documents, but shall submit their Bids bound with the complete volume of attached Contract Documents, including all pages correctly assembled.

Each bid shall be submitted to the Town in a sealed envelope. On the outside of the envelope shall be written the bidder's name and address and the name of and description of the project for which the Bid is submitted.

If forwarded by mail, the sealed envelope containing the Bid and marked as directed above, must be enclosed in another envelope addressed to the Town.

- 1.6 **Time for Completion.** The successful bidder will be required to substantially complete the Work within 60 days of the Notice to Proceed. It is expected the Work would be done in the spring of 2018.
- 1.7 **Withdrawal of Bids.** Except as hereinafter in this subsection otherwise expressly provided, once his Bid is submitted and received by the Town for consideration and comparison with other bid similarly submitted, the bidder agrees that he may not and will not withdraw it within 30 (thirty) consecutive calendar days after the actual date of the opening of Bids.

Upon proper written request and identifications, Bids may be withdrawn as follows:

1. At any time prior to the designated time for the opening of Bids.
 2. Provided the Bid has not therefore been accepted by the Town at any time subsequent to the expiration of the period during which the bidder has agreed not to withdraw his Bid. Unless a Bid is withdrawn as provided above, the Bidder agrees that it shall be deemed open for acceptance until the Town notifies a Bidder in writing that his Bid is rejected or that the Town does not intend to accept it. Notice of acceptance of a Bid shall not constitute rejection of any Bid.
- 1.8 **Ability and Experience of Bidder.** No award will be made to any Bidder who cannot satisfy the Town that he has sufficient ability and experience in this class of work and sufficient capital and plant to enable him to prosecute and complete the Work successfully within the time named. The Town decision or judgment on these matters shall be final, conclusive, and binding.

The Bidder is to submit a list of comparable projects with the list of references.

The Town may make such investigations as it deems necessary, and the Bidder shall furnish to the Town, under oath if so required, all such information, and data for this purpose as the Town may request.

- 1.9 **Bids.** The Town may reject Bids which in its sole judgment are either incomplete, conditional, obscure or not responsive or which contain additions not called for, erasures not properly initialed, alterations, or similar irregularities, or the Town may waive such omissions, conditions or irregularities.
- 1.10 **Right to Reject Bids.** The Town reserves the right to reject any or all Bids, or alternative Bid Items should the Town deem it to be in the public interest to do so.
- 1.11 **Execution of Agreement.** The Bidder whose bid is accepted will be required and agrees to duly execute the AGREEMENT, after notification that the AGREEMENT is ready for signature.

1.12 **Insurance Certificates.** The Contractor will not be permitted to start any construction work until he has submitted certificates covering all insurance called for, and has obtained approval in writing of such certificates from the Town.

Before starting, and until completion of the guarantee period, the Contractor shall procure, deposit, and maintain with the Town, insurance satisfactory to the Town as follows:

- A. Workmen’s Compensation and Employer’s Liability Insurance as required by the Workmen’s Compensation Laws of the Commonwealth of Massachusetts.
- B. Comprehensive Commercial Liability Insurance covering Bodily Injury and Property Damage (Broad Form) as follows:

Limits of Liability*	\$1,000,000 each occurrence
	\$2,000,000 aggregate

* or \$1,000,000 single limit combined Bodily Injury and Property Damage.

The Comprehensive Commercial Liability Policy shall provide insurance for the Contractor for Bodily Injury and Property Damage to third persons arising out of:

- 1. Work performed by the Contractor himself with his own employees, called “premises operations.”
- 2. Work performed by his subcontractors, called “sublet work” or Independent Contractors (this is referred to as Contractor’s Protective Liability).
- 3. The Contractor’s liability assumed under this contract, called “Hold Harmless” clauses or indemnity agreement. (This is referred to as Contractual Liability Insurance).
- 4. Products liability coverage covering the completed building or installation or products furnished. (This is called Products Liability Insurance for the manufacturer and Complete Operations Liability Insurance for the Contractor).
- 5. If any work is to be performed below the surface of the ground, the coverage shall be extended to include protection against property damage caused by explosion (including blasting), collapse of structures and damage to underground pipes and utilities. (This is known as “XCU” coverage).

- C. Comprehensive Automobile Liability Insurance covering Bodily Injury and Property Damage, as follows:

Limits of Liability

Bodily Injury	\$500,000 each person
	\$1,000,000 each accident

Property Damage

\$1,000,000 each accident

* or \$500,000 single limit combined Bodily Injury and Property Damage.

This insurance is to apply with respect to all owned or hired vehicles of the Contractor and non-ownership protection for all employees of the Contractor engaged in the performance of this contract.

D. All policies shall be so written that the Town will be notified of cancellation or restrictive amendment at least 30 days prior to the effective date of such cancellation or amendment. Certificates from the insurance carrier stating the limits of liability and expiration date shall be filed in triplicate with the Town before operations are begun. Such certificates not only shall name the types of policy provided, but also shall refer specifically to this Contract* and article and the above paragraphs in accordance with which insurance is being furnished and shall state that such insurance is as required by such paragraphs of this Contract and shall be sufficiently comprehensive as to permit the owner to determine that the required insurance coverage has been provided without the necessity of examining the individual insurance policies.

If the initial insurance expires prior to completion of the Work, renewal certificates shall be furnished by the date of expiration.

* If blanket coverage is furnished, this particular Contract need not be referred to.

E. The Contractor shall require each of his sub-contractors to procure and maintain until the completion of that sub-contractor's work, insurance of the types and to the limits specified in paragraphs A to C, inclusive, above. It shall be the responsibility of the Contractor to insure that all his sub-contractors comply with all of the insurance requirements contained herein relating to such sub-contractors.

No insurances required or furnished hereunder shall, in any way, relieve the contractor of, or diminish any of his responsibilities, obligations and liabilities under the Contract.

1.13 **Comparison of Bids.** Bids will be compared on the basis of lump-sum or unit prices stated in the BID.

In the event that there is a discrepancy in the Bid between the lump-sum or unit prices written in words and figures, the prices written in words shall govern.

The Town agrees to examine and consider each Bid submitted in consideration of the Bidder's agreements, as hereinabove set forth and as set forth in the BID.

1.14 **Bid Security.** The Bid Security from the contractor in the form of cash, certified

check or treasurer's or cashier's check drawn upon a responsible bank in the Commonwealth of Massachusetts or a bid bond in the amount of five percent (5%) of the bid shall be made payable to the Town of Greenfield, Massachusetts and shall be enclosed with the bid.

Each such check may be held by the Town as security for the fulfillment the bidder's agreements as hereinabove set forth and as set forth in the BID. Should the bidder fail to fulfill such agreements, his bid check shall become the property of the Town as liquidated damages; otherwise, the bid check shall be returned to the bidder as hereinafter provided.

Bid checks will be returned to all except the three lowest bidders within three days, Sundays and legal holidays excluded, after the owner and the accepted bidder have executed the AGREEMENT. In the event that the AGREEMENT has not been executed by both the accepted bidder and the owner within 30 consecutive calendar days after the opening of bids, the bid check will be returned promptly upon demand of any bidder who has not been notified of the acceptance of his bid.

None of the three lowest bids shall be deemed rejected, notwithstanding acceptance of any bid, until the AGREEMENT has been executed by both the Town and the accepted bidder.

The bid deposit must be enclosed in the sealed envelope containing the bid.

- 1.15 **Disputes.** In the event of any dispute as to any of the terms and conditions of this contract, it shall be determined in accord with the laws of the Commonwealth of Massachusetts and the Courts of the Commonwealth of Massachusetts shall have exclusive jurisdiction of the same.
- 1.16 **Minimum Wage Rates.** In the employment of mechanics, teamsters, chauffeurs, and laborers in the construction of the public work projects, the Minimum Wage rates shall be paid as issued by the Commissioner of Labor and Industries of Massachusetts, in accordance with Sections 26 and 27 of Chapter 149, of the General Laws, as amended, and as included in Appendix A.
- 1.17 **Equal Employment Opportunity Anti-Discrimination and Affirmative Action.** The successful bidder must comply with Chapter 151B as amended, of the Massachusetts General Laws and with the provisions of Executive Order No. 74, as amended by Executive Order No. 116 dated May 1, 1975 pertaining to Equal Opportunity Anti-Discrimination and Affirmative Action.
- 1.18 **Notice to Proceed and Pre-Construction Conference.** A written Notice to Proceed shall be issued to the Contractor after receipt of proof of required insurance. No work shall be performed by the Contractor until he has received the Notice to Proceed.

Prior to the start of construction, the Contractor, all subcontractors, the project manager, and the owner shall attend a pre-construction conference. The conference will serve to acquaint the participants with the general plan of contract administration and requirements under which the construction operation is to proceed.

The date, time, and place of the conference will be furnished to the Contractor by the project manager.

- 1.19 **Bonds**. A Labor and Material (Payment) Bond in the amount of 50% the contract will be required of the successful bidder.

FORMS FOR BID

Bidder's Name

PROPOSAL FORM

To the Town of Greenfield, Massachusetts, (hereinafter called the "Owner") acting through its Department of Public Works, duly authorized therefore, who act solely for said Town and without personal liability to themselves:

Gentlemen:

The undersigned _____, as bidder, declares that the only persons or parties interested in this bid as principals are those named herein; that the bidder has carefully examined the proposed form of Proposal and the Specifications (and amendments thereto); and he bids and agrees, if this bid is accepted, that the bidder will furnish all materials and labor necessary for the completion of the Work as specified in the Proposal, in the manner and time therein prescribed and according to the requirements of Owner as herein set forth.

The Bidder agrees that the Owner will have thirty (30) consecutive days from date of opening to accept the bid, except as described in the specifications, the unit(s) at the price, therein. The Bidder also understands that the Owner reserves the right to accept or reject any or all bids and to waive any informalities in the Proposals if it is in the Owner's interest to do so. The Advertisement for Bidders, Information for Bidders, Specifications and Proposal Form attached thereto, shall become a contract upon the receipt by the Bidder of written acceptance of this bid by the Owner.

The Bidder will take in full payment, therefore, the following price, to wit:

Item Number	Estimated Quantity	Brief Description; unit or lump-sum price bid in both words and figures	Total in Figures
1	Lump Sum	On all levels inside and out, cut out and point defective mortar joints (app. 600 sq. ft. area); remove and reinstall any loose stone, and install any missing stone in miscellaneous areas as needed on entire tower; including all labor, materials, and equipment required for or incidental to the work as herein described.	

_____ dollars

and _____ cents (\$ _____)

2	Lump Sum	On all levels, remove and replace cement wash (two levels of exterior corbels, north and east openings on the second level, and at the base), including all labor, materials, and equipment required for or incidental to the work as herein described.
		_____dollars
		and _____cents (\$_____)
3	Lump Sum	On level 3, install temporary spreader type bracing in between small pillars to stabilize, remove existing sills, and install 12 new pre-cast concrete sills, including all labor, materials, and equipment required for or incidental to the work as herein described. These can be cast on the floor and lifted in place.
		_____dollars
		and _____cents (\$_____)
4	Lump Sum	On top level, remove all 4 wall and pier caps and cast new concrete caps in place (all caps shall have a 1 1/2" overhang, inside and out), including all labor, materials, and equipment required for or incidental to the work as herein described.
		_____dollars
		and _____cents (\$_____)

If this BID is accepted by the Town, the undersigned agrees to complete the entire work provided to be done under the Contract within the time stipulated as otherwise expressly provided in the AGREEMENT.

The total price for the base bid, derived as described in the INFORMATION FOR BIDDERS under the heading "Comparison of Bids," is \$**_____.

As provided in the INFORMATION FOR BIDDERS, the bidder hereby agrees that he will not withdraw this BID within 30 consecutive calendar days after the actual date of the opening of BIDS and that, if the Town shall accept this BID, the bidder will duly execute and acknowledge the AGREEMENT and furnish, duly executed and acknowledged, the required CONTRACT BONDS within ten (10) days after notification that the AGREEMENT and other Contract Documents are ready for signature.

Should the bidder fail to fulfill any of his agreements as hereinabove set forth, the Town shall have the right to retain as liquidated damages the amount of the bid check which shall become the Town's property.

This BID includes Addenda number *** _____.

** Bidder must fill in this blank

*** To be filled in by Bidder if Addenda are issued.

The Bidder, by submittal of this BID, agrees with the Owner that the amount of the bid security deposited with this BID fairly and reasonably represents the amount of damages the Owner will suffer due to the failure of the Bidder to fulfill his agreements as above provided.

The Bidder hereby certifies he shall comply with the minority manpower ration and specific action steps contained in the STATE REQUIREMENTS under Massachusetts Equal Employment Program, including the minority contractor compliance. Prior to the award of the Contract, the Contractor must submit a Contractor's Certification of Compliance. The Contractor receiving the award of the Contract shall be required to obtain from each of its Sub-Contractors and submit to the contracting or administering agency prior to the performance of any work under said Contract a certification by said Sub-Contractor, regardless of tier, that it will comply with the minority manpower ratio and specific affirmative action steps contained in the Massachusetts Equal Employment Program.

Name of Bidder

(SEAL)

By _____
(Signature and title of authorized representative)

(Business Address)

(City & State)

Date _____

The Bidder is a corporation incorporated in the State (or Commonwealth) of _____
_____(Bidder must add and delete, as necessary, to make this sentence read correctly).

(Note: If the Bidder is a corporation, affix corporate seal and give below the names of its president, treasurer, and general manager, if any; if a partnership, give full names and residential addresses of all partners, and if an individual, give residential address if different from business address.)

CERTIFICATE OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word “person” shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Signature of individual submitting bid or proposal

Name of Business

TAX COMPLIANCE CERTIFICATION

Pursuant to M.G.L. Ch. 62C, Sec. 49A, I certify under the penalties of perjury that I, to the best of my knowledge and belief, am in compliance with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

Signature of individual submitting bid or proposal

Name of business

DEBARMENT STATEMENT
(to be used for any public construction project)

Any person or corporation that fails to date, sign with original signature, and submit the following statement shall not be awarded this contract.

DEBARMENT (Chapter 550, Acts of 1991)

The undersigned certifies under penalties of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth of Massachusetts under the provisions of Section 29F of Chapter 29 of the General Laws, or any other applicable debarment provisions of any other Chapter of the General Laws, or any Rule or Regulation promulgated thereunder.

DATE: _____

Typed or Printed Name of Person Signing

Authorized Official's Signature

Company or Corporation

A. Contractor's Certification

Name of Project _____

A contractor will not be eligible for award of a contract unless such contractor has submitted the following certification, which is deemed a part of the resulting contract:

CONTRACTOR'S CERTIFICATION

_____ certified that:

1. it tends to use the following listed construction trades in the work under the contract _____

and

2. will comply with the minority manpower ration and specific affirmative action steps required by law, and
3. will obtain from each of its Sub-Contractors and submit to the contracting or administering agency prior to the award of any Sub-Contract under this contract the Sub-Contractor certification required by these bid conditions.

Signature of authorized representative
of Contractor.

B. Sub-Contractor's Certification

Name of Project _____

Prior to the award of any sub-contract, regardless of tier, the prospective sub-contractor must execute and submit to the prime contractor the following certification, which will be deemed a part of the resulting sub-contract:

SUB-CONTRACTOR'S CERTIFICATION

_____ certifies that:

- 1. it tends to use the following listed construction trades in the work under the sub-contract _____

and;

- 2. will comply with the minority manpower ration and specific affirmative action steps required by law; and
- 3. will obtain from each of the sub-contractors prior to the award of any sub-contract under this sub-contractor certification required by these bid conditions.

Signature of Authorized Representative

In order to ensure that the said sub-contractor's certification becomes a part of all sub-contractors under the prime contract, no sub-contract shall be executed until an authorized representative of the Town agency (or agencies) administering this project has determined, in writing, that the said certification has been incorporated in such sub-contract, regardless of tier. Any sub-contract executed without such written approval shall be void.

OSHA TRAINING CERTIFICATION

Pursuant to M.G.L. Ch. 30, Sec. 39S(A), I certify under the penalties of perjury to the following:

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

(Signature of authorized representative of Bidder)

(Name of authorized representative of Bidder)

(Name of business)

AGREEMENT

AGREEMENT FOR CONTRACT DPW-18-07

Poet's Seat Tower Repairs

THIS AGREEMENT, executed this _____ day of _____
in the year Two Thousand and Seventeen.

(herein referred to as the "AGREEMENT"), by and between the Town of Greenfield, Massachusetts, acting by and through its Department of Public Works, duly authorized therefore, which acts solely for said Town and without personal liability to itself, party of the first part, and _____ party of the second part.

WITNESSETH, that the parties to these presents, each in consideration of the undertakings, promises, and agreements on the part of the other herein contained, have undertaken, promised and agreed and do hereby undertake, promise, and agree, the party of the first part for itself, its successors and assigns, and the party of the second part for himself and his heirs, executors, administrators, successors and assigns, as follows:

The Contractor agrees to furnish all equipment, machinery, tools and labor, to furnish and deliver all materials required to be furnished and delivered in and about the improvement and to do and perform all work in accordance with the set of five (5) drawings titled "Re-Roofing Project, Greenfield DPW Garage" prepared by Structural Support and Design Services and dated 6-23-2017, and the specifications and conditions attached hereto and made a part hereof, in strict conformity with the provisions herein contained and the Advertisement for Bidders, Information for Bidders, Proposal, and General and Special Conditions hereto annexed. All said Advertisement for Bidders, Information for Bidders, Proposal, and General and Special Conditions are hereby specifically made a part of this contract as fully and to the same effect as if the same had been set forth at length herein.

In consideration of the foregoing premises, the Owner agrees to pay and the Contractor agrees to receive as full compensation for everything furnished and done by the Contractor under this contract; including all work required, for all loss or damage arising out of the nature of the work aforesaid, or from the action of the elements, or from any delay or from any unforeseen obstruction or difficulty encountered in the prosecution of the work, and for all risks of every description connected with the work, and for all expenses incurred by or in consequence of the suspension or discontinuance of the work as herein specified, and for well and faithfully completing the work, and the whole thereof, as herein provided, such price or prices as are set out in the accompanying proposal, and for all work required, for which there is no item in the proposal, such compensation as is provided for in the aforesaid specifications.

The Contractor's bid price for this project is _____.

IN WITNESS WHEREOF, the Owner has caused this instrument to be signed and its corporate seal to be hereto affixed in its behalf, and the Contractor has caused this instrument to be signed in its behalf.

AGREEMENT FOR CONTRACT DPW-18-07

Poet's Seat Tower Repairs

FOR THE OWNER,

By the _____

FOR THE CONTRACTOR,

Witness: _____

By the _____

(If a corporation, attach to each signed Agreement a notarized copy of the corporate vote authorizing the signatory to sign this Agreement.)

Approved as to Appropriation:

Town Accountant

Certificate of Acknowledgment of Contractor if a Corporation

For AGREEMENT

State of _____)

SS:

County of _____)

On this _____ day of _____, 20____,

before me personally came _____

to me known, who being by me duly sworn, did depose and say as follows:

That he resides at _____

and is the _____

of _____

the corporation described in and which executed the foregoing instrument; that he knows the corporate seal of said corporation; that the seal affixed to the foregoing instrument is such corporate seal and it was so affixed by order of the Board of Directors of said corporation; and that by the like order he signed thereto his name and official designation.

Notary Public (Seal)

My commission expires: _____

NOTICE TO PROCEED

Date: _____

Project: Poet's Seat Tower Repairs	
Owner: Town of Greenfield, MA	Owner's Contract No.: DPW-18-07
Contract: Poet's Seat Tower Repairs	
Contractor:	
Contractor's Address: <i>[send Certified Mail, Return Receipt Requested]</i>	

You are notified that the Contract Times under the above Contract will commence to run on _____. On or before that date, you are to start performing your obligations under the Contract Documents. The date of Substantial Completion is _____.

Before you may start any Work at the Site, Paragraph 2.01.B of the General Conditions provides that you and Owner must each deliver to the other (with copies to Engineer and other identified additional insureds and loss payees) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

	Owner
	Given by:
	Authorized Signature
	Title
	Date

Copy to Engineer

BONDS

LABOR AND MATERIALS (PAYMENT) BOND

(NOTE: This Bond is issued simultaneously with the attached Performance Bond in favor of the Town.)

KNOW ALL MEN BY THESE PRESENTS:

That we, _____

(an individual, a partnership, a corporation)

duly organized under the Laws of the State (or Commonwealth) of _____,
and having a usual place of business at _____,
as Principal, and _____, a corporation
duly organized under the Laws of the State (or Commonwealth) of _____,
and having a usual place of business at _____,
as Surety, are holden and stand firmly bound and obligated unto the Town of Greenfield,
Massachusetts, as obligee, in the sum of _____,
lawful money of the United States of America to and for the true payment whereof we bind
ourselves and, each of us, our heirs, executors, administrators, successors, and assigns, jointly
and severally, firmly by these presents.

WHEREAS, the Principal, by means of a written AGREEMENT (which together with the
Contract Documents in said AGREEMENT referred to are collectively sometimes referred to as
the "Contract") dated _____.

Has entered into a contract with the said obligee for _____

a copy of which AGREEMENT is attached hereto and by reference made a part hereof.

NOW, THEREFORE, THE CONDITION of this obligation is such that if the Principal shall promptly make payments to all claimants as hereinafter defined, for all labor performed or furnished and for all materials and equipment furnished for or used or in connection with the Work called for by said AGREEMENT and/or Contract and any modifications thereof, including lumber used, but not incorporated in said Work, and for the rental or hire of vehicles, tools and other appliances and equipment furnished for or used in connection with said Work, this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Principal or with a subcontractor of the Principal for labor, materials, and/or equipment used or

reasonably required for use in the performance of the said Work, labor and materials, being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the said AGREEMENT and/or Contract and any modifications thereof.

2. The above named Principal and Surety hereby jointly and severally agree with the Town that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials or equipment were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Town shall not be liable for the payment of any costs or expenses of any such suit.
3. No suit or action shall be commenced hereunder by a claimant,
 - (a) Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: The Principal, the Town or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials or equipment for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials or equipment were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Town, or Surety at any place where an office is regularly maintained for the transaction of business, or served in the state in which the said Work is located, save that such service need not be made by a public officer;
 - (b) After the expiration of one (1) year following the date on which the Principal ceased work on said AGREEMENT and/or Contract and any modifications thereof, it being understood, however, that if any limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
 - (c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the said Work, or any part thereof, is situated, or in the United States District Court for the district in which the said Work, or any part thereof, is situated, and not elsewhere.
4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics liens which may be filed of record against said AGREEMENT and/or Contract or said Work, whether or not claim for the amount of such lien be presented under and against this bond.

The Surety, for value received, agrees further that no changes in, omissions from, or alterations, modifications or additions to the terms and provisions of said AGREEMENT

and/or Contract or the Work to be performed thereunder, and that no extensions of time given or changes made in the manner or time of making payments thereunder, shall in any way affect the Surety's obligations on this Bond, and the Surety hereby waives notice of any such changes, omissions, alterations, modifications, additions or extensions.

IN WITNESS WHEREOF, we have hereunto set our hands and seals to _____ counterparts of this Bond, this _____ day of _____ in the year Two Thousand and Seventeen.

(NOTE:
If the Principal (Contractor) is a partnership, the Bond should be signed by each of the partners.

_____(Seal)
Principal

If the Principal (Contractor) is a corporation, the Bond should be signed in its correct corporate name by its duly authorized officer or officers.

_____(Seal)
Principal

If this Bond is signed on behalf of the Surety by an attorney-in-fact, there should be attached to it a duly certified copy of his power of attorney showing his authority to sign such Bonds.

_____(Seal)
Principal

There should be executed an appropriate number of counterparts of the Bond corresponding to the number of counterparts of the AGREEMENT.)

_____(Seal)
Surety

_____(Seal)
Surety

_____(Seal)
Surety

Certificate of Acknowledgment of Contractor if a Corporation
For CONTRACT BONDS

State of _____)

SS:

County of _____)

On this _____ day of _____, 20____,

before me personally came _____

to me known, who being by me duly sworn, did depose and say as follows:

That he resides at _____

and is the _____

of _____

the corporation described in and which executed the foregoing instrument; that he knows the corporate seal of said corporation; that the seal affixed to the foregoing instrument is such corporate seal and it was so affixed by order of the Board of Directors of said corporation; and that by the like order he signed thereto his name and official designation.

Notary Public (Seal)

My commission expires: _____

SPECIAL CONDITIONS

SPECIAL CONDITIONS

TITLE

- 1.1 Conflict or Inconsistency
- 1.2 Percentage of Progress Payments to be Retained
- 1.3 Amount of Minimum Progress Estimates
- 1.4 Liquidated Damages
- 1.5 Waste Reduction/Energy Efficiency

- 1.1 **Conflict or Inconsistency.** If there be any conflict or inconsistency between the provisions of the SPECIAL CONDITIONS and the provisions of the other Contract Documents, the provision of the SPECIAL CONDITIONS shall prevail. If there be any conflict or inconsistency between the provisions of the AGREEMENT and the provisions of any of the Contract Documents other than the SPECIAL CONDITIONS, the provisions of the AGREEMENT shall prevail.
- 1.2 **Percentage of Progress Payments to be Retained.** The percentage of value to be retained under that Subsection of the GENERAL CONDITIONS, entitled “Progress Estimates,” shall be 5 percent.
- 1.3 **Amount of Minimum Progress Estimates.** No progress estimate or payment need be made when, in the judgment of the Engineer, the total value of the work done since the last estimate or payment amounts to less than \$5,000 as set forth in that Subsection of the GENERAL CONDITIONS, entitled “Progress Estimates.”
- 1.4 **Liquidated Damages.** The Contractor and Owner recognize that time is of the essence and that the Owner will suffer financial loss if the Work is not completed within the times specified, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by the Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, the Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), the Contractor shall pay the Owner \$500 for each day that expires after the time specified.
- 1.5 **Waste Reduction/Energy Efficiency.** The Town of Greenfield has a commitment to resource and energy conservation and the pursuit of renewable energy options. Greenfield was one of the first communities in the Commonwealth to be designated a “Green Community”. As part of this contract, the Contractor will provide a plan to reduce waste and conserve energy. This written plan will be provided as part of the contract.

GENERAL CONDITIONS

GENERAL CONDITIONS

TITLE

1.1	Definitions.....
1.2	Obligations and Liability of Contractor.....
1.3	Planning and Progress Schedules.....
1.4	Supervision of Work.....
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1.6	Electrical Energy.....
1.7	Compliance with Laws.....
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1.9	Permits.....
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1.20	Intoxicating Liquors.....
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1.24	Precautions During Adverse Weather.....
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1.29	Changes Not to Affect Bonds.....
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1.32	Prices for Work.....
1.33	Formal Acceptance.....
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1.35	Partial Acceptance.....
1.36	Final Estimate and Payment.....
1.37	Liens.....
1.38	Claims.....
1.39	No Waiver.....
1.40	Liability of Town.....
1.41	Guarantee.....
1.42	Cleaning Up.....
1.43	Legal Address of Contractor.....
1.44	Modification of Termination.....

- 1.1 **Definitions.** Wherever the words hereinafter defined or pronouns used in their stead occur in the Contract Documents, they shall have the following meanings:

The word “Owner” shall mean the Town of Greenfield.

The word “Contractor” shall mean the party of the second part above designated.

The word “Specifications” when used herein shall be deemed to refer to both the General and Technical Specifications.

The words “herein”, “hereinafter”, hereunder” and words of like import shall be deemed to refer to the Contract Documents.

- 1.2 **Obligations and Liability of Contractor.** The Contractor shall do all the work and perform and furnish all the labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies and all other things (except as otherwise expressly provided herein) necessary and as herein specified for the proper performance and completion of the Work in the manner and within the time hereinafter specified, in strict accordance with the Specifications and other Contract Documents, in conformity with the directions and to the satisfaction of the Town, and at the prices herein agreed upon.

All parts of the Work and all fixtures, equipment, apparatus and other items indicated in the Specifications and all work and material usual and necessary to make the Work complete in all its parts, including all incidental work necessary to make it complete and satisfactory and ready for use and operation, whether or not they are mentioned in the Specifications, shall be furnished and executed the same as if they were called for by the Specifications.

The Contractor shall conduct his work so as to interfere as little as possible with private business and public travel. Wherever and whenever necessary or required, he shall maintain fences, furnish watchmen, maintain lights, and take such other precautions as may be necessary to protect life and property.

The Contractor shall indemnify and save harmless the Town and its officers, agents, servants, and employees from and against any and all claims, demands, suits, proceedings liabilities, judgments, awards, losses, damages, costs and expenses, including attorney’s fees, on account of bodily injury, sickness, disease or death sustained by any person or persons or injury or damage to or destruction of any property, directly or indirectly arising out of, relating to or in connection with the Work, whether or not due or claimed to be due in whole or in part to the active, passive or concurrent negligence or fault of the Contractor, his officers, agents, servants or employees, any of his subcontractors, the Town or any of its respective officers, agents, servants or employees and/or any other person or persons, and whether or not such claims, demands, suits or proceedings are just, unjust, groundless, false or fraudulent; and the Contractor shall and does hereby assume and agrees to pay for the defense of all such claims, demands, suits and proceedings.

The Contractor shall have complete responsibility for the Work and the protection thereof, and for preventing injuries to persons and damage to the Work and property and utilities on or about the Work, until final completion and final acceptance thereof. He shall, in no way, be relieved of his responsibility by any right of the Town to give permission or directions relating to any part of the Work, by any such permission or directions given, or by failure of the Town to give such permission or directions. The Contractor shall bear all costs, expenses, losses and damages on account of the quantity or character of the Work or the nature of the land (including but not limited to subsurface conditions) in or under or on which the Work is done being different from those indicated or shown in the Contract Documents or from what was estimated or expected, or on account of the weather, elements, or other causes.

The Contractor shall conduct his operations so as not to damage existing structures or work installed either by him or by other contractors. In case of any such damage resulting from his operations, he shall repair and make good as new the damaged portions at his own expense with the consent of the damaged party. In the event that consent is not given, the Contractor shall continue to be liable for the damage caused.

The Contractor shall be as fully responsible to the Town for the acts and omissions of his subcontractors, their officers, agents, servants and employees as he is for his own acts and omissions and those of his officers, agents, servants and employees.

Should the Contractor sustain any loss, damage or delay through any act or omission of any other contractor or any subcontractor of any such other contractor, the Contractor shall have no claim against the Town therefore, other than for any extension of time, but shall have recourse solely to such other contractor or subcontractor.

If any other contractor or any subcontractor of any such other contractor shall suffer or claim to have suffered loss, damage or delay by reason of the acts or omissions of the Contractor or of any of his subcontractors, the Contractor agrees to assume the defense against any such claim and to reimburse such other contractor or subcontractor for such loss or damage. The Contractor agrees to and does hereby indemnify and save harmless the Town from and against any and all claims by such other contractors or subcontractors alleging such loss, damage or delay and from and against any and all claims, demands, suits, proceedings, liabilities, judgments, awards, losses, damages, costs and expenses, including attorneys' fees, arising out of, relating to or resulting from such claims.

The Contractor shall promptly pay all federal, state and local taxes which may be assessed against him in connection with the Work or his operations under the AGREEMENT and/or the other Contract Documents, including but not limited to, taxes attributable to the purchase of material and equipment, to the performance of services, and the employment of persons in the prosecution of the Work.

- 1.3 **Planning and Progress Schedules.** The Contractor shall submit to and for the approval of the Engineer, a detailed schedule of operations. The schedule shall show the proposed methods of construction and sequence of work and the time the Contractor proposes to complete the various items of work within the time specified in the Contract. No work shall begin until the Progress Schedule is approved by the Engineer.

If the Contractor's operations are materially affected by changes in the plans or in the quantity of the Work or if he has failed to comply with the submitted and approved schedule, the Contractor shall submit a revised schedule if requested by the Engineer within seven days after the date of the Engineer's request. This revised schedule shall show how the Contractor proposes to prosecute the balance of the Work, so as to complete the Work within the time specified in the Contract.

- 1.4 **Supervision of Work.** The Contractor shall be solely responsible for supervision of the Work, shall give the Work the constant attention necessary to ensure the expeditious and orderly progress thereof, and shall cooperate with the Town in every possible way.

At all times, the Contractor shall have as his agent on the Work a competent superintendent capable of reading and thoroughly understanding the Specifications, with full authority to execute the directions of the Town, without delay, and to supply promptly such labor, services, materials, equipment, plant, apparatus, appliances, tools, supplies and other items as may be required. Such superintendent shall not be removed from the Work without the prior written consent of the Town. If, in the opinion of the Town, the superintendent or any successor proves incompetent, the Contractor shall replace him with another person approved by the Town; such approval, however, shall, in no way, relieve or diminish the Contractor's responsibility for the supervision of the Work.

Whenever the Contractor or his agent or superintendent is not present on any part of the Work where it may be necessary to give directions or instructions with respect to such Work, such directions or instructions may be given by the Town to, and shall be received and obeyed by the foreman or any other person in charge of the particular work involved.

- 1.5 **Patents.** The Contractor shall indemnify and save harmless the Town and all persons acting for or on behalf of the Town from all claims and liability of any nature or kind, and all damages, costs and expenses, including attorneys' fees, arising from or occasioned by any infringement or alleged infringement of any patents or patent rights on any invention, process, material, equipment, article or apparatus, or any part thereof, furnished and installed by the Contractor, or arising from or occasioned by the use or manufacture thereof, including their use by the Town.

- 1.6 **Electrical Energy.** The Contractor shall make all necessary applications and arrangements and pay all fees and charges for electrical energy for power and light necessary for the proper completion of the Work and during its entire progress. The Contractor shall provide and pay for all temporary wiring, switches, connections and meters.

The Contractor shall provide sufficient lighting so that all work may be done in a workman like manner when there is not sufficient daylight.

- 1.7 **Compliance with Laws.** The Contractor shall keep himself fully informed of all existing and future federal, state and local laws, ordinances, rules, and regulations affecting those engaged or employed on the Work, the material and equipment used in the Work or the conduct of the Work, and of all orders, decrees and other requirements of bodies or tribunals having any jurisdiction or authority over the same. If any discrepancy or

inconsistency is discovered in the Specifications or other Contract Documents in relation to any such law, ordinance, rule, regulation, order, decree, or other requirement, the Contractor shall forthwith report the same to the Town in writing. The Contractor shall, at all times, observe and comply with, and cause all his agents, servants, employees and subcontractors to observe and comply with all such existing and future laws, ordinances, rules, regulations, orders, decrees and other requirements, and he shall protect, indemnify and save harmless the Town, its officers, agents, servants and employees, from and against any and all claims, demands, suits, proceedings, liabilities, judgments, penalties, losses, damages, costs and expenses, including attorneys' fees, arising from or based upon any violation or claimed violation of any such law, ordinance, rule, regulation, order, decree or other requirement, whether committed by the Contractor or any of his agents, servants, employees or subcontractors.

- 1.8 **Provisions Required by Law Deemed Inserted.** Each and every provision of law and clause required by law to be inserted in the Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though they were included herein. If through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the Contract shall forthwith be physically amended to make such insertion.
- 1.9 **Permits.** The Contractor shall, at his own expense, take out and maintain all necessary permits from the county, municipal, or other public authorities; shall give all notices required by law; and shall post all bonds and pay all fees and charges incident to the due and lawful prosecution of the Work.
- 1.10 **Not to Sublet or Assign.** The Contractor shall constantly give his personal attention to the faithful prosecution of the Work, shall keep the same under his personal control, shall not assign the Contract or sublet the Work or any part thereof without the previous written consent of the Town, and shall not assign any of the monies payable under the Contract, or his claim thereto, unless by and with the like written consent of the Town and the surety on the contract bonds. Any assignment or subletting in violation hereof shall be void and unenforceable.
- 1.11 **Delay by Town.** The Town may delay the beginning of the Work or any part thereof if the necessary lands or rights of way for such work shall not have been obtained. The Contractor shall have no claim for additional compensation or damages on account of such delay, but shall be entitled only to an extension of time as hereinafter provided.
- 1.12 **Time for Completion.** The rate of progress shall be such that the Work shall be performed and completed in accordance with the Contract before the expiration of the time limit stipulated under INFORMATION FOR BIDDERS, except as otherwise expressly provided herein.

It is agreed that the rate of progress herein required has been purposely made low enough to allow for the ordinary and foreseeable delays incident to work of this character. No extension of time will be given for ordinary or foreseeable delays, inclement weather, or accidents, and the occurrence of such will not relieve the Contractor from the necessity of maintaining this rate of progress and completing the Work within the stipulated time limit.

If delays are caused by acts of God, acts of Government, unavoidable strikes, extra work, or other causes or contingencies clearly beyond the control or responsibility of the Contractor, the Contractor may be entitled to additional time to perform and complete the Work, provided that the Contractor shall, within ten (10) days from the beginning of such delay notify the Town, in writing, of the cause and particulars of the delay. Upon receipt of such notification, the Town shall review and evaluate the cause and extent of the delay. If, under the terms of the AGREEMENT, the delay is properly excusable, the Town will, in writing, appropriately extend the time for completion of the Work. The Contractor agrees that he shall not have or assert any claim for nor shall he be entitled to any additional compensation or damages on account of such delays.

- 1.13 **Liquidated Damages.** In case the Contractor fails to complete the Work satisfactorily on or before the date of completion fixed herein or as duly extended as hereinbefore provided, the Contractor agrees that the Town shall deduct from the payments due the Contractor each month, the sum of five hundred (\$500) dollars for each calendar day of delay. If the payments due the Contractor are less than the amount of such liquidated damages, said damages shall be deducted from any such monies due or to become due the Contractor, and, in case such damages shall exceed the amount of all monies due or to become due the Contractor, the Contractor or his surety shall pay the balance to the Owner.
- 1.14 **Employ Sufficient Labor and Equipment.** If, in the sole judgment of the Town, the Contractor is not employing sufficient labor, plant, equipment or other means to complete the Work within the time specified, the Town may, after giving written notice, require the Contractor to employ such additional labor, plant, equipment and other means as the Town deems necessary to enable the Work to progress properly.
- 1.15 **Handling and Distribution.** The Contractor shall handle, haul, and distribute all materials on the different portions of the Work, as necessary or required; shall provide suitable and adequate storage room for materials and equipment during the progress of the Work, and be responsible for the protection, loss of, or damage to materials and equipment furnished by him, until the final completion and acceptance of the Work.
- 1.16 **Occupying Private Land.** The Contractor shall not (except after written consent from the proper parties) enter or occupy with men, tools, materials, or equipment, any land outside the rights-of-way or property of the Owner. A copy of the written consent shall be given to the Engineer.
- 1.17 **Interference With and Protection of Streets.** The Contractor shall not close or obstruct any portion of a street, road, or private way without obtaining permits from the proper authorities. If any street, road or private way shall be rendered unsafe by the Contractor's operations, he shall make such repairs or provide such temporary ways or guards as shall be acceptable to the Town.

Streets, roads, private ways, and walks not closed shall be maintained passable and safe by the Contractor, who shall assume and have full responsibility for the adequacy and safety of provisions made therefore.

The Contractor shall, at least 24 hours in advance, notify the Police and Fire Departments, in writing, with a copy to the Department of Public Works, if the closure of a street or road is necessary. He shall cooperate with the Police Department in the establishment of alternate routes and shall provide adequate detour signs, plainly marked and well lighted, in order to minimize confusion.

- 1.18 **Safety.** The Contractor shall take all necessary precautions and provide all necessary safeguards to prevent personal injury and property damage. The Contractor shall provide protection for all persons including but not limited to his employees and employees of other contractors or subcontractors; members of the public; and employees, agents, and representatives of the Town, and regulatory agencies that may be on or about the Work. The Contractor shall provide protection for all public and private property including but not limited to structures, pipes and utilities, above and below ground.

The Contractor shall provide and maintain all necessary safety equipment such as fences, barriers, signs, lights, walkways, guards and fire prevention and fire fighting equipment and shall take such other action as is required to fulfill his obligations under this subsection.

The Contractor shall comply with all applicable federal, state and local laws, ordinances, rules and regulations and lawful orders of all authorities having jurisdiction for the safety of persons and protection of property.

The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This responsible person shall have the authority to take immediate action to correct unsafe or hazardous conditions and to enforce safety precautions and programs.

- 1.19 **Sanitary Regulations.** The Contractor shall provide adequate sanitary facilities for the use of those employed on the Work. Such facilities shall be made available when the first employees arrive on the site of the Work, shall be properly secluded from public observation, and shall be constructed and maintained during the progress of the Work in suitable numbers and at such points and in such manner as may be required or approved.

The Contractor shall maintain the sanitary facilities in a satisfactory and sanitary condition at all times and shall enforce their use. He shall rigorously prohibit the committing of nuisances on the site of the Work, on the lands of the Owner, or on adjacent property.

The Town shall have the right to inspect such facilities at all times to determine whether or not they are being properly and adequately maintained.

- 1.20 **Intoxicating Liquors.** The Contractor shall not sell and shall neither permit nor suffer the introduction or use of intoxicating liquors upon or about the Work.

- 1.21 **Access to Work.** The Town and its officers, agents, servants and employees may at all times and for any and all purposes, enter upon the Work and the site thereof and the premises used by the Contractor, and the Contractor shall at all times provide safe and proper facilities therefore.

- 1.22 **Examination of the Work.** The Town shall be furnished by the Contractor with every reasonable facility for examining and inspecting the Work and for ascertaining that the Work is being performed in accordance with the requirements and intent of the Contract, even to the extent of requiring the uncovering or taking down portions of finished work by the Contractor.

Should the work thus uncovered or taken down prove satisfactory, the cost of uncovering or taking down and the replacement thereof shall be considered as extra work unless the original work was done in violation of the Contract in point in time or in the absence of the Engineer or his inspector and without his written authorization, in which case said cost shall be borne by the Contractor. Should the work uncovered or taken down prove unsatisfactory, said cost shall likewise be borne by the Contractor.

Examination or inspection of the Work shall not relieve the Contractor of any of his obligations to perform and complete the Work as required by the Contract.

- 1.23 **Defective Work, Etc.** Until acceptance and during the applicable guarantee period thereafter, the Contractor shall promptly, without charge, repair, correct or replace work, equipment, materials, apparatus or parts thereof which are defective, damaged or unsuitable or which in any way fail to comply with or be in strict accordance with the provisions and requirements of the Contract or applicable guarantee and shall pay to the Town all resulting costs, expenses, losses or damages suffered by the Town.

If any material, equipment, apparatus or other items brought upon the site for use or incorporation in the Work, or selected for the same, is rejected by the Town as unsuitable or not in conformity with the Specifications or any of the other Contract Documents, the Contractor shall forthwith remove such materials, equipment, apparatus and other items from the site of the Work and shall at his own cost and expense make good and replace the same.

- 1.24 **Precautions During Adverse Weather.** During adverse weather and against the possibility thereof, the Contractor shall take all necessary precautions so that the Work may be properly done, and satisfactory in all respects.

- 1.25 **Right to Materials.** Nothing in the Contract shall be construed as vesting in the Contractor any right of property in the materials, equipment, apparatus and other items furnished after they have been installed or incorporated in or attached or affixed to the Work or the site, but all such materials, equipment, apparatus and other items shall, upon being so installed, incorporated, attached or affixed, become the property of the Town. Nothing in this subsection shall relieve the Contractor of his duty to protect and maintain all such materials, equipment, apparatus and other items.

- 1.26 **Changes.** The Town may make changes in the Work and in the Specifications therefore by making alterations therein, additions thereto or omissions therefrom. All work resulting from such changes shall be performed and furnished under and pursuant to the terms and conditions of the Contract. If such changes result in an increase or decrease in the work to be done hereunder, or increase or decrease the quantities thereof, adjustment

in compensation shall be made therefore at the unit prices stipulated in the Contract for such work.

Except in an emergency endangering life or property, no change shall be made unless in pursuance of a written order from the Town authorizing the change, and no claim for additional compensation shall be valid unless the change is so ordered.

The Contractor agrees that he shall neither have or assert any claim for or be entitled to any additional compensation for damages or for loss of anticipated profits on work that is eliminated.

- 1.27 **Extra Work.** The Contractor shall perform any extra work (work in connection with the Contract but not provided for herein) when and as ordered in writing by the Town, at the unit prices stipulated in the Contract for such work or, if none are so stipulated, either (a) at the price agreed upon before such work is commenced and named in the written order for such work, or (b) if the Town so elects, for the actual cost of such work, as determined by the Contractor and approved by the Town, plus a percentage of such cost, as set forth below. No extra work shall be paid for unless specifically ordered as such in writing by the Town.

The cost of extra work done under (b) above shall include the actual cost to the Contractor of materials used and equipment installed, common and skilled labor, and foremen, and the fair rental of all machinery and equipment used on the extra work for the period of such use.

At the request of the Town, the Contractor shall furnish itemized statement of the cost of the extra work ordered as above and give the Town access to all records, accounts, bills and vouchers and correspondence relating thereto.

The Contractor may include in the cost of extra work the amounts of additional premiums, if any, (other than premiums on bonds) paid on the required insurance on account of such extra work, of Social Security or other direct assessments upon the Contractor's payroll by federal or other properly authorized public agencies, and of other approved assessments when such assessments are not normally included in payments made by the Contractor directly to his employees, but in fact, are, and are customarily recognized as, part of the cost of doing work.

The fair rental of all machinery and equipment shall be based upon the most recent edition of "Compilation of Rental Rates for Construction Equipment", published by the Associated Equipment Distributors, or a similar publication approved by the Town. Rental for machinery or equipment shall be based upon an appropriate fraction of the approved monthly rate schedule. If said extra work requires the use of machinery or equipment not already on the site of the Work, the cost of transportation, not exceeding a distance of 100 miles, of such machinery or equipment to and from the Work shall be added to the fair monthly rate; provided however, that this shall not apply to machinery or equipment already required to be furnished under the terms of the Contract.

The Contractor shall not include in the cost of extra work any cost or rental of small tools, building, or any portion of the time of the Contractor, his superintendent, or his office and engineering staff.

To the cost of extra work done by the Contractor's own forces under (b) above (determined as stated above), the Contractor shall add 15 percent to cover his overhead, use of capital, the premium on the bonds as assessed upon the amount of this extra work, and profit.

In the case of extra work done under (b) above by a subcontractor, the subcontractor shall compute, as above, his cost for the extra work, to which he shall add 15 percent as in the case of the Contractor, and the Contractor shall be allowed an additional 15 percent of the subcontractor's cost for the extra work to cover the costs of the Contractor's overhead, use of capital, the premium on the bonds as assessed upon the amount of this extra work, and profit. Said subcontractor's cost must be reasonable and approved by the Town.

If extra work is done under (b) above, the Contractor and/or subcontractor shall keep daily records of such extra work. The daily record shall include the names of men employed, the nature of the work performed, and hours worked, materials and equipment incorporated, and machinery or equipment used, if any, in the prosecution of such extra work. This daily record, to constitute verification that the work was done, must be signed both by the Contractor's authorized representative and by the Town. A separate daily record shall be submitted for each extra work order.

- 1.28 **Extension of Time on Account of Extra Work.** When extra work is ordered near the completion of the Contract or at any time during the progress of the Work which unavoidably increases the time for the completion of the Work, an extension of time shall be granted as hereinbefore provided.
- 1.29 **Changes Not to Affect Bonds.** It is distinctly agreed and understood that any changes made in the Work or the drawings or specifications therefore (whether such changes increase or decrease the amount thereof or the time required for its performance) or any changes in the manner or time of payments made by the Town to the Contractor, or any other modifications of the Contract, shall in no way annul, release, diminish or affect the liability of the surety on the contract bonds given by the Contractor, it being the intent hereof that notwithstanding such changes the liability of the surety on said bonds continue and remain in full force and effect.
- 1.30 **Claims for Damages.** If the Contractor makes claim to any damages alleged to have been sustained by breach of contract or otherwise, he shall, within ten (10) days after occurrence of the alleged breach or within ten (10) days after such damages are alleged to have been sustained, whichever date is earlier, file with the Town a written, itemized statement in triplicate of the details of the alleged breach and the details and amount of the alleged damages. The Contractor agrees that unless such statement is made and filed as so required, his claim for damages shall be deemed waived, invalid and unenforceable, and that he shall not be entitled to any compensation for any such alleged damages.
- 1.31 **Abandonment of Work or Other Default.** If the Work shall be abandoned, or any part thereof shall be sublet without previous written consent of the Town, or the Contract or

any monies payable hereunder shall be assigned otherwise than as herein specified, that the conditions herein specified as to rate of progress are not being complied with, or that the Work or any part thereof is being unnecessarily or unreasonably delayed, or that the Contractor has violated or is in default under any of the provisions of the Contract, or if the Contractor becomes bankrupt or insolvent or goes or is put into liquidation or dissolution, either voluntarily or involuntarily, or petitions for an arrangement or reorganization under the Bankruptcy Act, or makes a general assignment for the benefit of creditors or otherwise acknowledges insolvency, the happening of any of which shall be and constitute a default under the Contract, the Town may notify the Contractor in writing, with a copy of such notice mailed to the surety, to discontinue all work or any part thereof; thereupon the Contractor shall discontinue such work or such part thereof as the Town may designate; and the Town may, upon giving such notice by contract or otherwise as it may determine, complete the Work or such part thereof and charge the entire cost and expense of so completing the Work or such part thereof to the Contractor. In addition to the said entire cost and expense of completing the work, the Town shall be entitled to reimbursement from the Contractor and the Contractor agrees to pay to the Town any losses, damages, costs and expenses, including attorney's fees, sustained or incurred by the Town by reason of any of the foregoing causes. For the purposes of such completion, the Town may, for itself, or for any contractors employed by the Town, take possession of and use or cause to be used any and all materials, equipment, plant, machinery, appliances, tools, supplies and such other items of every description that may be found or located at the site of the Work.

All costs, expenses, losses, damages, attorney's fees and any and all other charges incurred by the Town under this subsection shall be charged against the Contractor and deducted and/or paid by the Town out of the monies due or payable or to become due or payable under the Contract to the Contractor; in computing the amounts chargeable to the Contractor, the Town shall not be held to a basis of the lowest prices for which the completion of the Work or any part thereof might have been accomplished, but all sums actually paid or obligated therefore to effect its prompt completion shall be charged to and against the account of the Contractor. In case the costs, expenses, losses, damages, attorney's fees and other charges together with all payments therefore made to or for the account of the Contractor if the Work had been properly performed and completed by the Contractor, the Contractor shall be entitled to receive the difference, and, in case such costs, expenses, losses, damages, attorney's fees and other charges, together with all payments therefore made to or for the account of the Contractor, shall exceed the said sum, the Contractor shall pay the amount of the excess to the Town.

- 1.32 **Prices for Work.** The Town shall pay and the Contractor shall receive the prices stipulated in the BID made a part hereof as full compensation for everything performed and furnished and for all risks and obligations undertaken by the Contractor under and as required by the Contract.
- 1.33 **Formal Acceptance.** Fixing of the date of completion and acceptance of the Work or a specified part thereof shall only be effective when accomplished by a writing specifically so stating and signed by the Town.
- 1.34 **Progress Estimates.** Once a month, except as hereinafter provided, the Town shall make an estimate in writing of the total amount and value of the work done to the first of the

month by the Contractor. The Town shall retain 5 percent of such estimated value, as part security for fulfillment of the Contract by the Contractor and shall deduct from the balance of all previous payments made to the Contractor, all sums chargeable against the Contractor and all sums to be retained under the provisions of the Contract. The Town shall pay monthly to the Contractor the balance not deducted and/or retained as aforesaid, except that payment may be withheld at any time, if in the judgment of the Town, the work is not proceeding in accordance with the Contract. If the Town deems it expedient to do so, it may cause estimates and payments to be made more frequently than once in each month. No progress estimate or payment need be made when in the judgment of the Town, the total value of the Work done since the last estimate amounts to less than \$5,000.

Estimates of lump-sum items shall be based on a schedule dividing each such item into its appropriate component part, together with a quantity and a unit price for each part so that the sum of the products of prices and quantities will equal the contract price for the item. This schedule shall be submitted by Contractor for and must have the approval of the Town before the first estimate becomes due.

If the Town determines that the progress of the Work will be benefited by the delivery to the site of certain materials and equipment, when available, in advance of actual requirement therefore and if such materials and equipment are delivered and properly stored and protected, the cost to the Contractor or subcontractor as established by invoices or other suitable vouchers satisfactory to the Town, less the retained percentages as above provided, may be included in the progress estimates; provided always that there be duly executed and delivered by the Contractor to the Town at the same time a Bill of Sale in form satisfactory to the Town, transferring and assigning to the Town full ownership and title to such materials or equipment.

- 1.35 **Partial Acceptance.** The Town may at any time, in a written order to the Contractor (1) declare that he intends to use a specified part of the Work which, in his opinion, is sufficiently complete, in accordance with the Contract Documents, to permit its use; (2) enclose a tentative list of items remaining to be completed or corrected, and (3) fix the date of acceptance of that specified part of the Work.

Within 45 days after acceptance under this subsection, the Town shall make an estimate, in writing, of the amount and value of the part of the Work, so accepted and shall pay said amount to the Contractor after deducting therefrom all previous payments, all charges against the Contractor as provided for hereunder, and all amounts to be retained under the provisions of the Contract, said payment to be made at the time of the next monthly progress estimate.

Acceptance by the Town under this sub-section shall not relieve the Contractor of any obligations under the Contract Documents except to the extent agreed upon in writing between the Town and the Contractor.

The Town shall have the right to exclude the Contractor from any part of the Work which has been accepted, but the Town will allow the Contractor reasonable access thereto to complete or correct items on the tentative list.

- 1.36 **Final Estimate and Payment.** As soon as practicable (but not more than sixty-five (65) days) after final completion of the Work, the Town shall make a final estimate, in writing, of the quantity of work done under the Contract and the amount earned by the Contractor.

The Town shall pay to the Contractor the entire amount found to be earned and due hereunder after deducting therefrom all previous payments, all charges against the Contractor as provided for hereunder, and all amounts to be retained under the provisions of the Contract. Except as in this sub-section otherwise provided such payment shall be made not later than fifteen (15) days after, but in no event before, the expiration of the time within which claims for labor performed or materials or equipment furnished must be filed under the applicable Lien Law, or, if such time is not specified by law, the expiration of thirty (30) days after the completion of the Engineer's final estimate. All quantities shown on progress estimates and all prior payments shall be subject to correction in the final estimate and payment.

- 1.37 **Liens.** If, at any time, any notices of lien are filed for labor performed or materials or equipment manufactured, furnished, or delivered to or for the Work, the Contractor shall, at its own cost and expense, promptly discharge, remove or otherwise dispose of the same, and until such discharge, removal or disposition, the Town shall have the right to retain from any monies payable hereunder an amount which, in its sole judgment, it deems necessary to satisfy such liens and pay the costs and expenses, including attorneys' fees, of defending any actions brought to enforce the same, or incurred in connection therewith or by reason thereof.

- 1.38 **Claims.** If, at any time, there be any evidence of any claims for which the Contractor is or may be liable or responsible hereunder, the Contractor shall promptly settle or otherwise dispose of the same, and until such claims are settled or disposed of, the Town may retain from any monies which would otherwise be payable hereunder so much thereof as, in its sole judgment, it may deem necessary to settle or otherwise dispose of such claims and to pay the costs and expenses, including attorneys' fees, of defending any actions brought to enforce such claims, or incurred in connection therewith or by reason thereof.

- 1.39 **No Waiver.** Neither the inspection by the Town, nor any order, measurement, approval, determination, decision of certificate by the Town for the payment of money; nor any payment for or use, occupancy, possession or acceptance of the whole or any part of the work by the Town, nor any extension of time, nor any other act or omission of the Town shall constitute or be deemed to be an acceptance of any defective or improper work, materials, or equipment nor operate as a waiver of any requirement or provision of the Contract, nor of any remedy, power or right of or herein reserved to the Town, nor of any right to damages for breach of contract. Any and all rights and/or remedies provided for in the Contract are intended and shall be construed to be cumulative; and, in addition to each and every other right and remedy provided for herein or by law, the Town shall be entitled as of right to a writ of injunction against any breach or threatened breach of the Contract by the Contractor, by his sub-contractors or by any other person or persons.

- 1.40 **Liability of Town.** No person, firm or corporation, other than the Contractor, who signed the Contract as such, shall have any interest herein or right hereunder. No claim

shall be made or be valid either against the Town or any agent of the Town and neither the Town nor any agent of the Town shall be liable for or be held to pay any money, except as herein provided. The acceptance by the Contractor of the payment as fixed in the final estimate shall operate as and shall be a full and complete release of the Town and of every agent of the Town of and from any and all claims, demands, damages and liabilities of, by or to the Contractor for anything done or furnished for or arising out of or relating to or by reason of the Work or for or on account of any act or neglect of the Town or of any agent of the Town or of any other person, arising out of, relating to or by reason of the Work, except the claim against the Town for the unpaid balance, if any there be, of the amounts retained as herein provided.

- 1.41 **Guarantee.** 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.
- 1.42 **Cleaning Up.** The Contractor, at all times, shall keep the site of the Work free from rubbish and debris caused by his operations under the Contract. When the Work has been completed, the Contractor shall remove from the site of the Work all of his plant, machinery, tools, construction equipment, temporary work and surplus materials so as to leave the Work and the site clean and ready for use.
- 1.43 **Legal Address of Contractor.** The Contractor's business address and his office at or near the site of the Work are both hereby designated as places to which communications in a postpaid wrapper directed to the Contractor's business address in a post office box regularly maintained by the Post Office Department or the delivery at either designated address of any letter, notice, or other communication by mail or otherwise shall be deemed sufficient service thereof upon the Contractor, and the date of such service shall be the date of receipt. The first named address may be changed at any time by an instrument, in writing, executed and acknowledged by the Contractor and delivered to the Town. Service of any notice, letter or other communication upon the Contractor personally shall likewise be deemed sufficient service.
- 1.44 **Modification of Termination.** Except as otherwise expressly provided herein, the Contract may not be modified except in writing signed by the parties hereto.

TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS

General. The Contractor shall furnish all labor, materials, tools and equipment necessary to complete the work as specified herein.

Scheduling of work. Work can not be done unless the temperature is greater than 50 degrees.

Item 1. On all four levels, both inside and out, cut out and point defective mortar joints, remove and reinstall any loose stones as needed, and install any missing stones as needed.

Joints shall be cut to a minimum 1 inch depth and shall be pointed with a 1:1 cement and light sand mixture. The color shall match as closely as possible to the surrounding area. The Contractor shall provide a sample for approval prior to the start of work.

Mortar Mix:

Repair mortar mix design will be:

- 1 part type 1/11 Portland cement
- 1 part masons sand
- Mix water – 1 part Silpro C-21 latex and 1 part water

New Field Stone:

The color of any new field stone must match as closely as possible to the color of the existing field stone. The Contractor shall provide a sample for approval prior to installing any new stone.

Item 2. Remove and replace cement wash 100% at the base and at the corbels on levels 2 and 3 with a 2:1 mix and similar coloring, reinforced with hot dipped galvanized masonry wall reinforcing of appropriate width.

Mortar Mix:

Repair mortar mix design will be:

- 2 part type 1/11 Portland cement
- 1 part masons sand
- Mix water – 1 part Silpro C-21 latex and 1 part water

Remove and replace cement wash on level 2 at the east and north side openings with 4" thick 4000 psi concrete. Concrete shall meet the specifications as outlined in the CONCRETE WORK section below. The new washes shall have a 1 ½" overhang on the outside and shall be reinforced with four #4 epoxy coated rebar. Reinforcing shall be kept back 2" from exposed sides. The height of the existing washes shall be maintained to the extent possible.

Item 3. Install temporary spreader type bracing in between small pillars to stabilize and remove and replace existing sills with 12 new pre-cast concrete sills. Concrete shall meet the specifications as outlined in the CONCRETE WORK section below.

Item 4. Remove and replace wall and pier caps on all 4 sides of the tower with 4" thick 4000 psi concrete, which shall meet the specifications as outlined in the CONCRETE WORK section below. All wall and pier caps shall have a 1 ½" overhang, inside and out, and shall be reinforced

with four #4 epoxy coated rebar. Reinforcing shall be kept back 2” from exposed sides. The height of the existing caps shall be maintained to the extent possible.

CONCRETE WORK

General
Cement
Admixtures
Water
Fine Aggregate
Coarse Aggregate
Samples of Aggregate
Classes of Concrete
Quality and Proportioning of Concrete
Determining Proportions
Consistency of Concrete
Measuring Materials
Mixing Concrete
Ready-Mixed Concrete
Forms
Embedded Work in Concrete
Placing Concrete
Curing and Protection
Finishing Concrete
Trimming and Repairs

General. The Contractor shall furnish all necessary materials and build all concrete masonry required under this contract and not otherwise provided for, as indicated on the drawings and as herein specified.

All concrete shall be site-mixed or ready-mixed as produced by a plant acceptable to the Engineer.

Cement. Cement shall be a single brand of approved, American-made Portland Cement conforming to the ASTM Standard Specifications for Portland Cement, Designation C150, for Type II cement, or, with written permission of the Engineer Type III (high-early strength) cement.

When used in the work, cement shall be free from lumps and partially or wholly set cement.

No cement shall be used without prior approval of the Engineer.

If required, the Contractor shall furnish sworn certificate of mill tests of cement, in triplicate, at least seven days before the cement will be used. The Owner reserves the right to make such independent tests as he may deem necessary at any time.

When high early strength concrete is required, it shall be obtained by using Type III or by adding 15% additional Type I or Type II.

Admixtures. The use of admixtures shall meet MHD Standard Specifications as specified in Section M4.02.05 of the “Standard Specifications for Highways and Bridges,” Commonwealth of Massachusetts, Department of Public Works, 1988 Ed. as amended and corrected.

Water. For mixing concrete, the Contractor shall use clean water from an approved source.

Fine Aggregate. Fine aggregate shall be clean, sound, sharp, screened, and well-graded sand conforming to the ASTM Standard Specifications for Concrete Aggregates, Designation C33, and the additional requirement that the aggregate shall have not less than 15 percent more than 30 percent, by weight, passing No. 50 sieve.

No fine aggregate shall be used if it contains more than two percent of silt or which shows a color darker than Plate 2 when tested according to the ASTM Standard Method of Test for Organic Impurities in Sands for Concrete, Designation C-40.

The weight average loss when fine aggregate is subjected to five cycles of the soundness test using magnesium sulfate shall not exceed 10 percent.

Coarse Aggregate. Coarse aggregate shall be washed, hard, tough and durable screened gravel or crushed stone conforming to the ASTM Standard Specifications for Concrete Aggregates, Designation C33 and the additional requirements specified herein. Coarse aggregate shall have not more than five percent by weight of deleterious substances and soft fragments. Unless otherwise approved, aggregate shall be well graded and shall conform to the grading requirements for coarse aggregates for nominal size 1 inch to No. 4.

No coarse aggregate shall be used if it contains more than one percent of silt or which shows a color darker than Plate 1 when tested as above specified for fine aggregate.

The weighted average loss when coarse aggregate is subjected to five cycles of the soundness test using magnesium sulfate shall not exceed 14 percent.

Samples of Aggregate. As required, the Contractor shall submit clearly labeled samples of fine and coarse aggregates to the Engineer. No aggregates shall be delivered and used shall be equal to the approved samples in all respects.

Classes of Concrete. 4000 psi concrete shall be used for all concrete not otherwise specified or noted on the drawings.

Quality and Proportioning of Concrete. Materials for concrete shall be proportioned to produce a thoroughly workable, plastic mixture resulting in a dense watertight concrete. The concrete shall meet MHD Standard Specifications as specified in Section M4.02.00 of the “Standard Specifications for Highways and Bridges,” Commonwealth of Massachusetts, Department of Public Works, 1988 Ed. as amended and corrected.

The use of an approved additive other than air-entrained additives shall not affect a change in the maximum water-cement ratio or the minimum cement content. The minimum cement content can be changed only with the prior written approval of the Engineer.

Determining Proportions. The proportions of cement, fine and coarse aggregate and water to be used to obtain the specified concrete shall be determined by trial at the site. Proportions may be varied as approved, and shall be varied as required, provided that, in no case, shall the resulting mix violate the limitations set forth above under the heading “Quality and Proportions of Concrete.”

Consistence of Concrete. Concrete shall be of plastic consistency such that it can be work readily into all parts of the forms and around embedded work without segregation of constituent materials or collection of free water on the surface.

Measuring Materials. Cement, fine aggregate, coarse aggregate and water for concrete shall be measure separately and with accuracy. Particular care shall be taken that fractional bags of cement are correctly measured. Aggregates shall be measured by weight or loose in approved boxes, with allowance as directed for bulking of sand. Water shall be measured by volume.

Mixing Concrete. Concrete shall be mixed in an approved batch mixer of suitable capacity except for small quantities, which, by permission, are hand mixed. The volume of the mixed batch shall not exceed the manufacturer’s rated capacity of the mixer. Adequate facilities shall be provided for accurate measurement of water and the control of materials entering the drum. The mixer shall revolve at a uniform peripheral speed of above 200 rpm.

The minimum mixing time for each batch (from the time when all solid materials and water are first in the drum) shall be 1-½ minutes for mixers of 1 c.y. capacity or less; for mixers of larger capacity, the mixing time shall be increased 30 seconds for each additional half cubic yard or fraction thereof. The entire batch shall be discharged before the mixer is recharged.

If the concrete is mixed by hand, it shall be done on a suitable surface. The cement and aggregates shall be mixed dry until an even and uniform color has been attained throughout. The proper quantity of water shall then be added and the whole mass turned with square-edged shovels until it has become intimately mixed.

Ready-Mixed Concrete. The use of ready-mixed concrete will be permitted provided that the Engineer shall have the right to inspect the plant of the manufacturer and the proportioning and mixing of the concrete and shall be given every facility therefore, and that the materials and methods of proportioning, mixing and delivering are satisfactory and generally in accordance with the above specifications. The manufacturer shall furnish, from an Independent testing laboratory and through the Contractor, appropriate certificates of tests, materials, proportions mixing and strengths. Such certificates shall have an effective date not more than six months prior to the time when the concrete will be used and shall be furnished to the Engineer at least seven days before the time of use. No ready-mixed concrete shall be ordered before the Engineer has given his approval thereof.

The quantity of concrete to be mixed or delivered in any one batch shall not exceed the rated capacity of the mixer or agitator as stated on the nameplate for the type of mixing in use.

At the time of delivery of each load of concrete, the Engineer shall be given a slip stating the actual quantity of each ingredient in that load.

Attention is directed to the importance of dispatching trucks from the batching plant so that they shall arrive at the site of the work just before the concrete is required, thus avoiding excessive mixing of concrete while waiting or delays in placing successive layers of concrete in the forms. Concrete shall be discharged into forms within 1 ½ hours after water was first added to the mix, and shall be mixed at least five minutes after all water has been added.

Forms. Forms shall be constructed of sound lumber, plywood or metal and shall conform accurately to the dimensions, shapes and elevations indicated on the drawings. They shall be mortar-tight, rigid and unyielding during the placing and compacting of the concrete. The Contractor shall be entirely responsible for the adequacy. Forms for manhole inverts shall be smooth, carefully built to true size and shape and accurately set.

Suitable molding or bevels shall be placed so as to produce a ¾ inch chamfer on all exposed projecting corners.

Form surfaces to be in contact with concrete shall be oiled, and if reused, shall first be cleaned, repaired and re-oiled.

Forms shall not be removed until the product of the elapsed number of days after placement and the average daily air temperature at the surface of the concrete equal 100 for walls and vertical surfaces and 500 for slabs.

Embedded Work in Concrete. All embedded work shall be accurately built into or encased in the masonry by the Contractor as directed and all necessary precautions shall be taken to prevent such work from being displaced or deformed.

Placing Concrete. No concrete shall be placed on frozen subgrade or in water. Forms and excavations shall be free from water and all dirt, debris and other foreign matter when concrete is placed.

If chutes are used for conveying concrete, they shall be of metal or shall be metal lined.

Concrete shall be deposited in suitable layers, one layer quickly following another until the placement has been completed. While being deposited, the concrete shall be thoroughly compacted by rodding and spading or by mechanical vibration. If mechanical vibration is used, the concrete consistency as measured by slump shall not exceed 3 inches. Vibration shall be done by experienced operators under close supervision and the duration shall be held at the minimum necessary to produce thorough compaction without segregation. Hand spading shall always be used adjacent to forms to produce a smooth, dense surface. The concrete shall be thoroughly and carefully rodded about embedded materials.

Curing and Protection. Water shall not be permitted to rise on concrete within 24 hours after it is placed, nor shall running water be allowed to flow over complete concrete within four days after it has been placed.

For at least seven days after having been placed, all concrete shall be so protected that the temperature at the surface will not fall below 50 degrees F. The methods of protecting the concrete shall be as specified and shall be subject to approval.

Finishing Concrete. Manhole tables and all surfaces shaped without forms and over which liquids will flow shall be smoothly finished by means of a steel trowel without the use of additional cement or sprinkling with water. Troweling shall not be started until all water has disappeared from the surface. Over troweling shall be avoided.

Trimming and Repairs. It is expected that forms, concrete and workmanship shall be such that the quantity of trimming and repair work is kept to a minimum.

Defective concrete shall be cut normal to the surface until sound concrete is reached, but not less than one inch deep; the remaining concrete shall be thoroughly roughened and cleaned. Concrete around the cavity or the form-tie recess shall be thoroughly wetted and promptly painted with a 1/16-inch brush coat of neat cement mixed to the consistency of thick lead paint. The hole shall then be filled with mortar mixed in the proportions of one part cement and 1 ½ parts sand, both being from the same sources as in the apparent concrete.

APPENDIX A
MASSACHUSETTS WAGE RATES

APPENDIX B

PHOTOS